TES
SILV/J.1
ESC

SOCIAL ENCOUNTERS AMONG YOUNG CHILDREN: ASSERTIVENESS, AGGRESSION AND PROSOCIAL BEHAVIOUR.

JUDITE MARIA BRITO DA SILVA

ISPA
6659
Ref. 6659
Instituto Superior de Psicologia Aplicada
BIBLIOTECA

A thesis submitted to the University of Bristol in accordance with the requirements for the Degree of Doctor of Philosophy in the Faculty of Social Sciences, School of Education.

MARCH 1992

MEMORANDUM

I certify that this dissertation is based on my own independent work except where otherwise acknowledged and stated in the text.

Signed

.....Judite Maria Brito da Silva

ACKNOWLEDGMENTS

I am grateful to the following people who have helped in this study:

Mrs. G. Downs, Mrs. B. Gaits, Mrs. V. Wilson, Mrs. B. Hall and Mr. J. Chamberlain in whose schools and play groups the pilot work was carried out.

Ms. S. Gavriel and her colleagues in the University nursery school where the main study was done.

The children without whom none of the observations would have been possible.

The librarians of the School of Education and University main library and their staff to whom I have made more than the average number of requests.

Alan Lockett lecturer in TEFL who helped me to improve my English. Errors which remain are, of course, entirely my responsibility.

Alan Blackman, Sally Barnes and Dr. Oz Osborn who advised on the use of the computer.

Liz Young who helped in the preparation of the final manuscript.

Dr. Sara Meadows for her guidance and valuable suggestions in the special domain of knowledge about young children and Dr. David Satterly, my supervisor, for his permanent support, encouragement and advice indispensable to the completion of this work.

Finally to my family without whose financial support I would have been unable to carry out this research.

NOTES

(1) Sexist language

In the text which follows the child in general is referred to as "him". However, when particular child is being discussed the correct pronoun or possessive will be applie .

(2) Numerals in the text

The practice followed is that recommended by the American Psychological Associatic namely, numerals one to ten inclusive will be expressed in words and all numbers abc ten will be shown in numerical form.

ABSTRACT

Psychological literature on the social development of children is extensive and many experimental and naturalistic investigations have been carried out. The picture of the young child as egocentric and having limited social competence has been replaced by one of an agent who understands and actively manipulates his social world to achieve goals and establish relationships necessary to his adaptation to a variety of settings.

The literature review which forms the first part of the dissertation is structured around four principal topics: studies which demonstrate the origins and development of social interaction in infants and young children; delineation of the field of study and definition of key variables in aggression, assertion, prosocial behaviour, empathy and self-control; theories of aggression and prosocial behaviour; and a review of the main trends in young children's social encounters. Although the literature is extensive, comparatively few studies have attempted to integrate the main trends and have, instead, isolated one or two types of behaviour for examination. Following the critical review of the literature some of the major issues raised are discussed and research questions and predictions are identified.

A naturalistic study of a group of children in a nursery school attached to an English university was designed following pilot work in two similar groups involving 82 children and 20 hours of observation. The main study was of observations made on three mornings each week over a period of five months. Focal sampling of target children in the group of 17 aged between three and four years, was adopted and the majority observed for a total of 120 minutes each, that is for 24 periods of five minutes. The sampling unit was one minute during which operationalized variables in aggressive, assertive and prosocial categories and subcategories were recorded. Tests of empathy were also administered and ratings of self-control made. Limited background data (age, sex, birth order) were also obtained.

Reliability of all variables and observations was examined. Construct validity was also studied through the use of convergent and divergent correlations. The main body of the quantitative analysis concerned the relationships among the behaviours categorized to test the predictions and examine the research questions which had been set up. Differences in behaviour were related to the background variables employed and a qualitative analysis, involving over 600 observational units, was carried out to identify the antecedents and consequences of each category of behaviour and the contexts, social interaction and materials with which they were associated. Relationships between interaction style and empathy and self-control were also examined. The final chapter discusses some of the limitations of the study and the findings are interpreted in the light of the dominant and controversial trends in the literature.

CONTENTS

	Pag
Memorandum	(i
Acknowledgments	(ii
Notes	(iv
Abstract	(v
List of tables and figures	(xiv
List of appendices	(xvii
INTRODUCTION	
CHAPTER ONE: SOCIAL COMPETENCE IN YOUNG CHILDREN	
1.1. Considerations	
1.2. Developmental trends in children's interaction from infancy to early childhood	
1.2.1. Infancy	
1.2.2. Early childhood	1
1.3. Conclusions: implications of the studies reviewed for this research	3
CHAPTER TWO: THE YOUNG CHILD'S AGENCY AND THE CONCEPTUALIZATION OF THE VARIABLES TO BE INCLUDED IN THE EMPIRICAL RESEARCH	3
2.1. Introduction	3
2.2. Dominance and coercion among young children: concepts and types of assertive and aggressive behaviour in young children's interactions	3
2.2.1. Concept and types of aggression	3
2.2.1.1. Definitional issues	3
2.2.1.2. Types of aggressive behaviour:	4
2.2. 2. Concept and types of assertiveness	4
2.2.2.1. Assertiveness and dominance	4
2.2.2.2. Assertiveness as counter-assertion	4
2.3. Prosocial behaviour, empathy and self-control: concepts and dimensions or types of behaviour	5
2.3.1. Prosocial behaviour	5

2.3.2. Empathy 56
2.3.3. Self-control 60

2.4. Conclusion 62

CHAPTER THREE: AGGRESSION AND PROSOCIAL BEHAVIOUR: MAIN THEORIES 65

3.1. Introduction 65

3.2. Theoretical perspectives 66

3.2.1. Biological theories 66
3.2.2. Psychoanalytical perspective 68
3.2.3. The cognitive approach 71
3.2.4. Learning theories 75
3.2.5 Other theoretical approaches to the explanation of aggression 78
3.2.5.1. Ethological approach 78
3.2.5.2. Drive theory: the frustration-aggression hypothesis 83

3.3. Antecedents and consequences of aggression 85
3.3.1. Instigatory mechanisms 85
3.3.2. Outcomes of aggressive behaviour 87

3.4. Conclusion: the study of behaviour within an interpersonal context 91

CHAPTER FOUR: THE SOCIAL ENCOUNTERS OF YOUNG CHILDREN: REVIEW OF THE MAIN TRENDS 97

4.1. Introduction 97

4.2. Children's interactions: synthetic approach to some of the main factors investigated in this area 99

4.2.1. Contextual factors in children's interactions 99
4.2.1.1. Space 99
4.2.1.2. Materials/Activities 100
4.2.1.3. Competition and Cooperation 101

4.2.2. Individual and social characteristics 102
4.2.2.1. Age 102

4.2.2.2. Sex 107
4.2.2.3. Social acceptance and personal variables 111
4.2.2.4. Children's relations: Familiarity, acquaintanceship and friendship 115

4.2.3. Prosocial behaviour, empathy, self-control, assertion and aggression: other factors investigated 120

4.2.3.1. Prosocial behaviour: frequency, consistency and continuity 120

4.2.3.2. Empathy 124
4.2.3.2.1. Affective states 124
4.2.3.2.2. Guilt 125
4.2.3.2.3. Perceived similarity 126
4.2.3.2.4. Role-taking skills 126
4.2.3.3. Self-control 127

4.2.3.4. Assertion and aggression 128

4.2.3.4.1. Sociometric status 128
4.2.3.4.2. Dominance hierarchies 130
4.2.3.4.3. Cognition and competence 132
4.2.3.4.4. Peer feedback 133
4.2.3.4.5. Stability of aggression 134
4.2.3.4.6. Conflict encounters 135

4.3. The influence of the family in child's social development 138

4.4. Summary 148

CHAPTER FIVE: RESEARCH AIMS, PREDICTIONS AND QUESTIONS 153

5.1. Assertiveness, aggression and prosocial behaviours 153

5.1.1. Research questions 153
5.1.2. Relationship between assertive and aggressive behaviours 156
5.1.3. Relationship between assertiveness and prosocial behaviour 158
5.1.4. Prosocial and aggressive behaviours: a controversial dichotomy 159

5.1.4.1. Considerations 159
5.1.4.2. Relationships in empirical studies 163

5.2. Relationships of assertiveness, aggression and prosocial behaviour with other variables 165

5.2.1. Empathy and prosocial behaviour 166
5.2.2. Empathy and aggression 171
5.2.3. Self-control 173
5.2.4. Other variables 174

5.3. Summary of the research questions and predictions: 174

CHAPTER SIX: METHODOLOGY 177

6.1. Methodological issues: the main approaches to observational procedures 177

6.2. Description of the environment and sample 178

6.3.1. The method of naturalistic observations in this study 182
6.3.2. Sampling 185
6.3.3. Operational Definitions 187

6.3.3.1. The main psychological constructs 187
6.3.3.2. Contextual categories 190

6.3.4. Dependability of the descriptions of observations 197

6.3.5. Inter and intra-rater reliabilities of coding: psychological constructs and contextual categories 198

6.3.5.1. Inter-coder reliability 198

6.3.5.1.1. Reliability of behavioural coding 198
6.3.5.1.2. Reliability of contextual coding 200
6.3.5.2. Intra-coder reliability 202

6.3.5.2.1. Reliability of behavioural coding 202
6.3.5.2.2. Reliability of contextual coding 202

6.4. The Instruments and Scales 202

6.4.1.1. The Assessment of Empathy 20
6.4.1.2. Reliability of Empathy Measures 20

6.4.2.1. Self-Control Behaviour Inventory 21
6.4.2.2. Reliability of nursery nurses'ratings of self-control 21

6.4.3.1. Ratings of empathy, assertiveness, prosocial and aggressive behaviours by the nursery nurses 21
6.4.3.2. Reliability of the nursery nurses'ratings 21

CHAPTER SEVEN: RESULTS 21

7.1. Construct validity 21

7.1.1.Naturalistic variables 21
7.1.2. Empathy measures 21
7.1.3. Nursery nurses'ratings 21
7.1.3.1. Assertiveness, aggression, prosocial behaviour 21
7.1.3.2. Self-control 22
7.1.4. Summary of the main results: 22

7.2. Relationships among the variables 22

7.2.1. Pearson product-moment correlations 22

7.2.1.1. Among naturalistic variables 22
7.2.1.1.1. Correlations among variables in each construct (assertiveness, aggression and prosocial behaviour) 22
7.2.1.1.2. Correlations among assertiveness and prosocial categories 22
7.2.1.1.3. Relationship between assertiveness and aggression categories 22
7.2.1.1.4. Correlations between aggression and prosocial categories 22

7.2.1.2. Empathy measures 22
7.2.1.2.1. Correlations among empathy variables 22
7.2.1.2.2. Empathy with other variables 23

7.2.1.3. Nursery nurses'ratings 23
7.2.1.3.1. Self-control 23

7.2.1.3.2. Assertiveness, aggression prosocial behaviour and empathy 234

7.2.1.4. Family and individual characteristics with other variables 236

7.2.1.5. Summary of the main results: 236

7.2.2. Relationships with sex: 238
7.2.2.1. Naturalistic variables 239
7.2.2.2. Empathy variables 241
7.2.2.3. Nursery nurses'ratings 241
7.2.2.3.1. Self-control 241
7.2.2.3.2. Assertiveness, aggression, prosocial behaviour and empathy 242
7.2.2.4. Family and individual characteristics 242

7.2.3. Analysis of behaviour 243

7.2.3.1. Distribution and percentages 243

7.2.3.2. Sequences in children's interaction 246

7.2.3.3. Antecedents and consequents 256
7.2.3.3.1. Assertiveness 256
7.2.3.3.1.1. Antecedents 256
7.2.3.3.1.2. Consequents 264

7.2.3.3.2. Aggression 270
7.2.3.3.2.1. Antecedents 270
7.2.3.3.2.2. Consequents 280

7.2.3.3.3. Prosocial behaviour 286
7.2.3.3.3.1. Antecedents 286
7.2.3.3.3.1.1. Spontaneous behaviour 286
7.2.3.3.3.1.2. Asked-for behaviour 291
7.2.3.3.3.2. Consequences 293
7.2.3.3.3.2.1. Spontaneous behaviour 293
7.2.3.3.3.2.2. Asked-for behaviour 296

7.2.3.3.4. Assertive, aggressive and prosocial behaviours: summary of the main antecedents and consequents 300
7.2.3.3.4.1. Antecedents 300
7.2.3.3.4.2. Consequents 301

7.2.3.3.5.Roleplaying behaviour 30
7.2.3.3.5.1. Antecedents 30
7.2.3.3.5.2. Consequents 30

7.2.3.3.6. Concluding comment 30

7.2.3.4. Empathy, self-control and the distribution of behaviours among children 30

7.2.3.5. Children's interaction styles and individual characteristics 31

CHAPTER EIGHT: DISCUSSION OF RESULTS AND CONCLUSIONS 31

8.1. Considerations 31

8.2. Main findings 32

8.2.1. Assertive, aggressive and prosocial behaviour 32

8.2.1.1. Construct validity 32
8.2.1.2. Frequency 32
8.2.1.3. Sequences and context 32
8.2.1.4. Distribution of behaviours among children 33

8.2.2. Assertiveness and aggression 33

8.2.3. Assertiveness and prosocial behaviour 33

8.2.4. Prosocial behaviour and aggression 33

8.2.5. Relationships between assertive, aggressive and prosocial behaviours and other variables 33

8.2.5.1. Interaction styles 33
8.2.5.2. Distribution of behaviours among children 33

8.2.6. Empathy 34

8.2.6.1. Empathy construct 34
8.2.6.2. Empathy and prosocial behaviour 34
8.2.6.3. Empathy, assertiveness and aggression 34

8.2.7. Self-control 34

8.2.8. Individual and family characteristics 345

8.3. Final Conclusion: implications of the main issues discussed for further research 346

References 355

Appendices 382

LIST OF TABLES AND FIGURES

Table	Page
Table 1: Convergent and discriminant correlations: correlations among key variables in each construct	215
Table 2: Transformation to Fisher's Z-values	215
Table 3: Mean correlations (after averaging by Fisher's Z transformation)	217
Table 4 : Convergent and discriminant correlations among empathy measures	217
Table 5: Significant values of Somer's D and Tau b for the relationship between sex and stated variables	239
Table 6: Assertiveness behaviour as rounded percentages of total assertiveness and total behaviour categorized	243
Table 7: Aggressive behaviour as rounded percentages of total aggression and total behaviour categorized	24
Table 8: Prosocial behaviour as rounded percentages of total prosocial and total behaviour categorized	24
Table 9: Table of frequencies of antecedent and consequent behaviours.	24
Table 10: Expected frequencies and components of X^2 for the proximal and distal dyads	25
Table 11: Means and standard deviations of behaviours received and directed	30
Table 12: Means and standard deviations of empathy scores.	30
Table 13: Means and standard deviations of empathy and self-control scores of groups.	3
Table 14:: Correlations between scores in empathy and self-control.	3

Table 15: Overall means and standard deviations of proportions for assertive, aggressive and prosocial behaviours. 311

Table 16: Interaction profile (boys) 311

Table 17: Interaction profile (girls) 312

Table 18: Type of profile. 312

Table 19: Relation of style to empathy. 313

Table 20: Relation of style to self-control. 313

Table 21: Means and standard deviations of affective empathy scores 315

Table 22: Means and standard deviations of empathy scores of groups. 316

Table 23: Means and standard deviations of self-control scores. 316

Table 24: Social and individual characteristics 385

Table 25: Recording sheet 389

Table 26: Scores obtained on naturalistic observations (assertiveness) 460

Table 27: Scores obtained on naturalistic observations (agression) 461

Table 28: Scores obtained on naturalistic observations (comforting) 462

Table 29: Scores obtained on naturalistic observations (helping) 463

Table 30: Scores obtained on naturalistic observations (sharing) 464

Table 31: Scores obtained on naturalistic observations (prosocial behaviour) 465

Table 32: Correlations between naturalistic variables (assertiveness) 467

Table 33: Correlations between naturalistic variables (aggression) 468

Table 34: Correlations between naturalistic variables (prosocial behaviour) 469

Table 35: Correlations between naturalistic variables (assertiveness with aggression) 470

Table 36: Correlations between naturalistic variables (assertiveness with prosocial behaviour) 471

Table 37: Correlations between naturalistic variables (aggression with prosocial behaviour) 472

Table 38: Distribution of assertiveness 474

Table 39: Distribution of aggression 475

Table 40: Distribution of prosocial behaviour 476

Table 41: Assertiveness proportion matrix (dec. points omitted) 477

Table 42: Aggression proportion matrix 478

Table 43: Prosocial behaviour proportion matrix 479

Table 44: Spontaneous prosocial behaviour proportion matrix 480

Table 45: Assertiveness difference matrix 481

Table 46: Aggression difference matrix 482

Table 47: Prosocial behaviour difference matrix 483

Table 48: Spontaneous prosocial behaviour difference matrix 484

Table 49: Scores on pictures of happy and unhappy children (empathy: affective test) 496

Table 50: Scores on pictures of happy and unhappy children (empathy: cognitive test) 497

Table 51: Scores on pictures of happy and unhappy children (empathy: affective and cognitive tests) 498

Table 52: Item and total scores obtained on Self-Control Behaviour Inventory 503

Table 53. Scores obtained on nursery nurses'ratings of empathy, prosocial behaviour, assertiveness and aggression 504

Figure

Figure 1: Phases common to assertiveness, aggression and prosocial behaviour 154

Figure 2: Phases in aggression and assertiveness 158

Figure 3: Phases in prosocial behaviour 170

Figure 4: Schematic plan of nursery classroom 384

Figure 5 : Schematic plan of playground/courtyard 385

Figure 6: Cut out model with blank face 487

Figure 7: Rating scale (scale used by the child to rate his and another child's emotional experience) 487

Figure 8: Happy boy (empathy affective test) 488

Figure 9: Happy boy (empathy cognitive test) 489

Figure 10: Happy girl (empathy affective test) 490

Figure 11: Happy girl (empathy cognitive test) 491

Figure Empathy 12: Unhappy boy (empathy affective test) 492

Figure 13: Unhappy boy (empathy cognitive test) 492

Figure 14: Unhappy girl (empathy affective test) 493

Figure 15: Unhappy girl (empathy (empathy cognitive test) 493

Figure 16: Poor child (donating test) 494

LIST OF APPENDICES

	Pag
1. Nursery school environment and children's background data	38
1.1. Schematic plans of nursery school environment	38
1.2. Social and individual characteristics of children	38
2. Naturalistic observations	38
2.1. Behavioural recording and coding	38
(i) Recording sheet	38
(ii) Behavioural examples of the categories recorded in the naturalistic observations	39
(iii) Examples of non-assertive, non-aggressive and non-prosocial behaviour recorded	39
(iv) Context of antecedents and consequences	40
2.2. Scores obtained on naturalistic observations	45
2.3. Correlations between naturalistic variables	46
2.4. Frequencies and proportions of the distribution of behaviour	47
(i) Distribution of behaviour (frequencies)	47
(ii) Proportion matrices	47
(iii) Difference matrices	48
3. Empathy	48
3.1. Assessment material	48
(i) Cut out model and rating scale	48
(ii) Sample of pictures of happy and unhappy children and of a poor child	48
3.2. Scores on pictures of happy and unhappy children	49
4. Nursery nurses'ratings	49
4.1. Self-Control Behaviour Inventory	50
4.2. Item and total scores obtained on Self-Control Behaviour Inventory	50
4.3. Scores obtained on nursery nurses'ratings of empathy, prosocial behaviour, assertiveness and aggression	50

INTRODUCTION

How many masks wear we, and undermasks,
Upon our contenance of soul, and when,
If for self-sport the soul itself unmasks,
Knows it the last mask off and the face plain?

(Fernando Pessoa, The English Sonnets, II)

The variability and capriciousness of human individual and social behaviour has been universally stressed in poetry, novels and in scientific literature. Human behaviour is complex, difficult to clarify and classify, hard to explain and problematic in its prediction or control. Investigation of human social behaviour has always been beset by ambiguity; in spite of the abundance and variety of approaches, theories and definitions, no explanatory framework has emerged as commanding universal respect. One consequence is that results of enquiries into human conduct are invariably a source of controversy and speculation which can rarely be clarified or overcome in spite of the copious bibliography which exists, the rigorous scientific methodologies used or the creative thinking exhibited by theorists and researchers. However, a need exists for approaches or projects which develop a basic groundwork to discover the principles or structure of relationships among human phenomena. This might enable a more complete understanding of human behaviour or at least refinements in existing theories to be acquired.

Behaviour is the result of interaction between a biologically driven programme and experience whose relative contributions vary from species to species. Among humans the culturally acquired component undoubtedly plays a

much more important role than in any other species, setting a man free from total genetic control, allowing him to escape, to a considerable extent, from his "biological destiny". In fact, if heredity endows man - at the moment of fusion of the nucleus of the ovule and spermatozoa - with predetermined dispositions, tendencies or sensibilities which will manifest themselves soon after birth as a characteristic "behaviour style" in the interaction of the organism with the environment. its expression will be substantially modified by factors in the environment of which the child is to become a part.

Although psychologists agree that human kind inherit the potential to acquire a wide variety of social behaviour, opposed (and even antagonistic) psychological models for the explanation of individual personality and behaviour have been developed in psychological and educational research. For example, there is a passive model which proclaims that environment acts on recipients (through the mediation of processes such as the classical or instrumental conditioning, observational or cognitive learning) who simply accommodate to environmental determinants; thus the manipulation of environmental factors can bring about the type of variables associated with personality development and behaviour. By contrast, the active model conceives human beings as curious and manipulative and so the principal determiners of what happens to them. However, genetic endowment is considered one of the origins of individual differences which can lead to personality traits or behaviour through the interaction with the environment. From this perspective, the impact of environment can be modified or determined by the individual characteristics of the recipient; for example, the individual can select from a set of environments, determine the tone or act as a reinforcing agent in a particular social context or react to the behaviour of others affecting what they do not only here and now but subsequently.

Thus taking into account divergent (but complementary rather than antagonistic) psychological perspectives one can conclude that if on the one hand events affect psychological processes and behaviour of a human being, so through an active and deliberative effort he can also influence and change social and material environmental events.

From his contact with the human environment the child, from birth, actively builds one kind of "map" or mental model of his social, affective or cognitive experiences, of his inter-personal relations which will continue to play an important role in his subsequent development and behaviour. Like other living systems the human being finds himself involved in a process of continual interaction with the surrounding social and physical world but, unlike other species, the human individual is able to transform the information received from the environment to make changes in his psychological make-up. This can be inferred from the process of acquisition of new habits, attitudes, ways of solving problems or the reaction patterns used in the process of adjustment.

The social environment provides the individual with models, frames of reference, norms, customs and habits that affect his decisions and behaviour in accordance with age group, sex and social role. More specifically, the norms and social expectations establish forms of dealing with events significant to the individual's life in society; they specify behaviours taking into account rules and roles or, rather, the dominant relationships previously established. From birth the individual is thus educated, is under pressure to conform to the objectives on which the social system to which he belongs is based and which aim not only at the protection and satisfaction of his needs or the expansion of his individuality (personality) but the maintenance of the balance and function of the social system in general.

The process of interaction between individual and social environment cannot occur without difficulty and conflict, such as those which can arise from the tensions between an individual's needs, values and capacities and the demands and the expectations or rewards associated with his role (or roles) in society. When the discrepancies between the demands made on a individual and his behaviour exceed a certain threshold (the degree and limits of tolerance of deviant behaviour in relation to established norms vary from society to society), the social system elicits measures with the aim of influencing and controlling his behaviour. This process of "normalization" or control of the deviation is accomplished by various means or pressures (Lerman, 1977; Kitsuse, 1980), which range from "moralizing" to punishment, according to the danger perceived or the social structure of the particular environment. Hargreaves (1980) stressed in this context that the negative social reactions designed to control deviation, could of themselves lead the individual who tends to become an outsider to define himself as a deviant (self-labelling) and to generate further deviant acts to solve the problems created by deviance (the processes of the self-fulfilling prophecy).

But if the individual has at times to accommodate his behaviour to the prevailing social rules he has also the capacity through an active effort to modify the conditions of his environment. The human being not only accommodates himself, but interprets, recreates and develops his own environment and to some extent his own destiny. If, on the one hand, the attitudes, aptitudes and human values are completed in contact with the social environment, if the individual depends predominantly on the environment for his own development, he must, on the other, be considered as an active intentional being in that process of interaction. Thus, if the discrepancies between the individual's needs and the situational conditions exceed a certain level, the individual can, by his behaviour,

modify the demands and rewards associated with his social role; he can influence his social environment, choose other modes of behaviour and sometimes seek alternative social systems in which to live.

A general tendency to assert one's own power in the environment, to control one's own life, to fight for possessions or to preserve one's own existence is observed very early (prototypically in a baby's yelling and agitation) in all human beings. The urgency of self-assertion increases with the child's developing sense of efficacy and control. However, a broad concern with self does not necessarily imply opposition to the interests of others because being effective within the social world also entails finding ways to help, cooperate and gain the approval of others. Evidence of affective responses such as empathy which may lead to the renunciation or delay of an individual's gratification in order to aid or benefit another person (prosocial behaviour), have been noted by authors such as Hoffman (1976a) to emerge early in human beings in the newborn's "reactive crying" to another infant's cries. By contrast with aggression, often used to acquire prestige or autonomy, to break bonds (of dependence or others), empathy or prosocial behaviour in general seems to bond individuals to one another (e.g. mothers to infants) and enhances people's tendency to seek proximity.

Prosocial and aggressive behaviours have been considered as lying at opposite poles of the dimension of social interaction and studied independently in most research work. Conceptually, prosocial behaviour is understood and defined by contrast with coercive or aggressive behaviours. However, in some circumstances, they can lead to similar outcomes. Therefore, an attempt to link areas that have been researched separately in child psychology, or more specifically, the analysis of what distinguishes aggression or assertion from prosocial behaviour and what they have in common, seems to be a potentially

constructive way to acquire new insights; these may enhance further work in this area and thus the acquisition of a more integrated picture of the role of these behaviours in children's social encounters.

The content of the present study is divided for convenience and clarity in a way which seems consistent with previous work as well as functional in the light of the scientific data obtained and the treatment which it has been possible to give to the data collected.

CHAPTER ONE

SOCIAL COMPETENCE IN YOUNG CHILDREN

> What do you want to play with me?...I can see me (looking at a mirror and pointing)...that's me...that's you...
>
> (child 13 to child 3)

1.1. Considerations:

In certain classical psychological perspectives, the young child is considered to be a-social (learning theory), narcisistic (psychoanalysis) or egocentric (Piagetian). Early behaviour, guided predominantly by self-interest, conflicts with the mutual or social interest; the young child's goals and those of his society are divorced, probably antithetical, and this problem is only to be partially solved by socialisation.

Followers of Piaget believe that young children are not ready for interpersonal communication, and that they have only limited skills to process information about social situations (Golden, 1987). From the Piagetian perspective it has been stressed that egocentrism pervades all aspects of young a child's life; children under seven (at the pre-operational stage) are essentially prosocial, they do not apprehend others in terms of personal characteristics or states or as independent psychological entities; their egocentrism prevents the "give-and-take" of meaningful interaction as they are not aware of the subjective autonomy of others (with thoughts and intentions distinct from their own). Young children are considered to be aware of others only as physical entities; actions are judged in terms of physical rather than psychological consequences. Interaction is viewed as getting what one wants, where "wants" refers to physical objects rather than desire for relationships. Among younger children, friendship

is described in terms of physical aspects of interaction (sharing toys, playing together); but understanding the interests of the other is precluded by constraints inherent in egocentrism. At preschool level, the primacy of self-interest is stressed; social life is considered not to be differentiated, collective symbolic play is no more socially significant than individual symbolic play. Cooperation presupposes the knowledge of reversible operations; social development, interpersonal relations or the child's growing awareness of others is governed by cognitive growth and differentiation. The child's level of cognitive functioning which conforms to an invariant sequence of developmental stages determines his capacity for interpreting the meaning of socializing events and thus of interpersonal relations. Social relationships of the child and those of the adult are presumed to be discontinuous but with maturity children come closer to understanding social reality as other people understand it. This approach to development stems from the primary assumption that the child is not initially social, hence a focus on the individual and how he becomes social has been a feature of theory and research.

A considerable body of research (in particular that associated with learning theory) contradicts many of these assumptions, however, and the argument that children perceive others in terms of physical characteristics rather than in terms of enduring subjective states is no longer tenable. The portrait of a young child dictated by egocentrism does not appear to be justified by more recent studies. Children begin to coordinate their actions with one another from early childhood, in toddler groups the infant shows mutual interest by looking at another child and perhaps smiling, making a noise or showing a toy (Meadows, 1986) and by the time he is two years old, sequences of interaction increase. Between two and four years of age children have learnt the skills of social interaction, such as what are appropriate behaviours in given situations, what

behaviour one may expect to be reciprocated and waiting to take one's turn. Pre-school children co-operate more often as they get older, joining rough and tumble play, cooperative building and dramatic roletaking (Meadows, 1986). Social knowledge becomes more extensive with the child's experience.

Many authors stress a swift and regular emergence of children's understanding of their own and others' minds between two and four years. Poulin-Dubois and Shultz (1988) mention a developmental progression from agency to intentionality. Children not only recognize that a being acts on its own but also postulates intentions, i.e. internal mental states which guide and control action by others.

Dunn and Kendrick (1982) have presented an extensive summary of literature on the social competence of very young children forming relations in their family settings. A summary of their work and the authors they cite will be presented below followed by the chief implications for the current study.

1.2. Developmental trends in children's interaction from infancy to early childhood

1.2.1. Infancy (Birth to two years)

The origins of social behaviour can be observed in very young children mainly in studies of the following phenomena: sensitivity to others, responsiveness to emotions and distress of siblings, differentiation of self from others, interaction with mothers, carers and other children, resistance to the wishes of others and, finally, by the end of the period, labelling the mental states of others. This last named is an aspect of what has been called the developing theory of mind. These phenomena do not, of course, develop in isolation but changes in one area interact with growth in another. Therefore, in the sections

which follow, a chronological, not a topic based approach to development is adopted.

Studies concerned with the early affective arousal of children in response to the emotions of others or with children's capacities for discriminating among different affective expressions in others (the origins and development of empathy) have demonstrated the existence of sensitivity and responsiveness to the human infant cry in the early days of life (Sagi and Hoffman, 1976). The early presence of affective sensitivity, of an empathic involvement or contagion of affect, a sensing of others' moods and emotions, particularly those of the mother, have been consistently observed throughout babyhood.

Among other authors Sagi and Hoffman (1976) and Simner (1971) found that babies, from birth, show a sensitivity (global empathy) to the crying and distress of other babies as they are likely to cry in response. In Hoffman's account (1975a) the emotional response termed "empathetic distress" (or experiencing another's painful emotional state) develops early, before the infant is capable of differentiating self from other. The fact that one-day-old infants cry selectively in response to another infant's cry provides most direct evidence for an inborn empathic distress reaction (Sagi and Hoffman, 1976). Infants experience the contagious effect even without recognizing the source of affect. Hoffman (1987) argues that children later become capable of "rudimentary role-taking" when they begin to put themselves in the other's place and find the true source of this distress.

During the first year infants can distinguish and react appropriately to different emotional expressions by caregivers. Haviland and Lelwica (1987) observed that 10-week-old babies reacted differently according to their

mothers'facial expressions and tone of voice. If the mother appeared happy, so did the baby; if the mother appeared angry, so did the baby. If the mother appeared sad, the baby did not look particularly sad but engaged in chewing, mouthing and sucking. These studies suggest that babies can discriminate emotions in others early in life. Evidence that infants can interpret the emotional expression of their mother comes also from studies of "social referencing". Sometimes an infant will look at his mother as if to analyse her emotional expression before deciding how to react to a situation.

From birth, interactive elements emerge and evolve into complex, coordinated and differentiated social relations. Looking appears first, followed by touching and reaching and later by coordinated social acts. Reaching and touching occur in infant contacts at about three or four months and smiles and vocalizations by six months. When crawling emerges, babies may follow one another and older infants mutually explore eyes and ears. Increasingly, throughout the early months, looking at the other baby's face accompanies actions of smiling and reaching, convincing many investigators that these activities are true social behaviours (Vandell and Mueller, 1980). Vocalization, cries, smiles, agonistic acts or object related social acts, gesturing and touching all increase from six to 12 months and are included within social sequences; vocalizations, smiles and touching are the most frequent actions used to initiate, maintain, and terminate the interaction.

There have been suggestions that tantrums may be the forerunners of early aggressive behaviour (Fagot and Hagan, 1985). These also occur early in ontogenesis; between four and six months, the infant is capable of experiencing and expressing anger and the anger experience motivates efforts to deal with frustrating restraints and barriers. At about one year of age, children are not only aware of others'angry interactions but often respond with distress or anger.

Izard (1977) pointed out that affective experience may be crucial in the process of differentiation of self from other and in the shaping of behaviour. According to this author the emotion of anger may play an important part in the child's development as it may increase his opportunities to sense self-as-causal-agent and hence to experience self as separate, distinct, and capable. Distress and anger may contribute to learning in the sense that arousal heightens children's vigilance and attentive powers. However, because anger or, more specifically, tantrums have the capacity for eliciting reaction from the environment and both the occurrence of tantrums and their behavioural components are sensitive to feedback contingencies they probably serve as opportunities for young children to learn about the efficacy of aggressive action or inhibition.

Dunn and Kendrick (1982) found that by 12 months children engage in games in the context of interaction with their mothers, where games are defined as two or more individuals working toward a mutual goal with alternation of turns and repetition of actions. The establishment and maintenance of joint play depends on both children accepting or negotiating the other's contributions. By 14 months babies have considerable skill in cooperating with, anticipating the actions of, and even manipulating the sibling. Children express positive emotion and excitement when the other joins the activity or replicates the action of the other. The pleasure expressed in the imitative sequences may, according to the above authors, be interpreted in association with the issue of self-recognition. It is possible that for both children the pleasure expressed in the sequences where each replicates the other's actions (e.g. when vocalizing together) reflects a recognition of the other as in some sense "like me".

Infants appear to distinguish familiar from unfamiliar adults by around seven to nine months of age and to behave differently toward them (Stroufe,

1977). Infants aged nine to 12 months can differentiate between photographs of baby and adult faces (Lewis and Brooks-Gunn, 1978); they respond differentially to photographs of female and male strangers (Brooks-Gunn and Lewis, 1981) and to direct approach by male and female strangers (Smith and Sloboda, 1986). By about nine to 12 months it seems as though infants can produce and discriminate a variety of emotional expressions and begin to respond appropriately by interpreting the emotional expressions of others. Verbal gender labels ("boy", "girl", "mummy", "daddy") begin to be used correctly after 18 months of age.

One early landmark in the acquisition of a sense of self as distinct from others is referred to as "person permanence' (Holmberg, 1977). This has been assessed in terms of the infants'recognition of particular others, and search for them when those persons disappear from view. Person permanence implies an internal representation of a social being, corresponding to that person's continuity in time and space. Closely linked to the concept of person permanence is that of "object permanence", applied to non-social objects. Both are achieved during the sensori-motor period (up to about 18 months of age) with major progress in the degree of permanence achieved (measured by the success of the infants'search strategies) towards the end of the first year.

With object permanence and the gradual emergence of a sense of the other as physically distinct from the self (at about one year of age or a little later), the child may be aware that another person and not the self is in distress. Following this, early empathic distress is gradually transformed into a more reciprocal, sympathetic concern for the victim: "sympathetic distress" (Hoffman, 1987).

Radke-Yarrow and Zahn-Waxler (1984) carried out a longitudinal study of children's reactions to the distress of others and found that, between 10 and 12 months in cases involving emotional distress, in about half the incidents the response was a frown, sad face, cries, visual checking with the caregiver: there was no discernible response or a simple attending in about a third of the instances. Based on mothers' observational records Yarrow and Waxler supported the conclusion that distress crying by the end of the first year was a common reaction to emotional distress signals in others. Children around a year old were sensitive to others'need states and over the next six to eight months a general agitation began to wane, a concerned attending remained prominent and positive initiations (tentative patting or touching the person) to others distress began to appear. In fact, noticeable changes were found between the younger children (aged up to about 20 months) and the older children (20-30 months). The younger children often orientated to someone's distress (crying, fretting or whimpering themselves) but prosocial behaviour (e.g. touching or patting the victim, or presenting objects) occurred in about one-third of all incidents reported and was much more likely to be performed by the older children. It took a variety of forms, such as reassurance ("You'll be all right"), combative altruism (hitting an aggressor), giving objects or getting help from a third party. This developmental pattern was similar whether the child was a bystander to the distress or had caused it.

Children seem to differ in capacity or willingness to be sensitive and responsive to feelings of others. Radke-Yarrow and Zahn-Waxler (1984) observed that not all infants responded and some did so in an extreme way. There appeared to be affective/cognitive components of empathy differing in prominence in the responses of different children; some children were characterized as intensely emotional whilst others tended to react to another's

distress in an unemotional and analytical manner (inspecting, exploring, asking questions), aggressively (hitting the person who made the baby cry) or in an anxious and avoiding manner that suggested intolerance to the emotional needs of others (turning and running away). These diverse reactions might underlie later developmental differences in empathy and altruism (Murphy, 1937; Barnett, 1983). The progression from early "involuntary" empathic distress to differentiated discriminations and expression support the transitions described in Hoffman's (1975a) developmental theory. Yet Hoffman maintains that, even as a toddler, the child will use inappropriate means to alleviate the other's distress, since he sees the world only from his own viewpoint. From Radke-Yarrow and Zahn-Waxler's study (1984) it is clear that children especially after about 20 months (which is when sensori-motor development is completed and thus when children understand cause-effect relations and the distinction between themselves and other people) are increasingly aware that the distress is experienced by the other person and act more appropriately being able to show different kinds of prosocial behaviour.

Dunn and Kendrick (1982) also observed, by 14 months, incidents which could be classified as children showing an empathetic awareness or concern for others which differs from the increasingly complex perspective-taking abilities shown by the child later in the third and fourth years. Children as young as 14 to 15 months appear to have an awareness of the emotions expressed by siblings and parents and some of the acts within the child's power can provide some comfort for others. By 14 months children were upset by the distress of their sibling or parent. Among the reactions of 14 and 16 month-olds were: the child began to cry himself; hide his face; point to sibling, vocalize or pull mother towards sibling; inspect own body part similar to hurt part of sibling; pat sibling; help with a toy or offers toys or food when the sibling was crying or go to ask if

the sibling wanted a drink. In some instances children ignored or watched the siblings crying without taking any action. The authors observed marked individual differences in sensitivity to the siblings'feelings. Children who most frequently showed distress when the baby cried were the most easily worried and agitated. In some cases it was evident that the younger child behaved in a way that was more appropriate as comfort for himself when distressed than for the other (sibling or parent). For example, one child, who made his mother cry fetched his security blanket, which he usually sucked when upset or tired,and tried to place it in her mouth. It could be argued that the child was at a stage of development where he recognized the mother's state of distress but was still operating on the belief that "what will assuage my distress assuages hers". The egocentric responses of children to others'emotional states - the "self-referential" acts - may be interpreted as reflecting an ability to take the viewpoint of others, but should, perhaps, be considered in a slightly different way. Yarrow et al. (1975) suggested that such acts may represent "active attempts to comprehend (to form hypotheses about) others'affect by trying them on" and in this way trying to "master" the feelings which are aroused by others'affect. On the other hand, Dunn (1988) stated that even if a child's hypotheses about what constitutes comfort for the other appear to be self-centered this does not show that the child is confused about the self/other distinction. If a child responds to another's affective state as if it were his own, we cannot infer either that the child cannot tell the difference between the other's affective state and his own or that the child presumes that anything that remedies his own affective state will remedy another's. The inference can also be drawn that small children have still to learn about what will comfort human beings specifically adult human beings.

On the whole, in the case of other's distress, five main categories of children's response can be distinguished according to Dunn and Kendrick (1982):

ignoring, watching, attempts to comfort (including attempts to get adult aid for the distressed sibling) laughing and exacerbating the distress. Some incidents observed reflected the opposite of empathy and suggested that even by 14 months the children had considerable powers of understanding how to annoy the sibling. For example, a child when upset took his sister's doll - a source of comfort to her, not to him -when frustrated by her. In fact, as for prosocial behaviour and empathy, Dunn and Kendrick (1982) and Dunn (1988) have presented a large amount of evidence about the early development of resistant, assertive and aggressive behaviour shown by the children toward their mothers and siblings, in this period of life. Conflicts in which the child protests the mother's actions, resists her demands, or repeats what they had just been forbidden to do all nearly doubled in frequency between 18-24 months. Displays of anger increased significantly after 14 months. Also, sibling behaviour both elicited and maintained aggression and aggressive behaviour was often used to settle siblings' disputes. By 18 months children seemed to anticipate their mothers'feeling state or response to forbidden actions and get pleasure from the power to affect them in that way as they seemed to be testing the results of their actions. Some observations demonstrate the pleasure and excitement that children experience in breaking rules, in confronting and teasing - that is in exerting power within their family world, as well as in happy cooperative and shared amusement.

Children from 18 months have some knowledge of how to affect the feeling state of a sibling; they know well what particular objects or activities have special significance.

By the completion of sensorimotor development at about 18 months the infant has a well-developed sense of self and others (Wellman, 1988). Dunn and Kendrick'observations (1982) and Dunn (1988) also strongly suggest that

children from 18 months can recognize the distressed feelings of their sibling and make an attempt either to alleviate the distress or to provoke it; they can understand when the sibling wanted what they have and on occasion would offer to share before they have been asked. They understand that other people have emotions and desires and are able to start responding appropriately to others as a result of their emotional state; they know how to hurt, comfort, or exacerbate another's pain, the consequences of their hurtful actions for others and something of what is allowed or disapproved behaviour in their family world. They also anticipate the response of adults to their own and to others'misdeeds and differentiate between transgressions of various kinds. Disputes over the children s own rights or issues of decisions over conventional routines within family cause considerable emotion at this age. Children also comment on and ask about the causes of others'actions and feelings.

Rheingold et al. (1976) observed 15 to 18 month old children in interaction with their parents or another adult in a homelike laboratory setting and reported that almost all the children shared on one or more occasion. At around 20 months the beginnings of a truly empathic understanding of others emerge at the same time as other aspects of understanding others (Yarrow et al., 1975) and as self-recognition as assessed by the mirror test. By 20 months children make references to emotional states both to themselves and to others. Causal utterances about internal states of self and other appear almost as early as internal state labelling (Harris and Gross, 1988).

1.2.2. Early childhood

The forms of social interactions after about two years of age become increasingly varied and reflect a differentiation and extension of the more basic phenomena observed during infancy. Social awareness, affective tuning,

cooperative play, the attribution of intention to others, understanding the feelings of others and social norms and behaviour are all implicated in the increasingly complex social repertoire of children of this age.

Rubenstein and Howes (1976) and Brooks and Lewis (1978) found that in the second year of life children refine their use of social categories and can distinguish photographs of infants as "baby" and pictures of adults as "daddy" or "mummy". Conceptual distinctions such as that between "adult" and "child" also emerge at an early age. Young children refer to individuals older than about 13 years as "grown-ups" and they cannot assign absolute ages to individuals. These differentiations continue throughout middle childhood (Brooks and Lewis, 1978).

At about two to three years, children are aware of others as distinct physical entities with their own feelings, thoughts, perspectives and emotions which may differ from one's own and are based on their own needs and interpretation of events. In familiar contexts and especially when they are involved in the situations (when their own interests are at stake), young children show a practical knowledge of others' intentions and goals and some of the causes of emotions in family members such as states of distress, anger, and happiness and of certain roles in that family world. They seem to understand the intentions of others, to recognize, explain and share others'internal states or feelings. to interpret and anticipate reactions, to deliberately irritate, annoy, and manipulate others (Dunn and Kendrick, 1982). Agonistic exchanges increase in frequency throughout the second year (Maudry and Nekula, 1939) though positive interaction predominates. Observation of children in conflict with their mothers and siblings by Dunn and Kendrick showed that during the child's second and third year many of the exchanges had a teasing quality; during their second year children smiled and laughed during confrontations. Incidents are cited in which two-year-olds deny their own responsibility, blame the sibling and

draw the mother's attention to his misdeeds. Mainly under the stress of situations in which the children's own interests were restrained they demonstrated knowledge of what will upset their sibling and how their mothers can be enlisted as support. Each child knows well what the other likes or dislikes. This closeness of interests means that young children have less difficulty in understanding how to annoy, comfort, or anticipate the moods and responses of their siblings than those of their parents. This competitive similarity of interests, coupled with the child's increasing powers of understanding of what upsets and excites the sibling (and so their increasing ability to provoke) and the uninhibited nature of sibling relationship means that quarrels are often emotionally loaded.

During the second and third years of life children develop a new sense of themselves and an increased capacity to plan and achieve goals (Dunn, 1988). The urgency of self-assertion in the face of powerful others increases with the child's developing sense of efficacy and control. Children learn how to assert their wishes and express their uniqueness. They strive for self-determination by demonstrating that they have a choice. This starts with a determination to do things in one's own way and proceeds with attempts to influence other children as the child tries to direct the course of joint behaviour.

Deceitful behaviour begins to appear in the second half of the second year (Dunn and Kendrick, 1982). Children use their growing understanding in their family relationships, to get their way, to escape blame, to deflect punishment onto their siblings, to tease and joke. The role of socialization is limited: self-interest or self-concern drives much of children's behaviour.

Evidence for children's developing understanding of agency - their own and that of other people - during the latter months of the first year has been reviewed by Wolf (1982). In the second and third year children have begun to

understand the idea that individuals are agents in causing pain and are accountable to others for such prohibited actions. Discussion of responsibility appears toward the end of the second year.

According to Barnett (1987) the weight of evidence suggests that by the middle of the second year children show some role-taking capability and thus can respond in ways that may relieve another's distress. Consequently they are better able to respond appropriately to cues which indicate feelings in others and are believed to be capable of experiencing compassion or "sympathetic distress" (desire to assist because one feels sorry for the victim) although they may still respond to another's distress by being distressed themselves. As language is acquired children's potential for empathy with a victim's distress increases, even in that person's absence (Hoffman, 1987). Weston and Main (1980) studied children in the second year of life and reported that a significant number of the children observed in a laboratory setting showed concerned attending to the crying of an adult actor.

Dunn and Kendrick (1982) reported that in their second year children's sensitivity is shown by their helpful and cooperative behaviour or in conflicting situations (as they often have goals and intentions which conflict with those of other people) and in their empathetic response or "affective tuning" to the distress and amusement of others. They develop an increasing sensitivity to the goals and intentions of others, become more generally interested in their feeling states and respond empathetically to their distress. Their responsiveness to others'approval or disapproval indicates a curiosity about how others think during the second and third year; they show interest in others'affective reactions to their behaviour and begin to make social comparisons in the context of self-interest. They also understand the affective tone of adults but do not yet have the experience to comprehend what constitutes an adequate comfort for an adult's

distress or anxiety though they are in a position to generate theories about the baby sibling. At this stage they begin to recognize that the distress of others can be relieved by the provision of comfort, but that what constitutes comfort for the other is not necessarily identical to that which would constitute comfort for the child himself. They behave in a way which clearly reflects a recognition of the other person's distress and many of them show concern and make sympathetic attempts to comfort (kissing, stroking) and alleviate the distress of another. They also fetch people to help, bring objects to the distressed person and make suggestions about what to do, verbalize sympathy, aggressively protect the victim and attempt to evoke a change in affect in the distressed person. Sometimes, however, the children show less sympathetic responses by avoiding the distressed person or even attacking him.

The emergence of cooperative problem solving in the second year of life has been documented as well as the wilfulness and difficult behaviour of two-year-olds (Wenar, 1982), often linked to the child's developing sense of self, a new pleasure in autonomy and independence and sense of frustration at interference or attempts to direct them (Dunn, 1988). Rheingold et al. (1976) found that two year olds helped their mothers and though some helping behaviours were imitative many were innovative or complementary to the adult's completion of a task. Dunn and Kendrick (1982) observed that the majority of secondborn children studied engaged in joint pretend play by 24 months. The secondborn children demonstrated the ability to contribute to the pretend framework and that of taking on and explicitly announcing a new identity. Miller and Garvey (1984) distinguished this roleplay in which the child adopts an identity other than the self and explicitly announces a transformed identity, from the earlier role enactment - in which the child's role identity can be inferred from speech and action. For a child to manage to transform his own identity into

that of another and to incorporate the partner into the joint pretend game, entails both understanding and considerable communicative skill. But even though children's skills in cooperating grow over the third year their motivation to do so, according to Dunn and Kendrick (1982), does not increase.

Shatz and Gelman (1973) and Dunn and Kendrick (1982) have shown that by the end of the second year children have begun to express or talk about their own emotional states and other peoples'feelings, doing so with increasing differentiation and frequency during the third and fourth year. By two to two and a half years children are able to change their speech when talking to their baby siblings. Their speech to the baby consisted of much shorter utterances and it contained a high frequency of repetition and of attention-getting utterances. During the third year children's responses become more elaborate and are directed to the sibling's state in appropriate non-projective ways. By this age they have acquired a rudimentary sense of others as having inner states independent of their own and they begin to use appropriate ways to relieve the other's unhappiness (Hoffman, 1987). Iannotti (1985) showed that preschool children demonstrated a sensitivity to the needs and feelings of their peers in a variety of ways by responding to displays of emotion and conditions of unhappiness or need, and suggesting that they know what would make a particular person happier. By the age of three children can correctly label their own or another person's sex or gender and the majority differentiate between happy and unhappy reactions in other people. However, the perception of fear, sad and angry feelings develop somewhat later according to Borke (1973).

By the end of the third year children not only recognize what the other wants but have grasped the idea that sharing is often expected and use this to justify their own demands. The children studied by Dunn and Kendrick (1982) demonstrated a comprehension of the different ways in which distressed feelings

can be relieved by the age of three. Thus children became more elaborate and sometimes responded not only to overt displays of emotion (with distraction, affection, humour or aid) but also to conditions of unhappiness or need. Whether or not children make attempts to alleviate the other's distress depends, as among adults, on the particular relationship and different contextual situations within the relationship. Also, by age three, children's understanding of others' feelings and the use of social rules become rapidly more elaborated and more explicitly articulated. However, their grasp of the causes of many adult emotions or of others' intentions and goals is likely to be limited to the goals of familiar others in familiar contexts - especially those involving the children themselves.

Dunn and Kendrick (1982) and Dunn (1988) have presented a large body of evidence to show that children as young as between one and three years of age show considerable practical understanding of the feelings and intentions of other family members, though their own self-interest is itself an important driving force that can contribute to their capacity to understand the social world. The growing ability after age two to recognize feelings and understand social rules appears to be associated with children's understanding of how to upset or act empathetically toward those others. These authors also observed that the majority of the children between two and three years old had little doubt about the gender of their baby sibling, assert beliefs about his/her properties and had a good understanding of the differences between the baby's properties and those of either adults or children of their own age, of baby's present capabilities, likes and dislikes and intentions to act. They also had some notion of the way in which the baby's capabilities had changed and would continue to change; they recognized their baby sibling's emotional states and intentions and commented on their wants, affective states and intentions. Some were comments on particularly expressive behaviour or accurate predictions of the baby's actions.

General comments about what the baby liked or disliked rather than the baby's immediate wants suggested to Dunn and Kendrick that the elder child observed and interpreted the sibling's wishes with considerable accuracy.

Children were skilful at reading, anticipating, and responding to the state, feelings and plans of their baby siblings and responded in a way that was often appropriate to the baby's state and not simply to the way the child would expect or want to be treated himself. Before the age of three children were also aware that the baby could potentially threaten their interests (spoil a game or take and destroy a possession); they were able to comprehend principles of harm to others, of responsibility and excuses for such harm, differentiate between certain kinds of transgression and understand how rules apply differently to different family members and how they can be questioned or transgressions justified. In the context of disputes or conflict in which the child's goals were of central importance, children did understand the connection between their own actions and the other person's state of pain, anger, or amusement.

Children combined their existing understanding of agency and the physical separateness of others into an ability to use others, although not exclusively as auxiliaries or "tools" for the accomplishment of personal plans. In part, possibly, because others do not always wholly submit to being used as extensions of the self, children become aware of the relations between self and other as human agents (Dunn, 1988). Children's understanding of social rules though initially limited to those which impinge closely upon their own experiences or interests became rapidly more elaborate and articulate during the third year. Children in the nursery school show similarly that they have a clear grasp of context-specific rules. Children's understanding of more general rules, such as gender-appropriate behaviour and their growing sensitivity to how such rules can be used differentially within different relationships is quite striking.

Children can learn very fast about rules when the context is emotionally urgent just as adults can better manage tasks that have content of social significance than tasks with the same logical problems but presented in a more abstract content.

During the third year children's ability to contribute to joint pretend play has also been shown to increase as well as the ability to argue and negotiate about the course of the pretend play. At this stage children also show an ability to join make-believe play, to share a pretend framework with another person, to help toward achieving a mutual goal, to carry out pretend actions in coordination with that other, to enact the part of another person or thing with the incorporation of another person into a reciprocal role. Dunn and Kendrick (1982) observed children who were willing cooperators at home in play, picking up the mood of the sibling, coordinating their own actions to those of the sibling, taking roles complementary to those of the sibling, and sharing the collective symbolism of a pretend world exploring social roles and rules. Through cooperative actions children contribute to the other's play in a manner that reflects an understanding of the other's goals.

A shift from solitary to social pretence has become well established by three years of age (Fein,1981). Miller and Garvey (1984) distinguished this roleplay in which the child adopts an identity other than the self and explicitly announces a transformed identity, from the earlier role enactment - in which the child's role identity can be inferred from speech and action. According to Piaget pretend play is initially a solitary symbolic activity (stage 1) and sociodramatic play (i.e. collective symbolism, stage 2) does not begin until the latter part of the third year of life. Dunn and Kendrick (1982) observed that in most sequences of play between child and sibling they acted together as complementary actors. In friendly affectionate relationship between siblings, younger children become

active and cooperative in joint pretend play. Little children are highly active participants in play, disputing several of the sibling's suggestions and making many innovative contributions. The older siblings still tend to dominate the structure of play as a whole, however. These authors also observed that older siblings were frequently very managerial (if not dictatorial) in organizing play and in giving directions. Younger siblings, given their resistance to siblings' commands outside the play situation, were surprisingly obedient within play yet often resisted intrusion. At 36 months, about half of some "helpful" actions were not accepted.

The presence of arguments in children's play suggest that even in their second year children do begin to take into account possible states or moves by others. During the third year understanding of accountability is extended and features their blaming of others and the denial of their own culpability. Children understand that their actions lead to violations of acceptable behaviour and also that justifications or excuses for bad behaviour could be given. A distinction may be drawn by children of three years between excuses of intent, or acts intended to harm others or to break rules of conduct on the one hand and accidental acts with similar consequences on the other. Observations of children by many researchers suggest that during their third year children show an increasing tendency to give reasons for prohibited actions. The most frequent justifications refer to the child's own needs, wants or feelings. The child's wants predominate in explaining why mother should do x or the child should not do y. Next in frequency were excuses in terms of the material consequences of the child's or other's action and rules of sharing, turn-taking or fairness.

Other offensive moves made by children during the third year include threats, bargains, and denial of future possible states as a reason for their mothers' prohibitions. In contrast arguments over wild behaviour and physical

aggression can be a source of amusement. Children use reasoning only when they believe reasoning will be effective. They do not use reasoning in disputes over aggression or boisterous behaviour because they knew that reasoning would not get them out of that kind of scrape.

Many conflicts take place over ownership of objects and children indicate that the rules applied to them should also be applied to siblings. The beginnings of an understanding of certain principles of positive justice (sharing, equal distribution of goods), are shown in the practical grasp of how such rules can be used when one's interests are threatened, and in the importance of application of rules to both sibling and self. When siblings behave aggressively children are more likely to censure or punish them.

In summary, by three years children can marshal some very sophisticated reasoning about social relationships. Their grasp is a practical one, used to annoy, comfort or support but it is an intuitive rather than fully reflective understanding. Children understand the connection between their own actions and the other person's state of pain, anger, or amusement, and their powers of understanding and knowledge of social rules may be used in struggles to gain their own way. Their interest in and understanding of social rules, adult standards, and the nature of power relationships within the family gradually increases. They make reference to sharing and take turns in the face of competition with siblings. Several studies also lead one to conclude that children's responsiveness to the feeling states of others and prosocial behaviour develop during this period and that the foundations of attitudes of caring, considerateness and kindness are established by three years of age.

The ability to conceive of other minds increases in the second half of the third year and has consequences for children's understanding of their social

world and communication within it. Wellman (1988) shows that three years olds have an explicit understanding of the distinction between real objects and events and decoupled representations such as dreams, thoughts and images. They have also mapped out some of the interdependencies among these concepts. Although three year old children understand that mental entities are different from physical ones and that human action is governed by wishes, beliefs and attitudes, unsurprisingly they do not have a concept of mind as an interpreting, mediating processor of information. Along with the evidence for the beginnings of the ability to reflect on other minds, there is at this stage, a growth of disinterested curiosity about the social world.

Although children begin to show very early some knowledge of others' agency, the rudiments of the ability to attribute intentions to others is present by two and a half to three years of age. According to Wellman (1988) children understand human action via the internal mental states (beliefs and desires, intentions) of the actor by the age of three. Children can recognize mental states in themselves and others and they acquire a set of quasi-theoretical concepts for representing their own mental states and those of others. This suggests that the particular concepts represented by that vocabulary play a part in social-cognitive development and permit children to reflect on their own and others' mental states, to interpret behaviour, to become self-conscious of learning to think about the world, or to understand the various causal connections between states of the world and intentional states of the mind such as thinking, knowing and believing. This knowledge appears to be coherent and tied to a causal-explanatory framework. Thus equipped, children begin to understand, predict and explain their own and others'talk and action by means of the concepts expressed by those mental terms. Wellman (1988) points out that in acquiring these meta-representational concepts, children are acquiring a "folk psychology" or a

commonsense view of the world in which they use beliefs and desires to predict and explain human behaviour understood by them as coherent and causal.

By four years children are taking into account others' desires in predicting their emotional state. They are developing hypotheses about other persons' emotions, and beliefs and can be credited with a theory-like understanding of the mind from which they can explain and predict people's behaviour and emotion (Harris and Gross, 1988). These authors also suggested that young children begin to construct a model of human beings acting in a rule-governed social world. According to this author, between their second and sixth years, at least in western cultures, children begin to acquire the relevant adult set of words or concepts for mental predicates representing such states as beliefs, desires, intentions, and feelings. The possession of concepts of mental states and the fact that children make explicit reference to them in their explanation and predictions of talk and action strengthens the conviction that children adopt a theory of mind in their social interaction.

By four years, children are also involved in social exchange and sharing with their friends and peers. According to Dunn and Kendrick (1982) helping or sharing with a sibling appears to be less pleasurable for many children than with their peers. Strayer (1986) showed that children at this stage are increasingly more interpersonally oriented in their knowledge and social cognition of affect and can explain affective states in self and others using context.

Further research by Smetana (1981) has shown that young children do not have a monolithic conception of rules as constraints. They distinguish between behaviours that violate purely social conventions (e.g. not putting your belongings in the right place), and those which violate moral conventions (e.g. not sharing a toy; hitting a child). Smetana (1981) found that children aged three

to five distinguished between these two kinds of behaviour in terms of whether it was dependent on context (home, or school) and on the amount of punishment it deserved.

1.3. Conclusions: implications of the studies reviewed for this research:

A great deal of research, a small segment of which has been outlined above, shows that young children's social capacities have been underestimated by pre-1970 research through the use of excessively restrictive paradigms employed in studies of early children's interactions. Research on social development shows that young children are interested in the other beyond momentary interchanges, are aware and quite capable of understanding that other people have feelings and intentions different from their own (even if the developmental progression has not yet been fully delineated), that they are subjectively distinct from the self and are capable of performing complex responses facing others'needs and distress. Thus these research studies show that it would be misleading to describe young children as egocentric. It is no longer questionable that young children (three to four years of age) are able in sophisticated ways to socialize with each other.

As in many other areas of developmental research generalisations about social development have been obtained from experiment or controlled tasks but the way the task has been structured by the researcher has had an important impact on the apparent ability of children of differing ages. Children's age-dependent levels of social cognitive functioning may be a relevant factor in determining how they will respond in different settings, when others' intentions or needs must be inferred from subtle cues which demands a quite sophisticated knowledge of human motivation. Sharpley and Rodd's results (1985) showed that because young children's understanding of events is tied to their current situation

and dominated by immediate perceptual cues which involve only surface impressions, they may react egocentrically to hypothetical stimuli presented by researchers (and thus be limited to egocentric pre-operational thought) when they do not possess the cognitive skills necessary fully to understand such hypothetical situations. However, young children's responses to real stimuli (based upon the cues embedded in context which provide specific perceptual dimensions necessary to trigger the social responses) indicate that children of nursery school age are capable of perceiving, for example, an helpee's degree of need and responding to it. If the cues are easily perceived, the context clear and the mode of response readily available to the child then characteristic egocentric behaviour described by Piaget (1932) may be replaced by responses which meet the needs of others. The same may happen when, for example, the child is presented with unambiguous information about the intention underlying an aggressive act (Rule et al. 1974); in this case preschoolers are able to alter their evaluative response to aggression based on the aggressor's intentions.

Isolated thoughts or verbal reflections upon relationships out of the context have been used as material from which theoreticians have abstracted a model of a young child's social world or interpersonal relations. But in the very early stages the language understood and used by children is embedded in the flow of events which accompany it. Children do not interpret words in isolation, but interpret and act in contexts. Children can also apply rules without "knowing" them as a cognitive object. Selman's comment (1980) that children "who do not reflectively understand mutuality may still happen to act in mutually coordinated ways" p. 263) may be answered by Vygotski's remark that the child becomes conscious of his spontaneous concepts relatively late; the ability to define them in words to operate with them at will appears long after he has acquired the concepts.

This evidence stresses the importance of studying the children's social behaviours only in the social context as the examination of the individual child abstracted from it cannot clarify the nature of a child's functioning within that context or the significance of social acts which are inextricably framed within it.

Finally, it is evident from the studies reviewed that young children are aware of the effect of their actions upon others, act upon their social world with intended effect and these intentions are differentially apprehended by others. Children perceive order and regularity in their social world, actively interpret processes and interact differentially and selectively distribute different categories of behaviour. Young children are entities who develop a sense of themselves, are aware of and able to monitor their own performance and develop an increased capacity to devise plans, to use rules and strategies to achieve goals or to get things done the way they want them to be done; their behaviours are not only structured to fit the context but they also structure the context in order to support their behaviour or practical activity; that is, they are associated with their active efforts as agents to change their social and material environment.

CHAPTER TWO

THE YOUNG CHILD'S AGENCY AND THE CONCEPTUALIZATION OF THE VARIABLES TO BE INCLUDED IN THE EMPIRICAL RESEARCH

Get out!

Why?

Because I tell you what to do...

(P., an older girl, with child 15)

Here is a big egg for you...

(Child 16 to child 5)

2.1. Introduction

Few authors other than philosophical behaviourists have failed to take into account that the human being is an intentional, active agent in his interactions and that he chooses to some extent the situation in which he appears and selects certain aspects of these situations as cues for behaviour. Bannister and Agnew (1977) emphasize the sense of self as cause, as having purpose and intention and the acceptance of at least partial responsibility for the effects of what we do. According to these authors, this construing of self as agent is a superordinate contribution toward a total construction of the self. Thus one of the main characteristics of human behaviour is that of being purposive and self-directed; although the events affect the behaviour of individuals, they also deliberately influence the environmental events.

Many empirical studies reported in the previous chapter show that young children are purposive and self-directed in their social behaviours; they are aware of the effect of their actions upon others and act upon their social world intentionally, structuring their interactions in a way which take into account the properties or demands of the social context. They deliberately affect environmental events and are in turn influenced by them. Children manipulate environmental contingencies, use selective reinforcing events in order to structure, produce, change or maintain different social interactions. Children's selective use of social behaviours include positive reinforcing behaviours (those most likely to produce sustained interaction) such as giving help and gifts, smiling, laughing, compliance. They also use negative or punitive behaviour such as non-compliance, rejection, making insults, quarrelling or attacking other children. The relationship between some of these behaviours in young children which has seldom been addressed in research works will be the subject of the following sections.

2.2. Dominance and coercion among young children: concepts and types of assertive and aggressive behaviour in young children's interactions

A considerable body of research has dealt with a variety of behaviours under the headings of dominance or power though the latter concept is usually ascribed to adults. Wrong (1979) has reviewed many concepts of power in the social sciences. He describes an important distinction between power to and power over:

> "Clearly, everyone seeks to acquire the power to satisfy their wants and achieve their goals, but this is implied by the very concepts of "want" and "goals" themselves. It does not, however, follow from this truism that everyone seeks power over other people, that is, strives to produce intended effects on the actions and attitudes of others" (p. 220).

Dominance is a concept which is suitable to both children and adults and can be studied developmentally.

Dunn and Kendrick (1982) observed that a high proportion of utterances accompanying children's interactions with their younger siblings occurred in a context of trying to prohibit, or control the younger's actions in joint play, when the child was especially concerned to influence the baby's action. Children's powers of reading and understanding their mothers'moods or their siblings'intentions and practical knowledge of social rules were commonly used in conflicts to gain their own ends, or to divert punishment from themselves onto others. These and many other authors have pointed out children's self-feeling associated with ideas of the exercise of power. The earliest stages of self-awareness may thus be linked to children's concern over their own interests and their pleasure in social efficacy, gained by managing or having control over a particular social world or of mastering and solving problems or difficulties (social and psychological) that face them. According to the above mentioned authors, however, there is a discrepancy between the rapid development of children's ability to identify or formulate goals and a much slower growth of their ability to communicate their plans or to face delay in the realization of those goals.

From birth, children are oriented towards their physical and social surroundings; curiosity and awareness aid in achieving control over the environment; imitation facilitates the adoption of behaviours of effective models, and a secure attachment enables the child to explore "from a secure base" (Wenar, 1982). Children may internalize prohibitions, inhibit their behaviour and conform to other demands by means of self-control and subsequently by means of their conscience; however, they must also protect themselves from becoming a mere recipient and implementer of social influences. The power to explore and control the environment might set the child also to perceive a wide

range of behaviours as intrusions on the self-as-agent, thus turning "no" back to others while proclaiming their status as autonomous agents. This means a change of the locus of decision making from others (usually the caretaker) to the child. According to Storr (1968) although helpless and dependent the baby starts to express its individuality and the rest of its life will be an increasing affirmation of its uniqueness, at least in western cultures. The baby's motility is an early assertion of the individual as something separate from the mother, and of a positive aggressive drive to explore and master the environment. As a child becomes more able to protect itself, its individual characteristics are more confidently asserted. Many games have an obvious aggressive content attempting to prove that the child has some power in the world, some strength with which he can overcome the obstacles which confront him. The child's consciousness of its weakness compared with adults may compel him to take every opportunity to prove his strength. Assertion may also start early against children who are younger, especially younger siblings, and gradually extend to peers. Children who cannot subjugate peers in this way may develop a preference for being with younger children who can be dominated. Snow et al. (1981) found differences in sociability and assertiveness among 33 month old children with a younger or no sibling. Only children and first borns were more outgoing more popular, engaged more in peer play and were more assertive than those born later. The authors also observed a tendency (albeit weak) of later-borns to avoid interaction with unfamiliar peers, which could result of later borns'interactions with older siblings.

Several assertive and aggressive behaviours in young children have been viewed in terms of what has variously been labelled "autonomy", "independence", "mastery", "competence", or "initiative" (Mussen and Eisenberg-Berg, 1977).

These enhance independence and protect the child against a variety of noxious stimuli or perceived threats. The common factor is the child as agent.

Assertion and aggression appear very early in the young child; aggression in infancy as soon as the child has sufficient mobility and control to hurt others and assertion (in the form of insisting on having one's way), in the second year of life. Both kind of behaviour may apply pressure to the target and often leads to there being a winner and a loser.

There is a well-documented and consistent gender difference in aggression: boys are more aggressive than girls and men are more aggressive than women but the research on the non-aggressive aspects of domination has generated insufficient evidence of a gender difference (Maccoby and Jacklin, 1974).

Aggression has been interpreted in terms of coercion, a topic closely linked to dominance (Tedeschi et al., 1974). Coercion derives from the use of punishments or the threat of punishments and these are classified as noxious stimulation, deprivation of expected gain, and social punishments (presumably shunning or rejection). Aggression is of course a possible last expedient, which has been summarized in terms of making an offer that cannot be refused. Tedeschi et al. (1974) phrased it this way:

> "if a person cannot persuade, bribe, manipulate, or otherwise induce a target to comply with the source's wishes...the latter's power may ultimately rest upon his ability to restrain, transport, immobilize, injure, or destroy the target" (p. 550).

2.2.1. Concept and types of aggression

2.2.1.1. Definitional issues

The definition and classification of aggression vary according to the authors' theoretical approaches which often include judgmental assumptions about the culpability of an aggressive action or events.

According to Fromm (1973) the root of the word aggression is "aggredi", from ad gradi (gradus means "step" and ad "toward"), which means "to move (go, step) forward". In the literal sense of its root, to be aggressive can be defined as moving forward toward a goal without undue hesitation, doubt or fear. However, aggression is sometimes defined as "behaviour which results in personal injury" (Bandura, 1983), or that "might involve or involves, and/or to some extent can be considered as aiming at, the infliction of discomfort or injury" (Olweus, 1979)

The definition of aggression as "behaviour that results in injury of another individual" is typical of an outcome approach. But the problem of quantifying harm or injury is not easily solved. For example, "harm" can be defined from different points of view: that of the victim, the observer, or the aggressor.

Some purpose or intent rather than reflexive reactions is normally attributed to aggression in Olweus's definition. However, a definition which focuses on the antecedent conditions of occurrence of the aggressive behaviour (conceptualizing aggression as behaviour for which the goal response is the injury of the person toward whom it is directed) faces other problems. Definition involves more than an observable act or sequence of behaviour that can be reliably measured, because the observer has to make judgments or inferences concerning the actor's intentions. Problems of the reliability and validity of judgments of the observer's intent, especially where young children are involved

are, therefore, raised. "Antecedent-related conceptions" are somewhat more successful when specific conditions are referenced rather than the often subtle cues by which intentionality must be inferred. On the other hand in the study of human beings the usefulness of this strategy is limited since harm-doing in human beings is not as inflexibly stimulus bound as harm-doing in animals (Parke and Slaby. 1983).

Attempts to separate action from analysis of intentions and motives and to focus on the social nature of the phenomena, for example by Tedeschi (1983), entails viewing aggression in a broad way as coercive power; coercion in his theory means a form of influence that restrains or constrains by force, curbs, compels or enforces. A contingent threat is, thus, an aggressive message that includes a demand and a statement that punishment will follow non-compliance. The demand may specify that a response be not performed (deterrence) or require that a response be performed (compellence). The person is considered the causal agent in affecting another person's thoughts, plans, attitudes, intentions, motives or actions. One person's direct influence on another may be observed in terms of deterrence, compelling threats or constraints, but coercive power may also be used for self-defence, revenge or reciprocity.

Unlike the perspectives mentioned above, the social judgment approach considers aggression as a culturally determined label applied to particular behaviour as the result of a social judgment on the observer's part (Walters and Parke, 1964). It treats the problem of definition as an opportunity to gain understanding of the social aspects of aggression.

An act which injures another, for example, may be called aggressive in one situation, community or by one person, but the same outcome may not be judged aggressive in another situation, community or by a different person. Even

an objective definition of aggression in terms of injuries must refer to the severity of the outcome, which is culturally defined. Because aggression may be a community-defined phenomenon, it should be viewed in the context of community standards and norms that govern the conduct of people and their interactions.

In very young children (in their first and even second year), their acts are often defined as assertive rather than aggressive because they are not considered to have the intention to hurt or the knowledge of how their actions affect other people. For example, Brownlee and Bakeman (1981) studied hitting as a means of communication in the interactions between toddler peers and found different kind of messages conveyed by different forms of hitting (e.g. "Hey I wanna play"; "I don't like that" or "leave me alone"). However, writers such as Fagot and Hagan stress that a "child (who) hits another child or takes another's toy away with any regularity... will be labelled as aggressive by others" (1985, p. 341).

Developmental changes in children's understanding of people's intentions occur and, with age an increase in the ability to differentiate between accidental and intentional provocation (Parke and Slaby, 1983). Aggression committed with "good intention" and aggression committed with "selfish" motives becomes more discriminated (Meadows, 1986).

2.2.1.2. Types of aggressive behaviour:

Empirical studies of aggression require operational definitions of its various forms of expression. Abramson and Abramson (1974) included 34 variables of aggression, categorized along the dimensions of intensity, agent, and directionality. Their data supported the contention that aggression can be conceptualized along several dimensions. Isaacs (1951) distinguished various forms in which children's aggressive impulses were expressed: biting, spitting,

hitting and kicking, scratching, throwing things, snatching and spoiling the work or possessions of others, verbal expressions of hate and contempt, as well as teasing, boycotting and exclusion from pleasures or winning the hostility of others to one's own enemy. This author makes a distinction between hostility and aggression towards the individual (called individual hostility associated with the motive of possession, power, rivalry, feelings of inferiority or superiority or general anxiety) and group hostility (to strangers and new-comers, to adults, to younger or inferior or any temporary scapegoat). However, the most common classification for types of aggressive behaviour is: verbal and non-verbal aggression; instrumental or hostile aggression (based on whether the offence or harm is understood to be the main purpose of the act).

Buss (1986) stressed that there is an important distinction between angry (hostile) and instrumental aggression. In angry aggression the person is hurt or irritated and the reward is the victim's being harmed or hurt. In instrumental aggression the aggressor is seldom angry and the reinforcement is any of the common rewards: food, money, perquisites, goods or services.

The conceptual difference between these two types of aggression may, however be less clear in everyday life. Angry aggressors may be reinforced particularly by the pain and suffering of their victims, but there may be secondary incentives in the form of the usual economic rewards that are accessible after successful aggression. Instrumental aggressors are rewarded mainly by the economic rewards which follow coercion, but they may also be reinforced by a feeling of power over those they have dominated.

Manning et al. (1978) proposed a three-way classification. They defined 'specific hostility' as that which occurs in a specific situation which angers or frustrates the aggressor: defending one's own rights, or keeping a toy, for

example. The victim's perspective is contingent to the situation. In contrast, 'harassment' is more unprovoked and is directed at a person. The aggressor gains nothing objective from the act; the reward seems to be the victim's reaction. Finally, 'games hostility' is seen as rough, intimidating or restrictive activities which occur in a rough-and-tumble or fantasy game; for example very rough variants of rough-and-tumble, or bullying, intimidation or imprisoning against the victim's will in a fantasy game.

Some authors consider rough and tumble play or playfighting as excitable and involving high-intensity actions but not as aggressive because its intent is often signalled by friendly gesture, smiling and laughter. This kind of behaviour for some authors has an affiliative function (Humphreys and Smith, 1979) or expresses an intrinsic pleasure (and motivation) in (for) fighting (Aldis, 1975); for others, such as Isaacs (1933), hitting for fun or playful attacks are a direct expression of the sadistic pleasure of attacking, an attempt to allay the anxiety associated with unconscious aggression while avoiding retaliation as it disarms the person attacked, persuading him that there's no harm in it. In practice, the distinction from real aggressive intent is possibly not always very clear (Humphreys and Smith, 1984).

Incidents of children intimidating each other with threatening gestures such as 'monster' poses or 'shooting' with a piece of material have been observed (Navon and Ramsey, 1989). Some authors even draw parallels between details of children's threatening facial expressions (or aggressive behaviours such as threats, hitting, biting, stealing objects from others) and those seen in nonhumans (Rajecki, 1983). Unfavourable comments like "You're no good at it; you don't do it right" have also been recorded in nursery classes (Jersild and Markey, 1935).

Cummings (1987) and Fagot and Hagan (1985) amongst others, when studying aggressive behaviours in young children distinguished physical from verbal aggression (hit, push, kick, yell, scream, criticize and tease) and taking or grabbing objects. According to these authors these categories of aggressive acts are quite broad, but they include the types of aggression most often studied.

Blurton-Jones (1972) has suggested that even though behaviours such as hit, push, frown and take a toy or grab objects were loaded on a common factor labelled aggression, taking (though evoking aggression) should be considered a form of communication rather than aggression. However the same can be applied to hitting (Brownlee and Bakeman,1981) and the willful destruction of toys (Mates, 1974) can also be considered as a means of communication or as a request for attention, in very young children. On the other hand, the researchers found that even in very young children hitting and direct physical aggression such as pushing and taking of a toy elicited identical responses from others in the environment. Very often hitting is simply a way of getting an object. So while Blurton-Jones (1972) may be correct that different purposes are often involved in hitting a person and taking an object, the practical consequences of either type of act seem similar to the young child. Isaacs (1933) also observed that from time to time a child would take away the property of other children and interpreted this behaviour as a teasing sadistic act whose pleasure seemed to lie rather in the act of taking itself (depriving the other person of what he has) than because the thing itself was specially desired: it was more of an act of hate of the other person than love of the object. This author also considered the existence of a relation between the motive of possession and the motives of power and of rivalry as often observed when the child seemed to want an object simply because someone else had it or took an interest in it. According to her view, for the child not to have what others have, or to have less than they have, is to feel

powerless, small, weak or helpless and not to be given what others have been given is to be treated as not loveworthy, as a punishment, a denial of gifts and of love and regard for the person giving.

2.2.2. Concept and types of assertiveness

Assertiveness has been conceptualized as lying on a continuum contrasting nonassertive behaviour with aggressive behaviour (Clifford, 1987). A greater part of the literature on assertiveness deals with training or teaching adults, adolescents and even elementary school children to stand up for their legitimate rights without violating the rights of others (Pearlman et al., 1973), and to express feelings and thoughts in a way that shows consideration without offence or hurt to others.

Barrett and Yarrow (1977) conceptualized assertiveness in young children as attempts to direct another person's activity intended to influence or control but not to injure. He distinguished diverse assertive behaviour such as commands, directives and acts of physical leading. Other authors (Wenar, 1982; Kuczynski and Kochanska, 1990ab) stress mainly resistant behaviours (disagreeing, non-compliance) to others'control as forms of self-assertion. Ollendick et al. (1987) distinguished between positive assertion (e.g. initiating social interaction and giving and receiving compliments) and negative assertion (e.g. standing up for one's own rights and denying unreasonable requests).

Data is still insufficient to analyse properly the constituents of assertive behaviour. Further research is necessary to specify elements included in this construct as has already done for aggression. Assertiveness does not seem to be a unitary phenomenon; it includes different forms of behaviour probably with different functional properties not yet adequately studied.

2.2.2.1. Assertiveness and dominance:

Assertiveness can be exercised in a way to reach and conceal domination (or at least render it implicit), thereby reducing negative reactions from the targets. For example, a leader can initiate activities, get others to follow or implement a course of action on others in an unassuming way, surreptitiously taking charge of the group by assertion (French and Raven, 1959; Tedeschi and Norman, 1985).

Dominance associated with leadership, in which a child may take the initiative or make decisions for what a group does, is often seen to be accepted without conflict by other children, or the conflict may not be so explicit as with other assertive (or aggressive) behaviours. When a group has some identity or is organized, status or prestige may be associated with leadership. Leadership may confer to the leader a feeling of power over others extending to deciding the actions of an individual or group. On the other hand when someone makes a decision and takes the responsibility for it, there may be a feeling of security for the followers. This feeling is based on the belief that the person in charge has the knowledge and competence to decide adequately and the capacity to carry out the decision and the knowledge and that this person will be kept responsible for the consequences of the actions is reassuring. Others may admire the one who makes decisions and takes responsibility or only follow because of their low initiative or indecisiveness. However, a conflict is likely to occur over who makes the decision and which course of action should be taken if there are other leaders or if the targets have a need for independence or autonomy. In this case others will be unwilling to comply in the face of individual or group pressures and challenge (also assertively) any assertive behaviour (commands, requests or any leading acts) which may involve domination.

Ladd et al. (1988) presented evidence indicating that peer acceptance or social preference and high social status in children's groups depend on the children's individual differences in cooperative play and on other factors such as their physical attributes, social cognitions and affective states (Ladd, 1983). Cooperative play may facilitate positive attitudes because it serves as social reinforcement during interaction or facilitates rewarding activities and themes. La Freniere and Charlesworth (1987) also point out individual differences in the ability to balance self-assertive and agonistic behaviour with those recognized as cooperative, affiliative or friendly in successful or unsuccessful outcomes of social interchanges. They found that high status preschool children were more effective in enlisting the necessary assistance from peers in a cooperative/competitive situation and that their self-assertive, quasi-agonistic behaviours (commands and "push-pull/take") led to high resource utilization. On the other-hand, high status friends not only used the resource more effectively but were more equitable in the distribution of utilization time than low-ranking and non-friends.

Request is an important speech act in which the speaker conveys to a listener that he or she wishes the listener to perform a given activity. Lefebvre-Pinard, et al. (1982) showed that preschoolers (between 41 and 60 months) are competent in conveying requests and in getting others to do what they want them to do. "Requestive" performance of preschool children in dyadic interactions with peers revealed a significant effect of degree of peer familiarity only on the frequency of verbal requests but had no influence on the adequacy of any of the steps involved in such acts. The level of social cognition of the dyad was found to exert some influence only on the informational adequacy of the initial request. However, a large proportion of preschool children were found to convey

informative requests without having a high or even average level of social-cognitive skills.

Becker, (1986) conducted experiments on the development of the ability to interpret bossy/dominant and nice/submissive nuances in requests. Syntactic directness, semantic softeners and aggravators, and tone were hypothesized as cues for relative bossiness and niceness because these characteristics are varied predictably with listeners of different status. In Becker's experiments, subjects systematically used characteristics of requests as cues. It was found that preschoolers had the rudimentary ability to identify nuances in requests and that children are able to take into account more linguistic factors and integrate them in increasingly complex ways as they get older. Preschool children could differentiate ("bossy" and "nice") requests varying from syntactic directness (e.g. imperatives vs question directive), semantic markers (aggravators, e.g. threats vs softeners such as the use of "please") tone of voice (loud vs soft) when they represented extreme contrasts. Children also indicated that bossy people issue direct imperatives to control resources (acting powerful and dominant) and nice people are pleasant, use more indirect question directives and semantic softeners to share resources. This ability increased with age as well as the knowledge and use of pragmatic strategies (variety of linguistic devices) to increase redundancy in making requests. This was also supported by Leonard (1988) who showed that older children tended to use more differentiated type of requests and could increase politeness, thus using them as a more efficient tool in obtaining what they wish while minimizing negative reactions of others (mainly if associated with polite words such as "Excuse me" or "I beg your pardon...").

2.2.2.2. Assertiveness as counter-assertion:

Assertiveness is thought to be reinforced by the sense of having a social impact, of being able to control the behaviour of others (one kind of power) or the sense of self-importance that accrues from dominating others. The reaction of the other varies from submission to resistance. Those who will not be dominated counter the assertion; the outcome usually results in an argument involving a struggle to seize the initiative, resist to being interrupted or insistence on "doing it one's way". The parallel with aggression is evident but assertion involves no necessary punishment or threats of punishment. Those who repeatedly resist being dominated by an assertive person tend to be assertive themselves (Kuczynski and Kochanska, 1990a).

That a certain level of resistance to control by others is a positive sign of children's developing autonomy and assertiveness is a long-standing developmental assumption. The conditions which elicit it usually involve perceived intrusions upon the child-as-agent (Wenar, 1982). The developmental precursor is assumed to be the negative behaviour of children roughly two years of age - the "terrible twos" - which reflects a struggle to develop autonomy and independence against external control (Erikson and Crichton, 1981).

Dunn (1988) also found impressive assertive and resistant behaviour by children toward their mothers. Conflicts in which the child protested the mother's actions, resisted her demands, or repeated what they had just been forbidden to do almost doubled in frequency between 18 and 24 months. A certain amount of no-saying (disagreeing) punctuated the conversations of these children.

Oppositional behaviour is commonly viewed as a normal phase of child development (Haswell et al. 1981). Many activities are initiated by adults, who

tend to dominate young children and therefore self-determination can best be demonstrated by a refusal to go along ("I won't").

Lytton and Zwirner (1975) studied compliance in children under three years of age at home and observed that physical control and negative action by parents were likely to be followed by non-compliance. On the other hand, parent suggestions were more successful than command-prohibition or reasoning in gaining child compliance. McLaughlin (1983) also concluded that three year olds were more compliant in response to indirect controls (questions or declaratives) than to direct controls in the imperative form.

Kuczynski et al. (1987) found correspondences between parents' and children's use of explanations and coercive behaviours. The evidence showed that parents and young children used qualitatively similar strategies during social interaction; that is parents'own control strategies provided a model for children's social behaviours. Thus the model presented by parental control strategies may be particularly important in early interactions, as children begin to acquire a repertoire of social behaviours in part by imitation and observational learning. Spitz (1957) stated that children identified with the gesture and words of the frustrator which are within the children's capabilities to imitate, with the affect against which they impute to the caretaker. Identification with the frustrator means a shift from passive recipient to active initiator which, in psychoanalytic theory, is a step toward mastery.

Kuczynski and Kochanska (1990a) studied the development of children's non-compliance strategies from toddlerhood to age five and found evidence for a model of children's non-compliance that emphasizes their autonomous functioning and developing interpersonal competence. Children's development as autonomous agents (as indexed by their overt resistance to control) continues

beyond the range traditionally attributed to the negativistic period of toddlerhood, though the skill with which children assert autonomy changes. Thus the authors proposed that non-compliance can serve positive functions in social development by providing a context for children (a) to assert their autonomy with the parent-child relationship and (b) to develop social skills and strategies to express their autonomy in a socially acceptable manner. From the authors' perspective non-compliant behaviour could be viewed as children's own interpersonal strategies for persuading others to drop or modify their requests. These could vary in their quality and skill as social strategies, some being more subtle and persuasive than others. They were also differentially adopted by children as they grow older and became more skilful in the way of expressing resistance to requests. For example, passive non-compliance and direct defiance decreased with age, while more sophisticated forms of resistance such as simple refusal and negotiation increased with age during the toddler period (Kuczynki, et al. 1987). Kuczynski and Kochanska (1990a) found some evidence for the stability of skilful forms of self-assertion, (that is, resistance, simple refusals and negotiation) and a considerable predictability of individual differences over time, for both compliance and quality of non-compliance. Children five years of age who used effective forms of non-compliance tended to use skilful strategies when making requests. Findings also indicated that frequent compliance is sometimes associated with maladjustment principally by the age of five in that compliant boys were perceived by their mothers as having more internalizing problems. Only unskilful forms of non-compliance were associated with problematic behaviour in children, however.

Assertion like aggression may induce frustration, anger or felt loss of freedom in the target. Ladd et al. (1988) found that among three to four year-old children arguing behaviour is aversive. They predicted a decline in social

preference and lasting negative attitudes by others toward those who tend to be argumentative. On the other hand, Genishi (1981) identifying events antecedent to the arguments and initial oppositions, found that the teacher intervened in 26 percent of the 189 arguments between children mainly during these concerning possession or opposition to requests. In 68 percent of instances the child who initiated the argument also sought intervention by the teacher; the initiator seemed to enhance his or her chances of winning the argument by appealing to authority. Preschool children also stopped arguing when the teacher intervened.

One way of avoiding a quarrel is to yield or to perform a given activity in the other person's way. Such surrender may occur because of submissiveness or a lack of motivation to resist on a particular occasion or to a dispute with a particular person especially if accompanied by annoyance or anger, as well as subsequent motivation to resist restriction of one's freedom. This phenomenon is sometimes called "reactance" (Brehm, 1966).

2.3. Prosocial Behaviour, Empathy and Self-Control: concepts and dimensions or types of behaviour

As was previously mentioned, the development of the ability to plan goals and a growing awareness of self might combine, according to Dunn and Kendrick (1982) and Dunn (1988), to give children a increased sense and preoccupation with their own self-interest or their own concerns. These authors' observations confirm both childrens'acute and increasing awareness of self, sense of self, and the power or centrality of self-interest or self-concern in driving much of their behaviour; the urgency of self-assertion in the face of powerful others increases with the child's developing sense of efficacy and control. However, a broad concern with self does not necessarily imply opposition to the interests of others. Being effective within the social world entails finding ways to help, cooperate and achieve the approval of others. Many

of these trends, then, might be expected to be inferred from observations of children's social interaction.

2.3.1. Prosocial behaviour

Prosocial behaviour is usually taken to consist of helping, comforting, sharing or altruistic behaviour on the part of one person to another. It has been defined as the behaviour or action directed towards another person which promotes or sustains positive aid or benefit to that person. This definition is sometimes modified by the condition that aiding or benefiting are actions which should be carried out without anticipation of an external reward. For instance, Mussen and Eisenberg-Berg (1977) define prosocial behaviour as actions that often entail some cost, self-sacrifice or risk on the part of the actor and are intended to aid or benefit another person or group of people without the actor's expectation of external rewards. This definition seems for some authors more appropriate to the related concept of altruistic behaviour often used in a more restricted sense as behaviour that entails some self-sacrifice to the person performing it. Positive consequences for the recipients are common to all definitions. However, it is questionable whether these behaviours or actions are actually intended to aid another person, or if there is an expectation of an external reward.

The motivation for a young child's acts of sharing and helping is difficult to explore. Information about young children's motives for behaving or not behaving prosocially comes either from direct questioning of children about their own prosocial actions, from inference based on non-verbal behaviour or from children's reasoning about stories. As mentioned in the last chapter, Dunn and Kendrick (1982) have demonstrated that even very young children show, offer and give objects to others. According to these authors'observations such gestures

appear to be social overtures, friendly actions or attempts to engage another in interaction. They have also been seen as attention or approval-seeking acts, indices of dependency, or they have been classed as signs of children's eagerness to offer their own attention, affection, sympathy, help, and possessions to others. During play children have been observed to help toward achieving a mutual goal. It is in the interest of the young children to participate in play, and when the game lacks appeal they quickly stop cooperating. This evidence for cooperation and aid does not conflict with the argument that self-concern is an important motivating force in a child's behaviour. Dunn and Kendrick (1982) observed that in the family, the motivation to comfort, help or share with a sibling is not high. Sharing did involve self-sacrifice and was infrequent. Large individual differences between children in their willingness to share was observed. Some shared happily; others hated to share even their oldest possessions. Disputes between siblings focused frequently upon the issue of sharing possessions. In contrast was the children's eagerness to cooperate in joint activities and play with the sibling. Given their younger siblings'resistance to older siblings'commands or directions outside the play situation, the authors remarked upon the younger siblings'obedience or cooperation within play. Comforting actions did not appear to conflict with self-interest or involve self-sacrifice.

Even though children apparently offer help, more in order to engage in play with others than because of empathic concern, at the nursery school children have been observed to share with others because of a concern for their needs (Eisenberg-Berg and Hand, 1979). These authors and Eisenberg-Berg and Neal (1979) showed that children explained prosocial acts with reference to the needs of the other person, pragmatic (non-moral) considerations or as their "wanting to do it", gaining approval and friendship and mutual benefits from the act. It was found that children who shared a lot were likely to offer judgments or

explained their own sharing behaviour in terms of others'needs but were less likely to use hedonistic reasoning than the children who shared less often. In contrast to the findings of previous research, on prohibition-oriented reasoning, the children in their study used little punishment and authority-oriented or hedonistic reasoning. No sex or age differences were found.

Preschoolers'references to others'needs when justifying prosocial acts express probably a basic empathic orientation which appeared to motivate the child's prosocial behaviour. The authors also found that spontaneous helping was linked to sociability and unrelated to moral reasoning - a finding consistent with other evidence that helping is frequently used by children in group situations as a way of initiating play with another. Bar-Tal et al. (1982) and Bryant and Crockenberg (1980) have also inferred that helping is not always altruistic nor does nonhelping have an unique meaning. Stanjek quoted by Radke-Yarrow et al. (1983) in a study of one to six year-old children's comments on apparent motives for gift-giving behaviour found that sharing behaviour of older children appeared sometimes to have a controlling, self-serving quality, to attain a dominant position. It has been observed that it is important to consider individually the different types of helpful and sharing action, and also to take into account the costs involved for the child in each action , before concluding that global measures of prosocial behaviour always indicate altruistic motives.

Eisenberg and Miller (1987) considered prosocial behaviour as self-reinforcing and performed because of the child's experience of others'affective states. Children provide assistance or helping either motivated by the desire to relieve their own aversive state of arousal or motivated by concern for others'distress. The emotional arousal as well as the calculation of potential costs and rewards in particular situation is considered as central for bystander interventions, emergencies and crises. However, as many authors have observed,

helping actions in the nursery school often involve little cost for the children concerned.

Meadows (1986) has stressed that prosocial behaviour cannot be separated from social behaviour in general. Confident children who are experienced in their relationships with others may help and protect them as part of their normal social role. Children who are on the periphery of a social group may attempt to share their toys or sweets and relinquish their transient interest in favour of a group member in the hope of gaining access into a group.

In conclusion, the concept of prosocial behaviour embraces overt behaviours of different kinds: sharing of goods or opportunities, participating in cooperative activities, giving help in relation to objects or in rescuing or protecting a dependent or endangered person, giving sympathy and comfort. These behaviours can also be graded in intensity, benefit and degree of sacrifice. They can be differentiated in terms of different underlying motives (e.g. love, fear, duty, personal gain). But most of the researchers consider helping, comforting and sharing as prosocial irrespective of intent or reward. However, authors such as Eisenberg et al. (1984a) considered it important to distinguish between asked-for and spontaneous prosocial behaviour as these factors influence the likelihood of prosocial behaviours being performed by subjects with different characteristics as well as its meaning.

2.3.2. Empathy

Empathy has been considered either a prosocial response or a mediator/motivator of behaviour. It has also been conceptualized as a personality variable important in the description of social behaviour in young children (Marcus and Roke, 1980).

Originally defined as shared emotional and sensory experience, empathy has its origin in German aesthetics in the late 19 century (einfuhlung, meaning "to feel one's way into" was translated to the Greek word "empatheia" - meaning literally, em - in; pathos - "suffering or passion"). In the developmental research literature empathy has been generally considered as a "capacity for participating in", or a "vicarious experiencing of another's feelings, volitions, or ideas" and sometimes "another's movements to the point of executing bodily movements resembling his"...(Eisenberg and Strayer, 1987).

Different concepts of empathy have been considered in the research literature which raises the question of the adequacy of considering it as a unitary trait. Feshbach (1977) gave a comprehensive definition of empathy as "shared emotional responses which the child experiences on perceiving another's emotional reaction" and considered empathy as involving three components including either cognitive or affective facets: (i) an affective component or the feelings or emotions vicariously aroused within the self in response to another's state (the child's emotional responsiveness or sharing of a negative or positive emotion when witnessing another's emotional state) (ii) a cognitive component in which the child is able to discriminate, recognize and label the feeling states or affects of another person and (iii) the perspective-taking ability in which the child is able to comprehend another person's experience and assume or assimilate his perspective or role. This ability reflects a more advanced level of cognitive competence or social comprehension; it depends upon a clear sense of the other as separate from self and upon a capacity to conceive the situation of another as distinct in character and significance from one's own situation (Hoffman, 1976b). Thus the cognitive maturity to take another's point of view (to decentre) is considered by authors such as Piaget, not to be developed in early childhood; at this stage the child is considered deficient in role-taking skills

because of his egocentrism (Feshbach 1977). However the picture of children as "egocentric" until they are six or seven has been changed by experimental studies which have shown that the design of the tests crucially affects the abilities of the children to take the perspective of others.

The relationship between cognitive and affective components or facets of empathy has been considered differently by various theorists: for some the concept of "empathy" is taken to refer to knowledge about understanding another's feelings and need not be accompanied by a similar affective experience. For others,individuals frequently discern another's state and empathise without actually labelling emotion or taking the other's role. Strayer (1987) stressed that by definition the construct of empathy has to do with affective responding (which can occur as a result of being exposed to another's affect with minimal cognitive mediation) and although much of the research has focused on cognitive indices of role taking, investigations of empathy need to concentrate on understanding the responding empathic affect. Feshbach and Roe (1968) point out that although social insight or understanding may be influenced by empathy the two are by no means equivalent; empathy as a vicarious response may be contingent upon the comprehension of a social event while social understanding may be independent of an affective response. From a theoretical standpoint affective empathy appears to be one aspect of imitative behaviour or identification and social comprehension may be a prerequisite for empathy. Strayer and Christophe (1978) and Strayer (1980) consider empathy in terms of its affective component (assessing whether the child feels the same way as another person feels), a cognitive criterion (whether the child understands how another person feels) and a motivational component (whether empathy either cognitively or affectively experienced leads a child to do anything).

Hoffman (1975a, 1976b, 1982, 1987) has formulated a developmental model considering the integration of affect and cognition to view the origins and transformations of empathy. A fully developed empathic reaction is constituted by an internal response to cues about affective states of someone else; thus an empathic reaction depends on the actor's cognitive sense of other as distinct from self. In his formulation he described various kinds of empathic arousal or reactions such as: an emotional reaction (sometimes termed "emotional contagion") in which the individual feels the same emotion as the other person but may not be clearly directed to help; a response in which the individual responds to the emotion of another in a manner that is congruent with and shows a concern for the welfare of that other (or "sympathetic responding") and a form of reaction that has been labelled "personal distress" (anxiety or worry in response to another's distress) in which the individual shows a concern that is more focused upon him or herself rather than upon the distressed other.

Whatever the definition chosen, the empathic capacity provides a basis for social bonding between individuals, especially mothers and infants, as the chances of similar behaviour increase with the sharing of emotions. It allows a person to obtain knowledge of the subjective side of another person, to learn about differences in a "foreign other" (Wispe, 1987) as there is an extension of self (or partial merging) to (with) the other (thus, whatever affects one person also affects the other; self-interest includes the other). It may occur as a response to overt perceptible cues indicative of another's affective state (e.g. the person's facial expressions), or as a consequence of inferring another's state on the basis of indirect cues (the nature of another's situation). Empathic arousal may be reflexive and innate, conditioned (Aronfreed 1976), an associative response (a distress cue reminding the individual of a past personal experience) or may involve the observer's imagining how the stimuli causing pain to other persons

would be experienced if they were his own. Mechanisms and experiences of empathy vary and are influenced by the child's cognitive capabilities. Primitive modes of empathic arousal or experience can occur throughout life while other modes of empathic arousal and experience (e.g. voluntary symbolic representations) are assumed to be beyond the capabilities of very young children. Older children's empathic responses are not restricted to another's immediate situation or specific distress; with greater cognitive maturity and awareness of their own and others'continuing existence they begin to react to general conditions (including deprivation, oppression, illness and incompetence) associated not only with one specific individual but also of an entire group or class of people (Hoffman, 1987).

2.3.3. Self-control

Self-control as a variable mediating young children's social interaction has been investigated by some researchers.

Fagen et al. (1975) considered its development (mainly as an internal control) as the outcome or the ultimate goal of the socialization process in which the individual has beliefs about his power to influence situational outcomes or that events are contingent upon one's behaviour. Most definitions of self-control have in common an emphasis on the restraining of impulses, i.e. in self-inhibition; however, some consider self-control as also important in the initiation or self-direction of behaviour in a broad sense of effectively coping with the situational demands.

Self-control has been subsumed under the term of "will" or "ego-strength" in which the most relevant trait is the ability to defer immediate gratification (Mischel and Ebbesen, 1970). Fagen et al. (1975) consider self-

control as mastery of one's impulses in the process of active self-assertion and as a capacity to direct and regulate own's behaviour.

For Block and Block (1977) the concept of ego- or self-control also refers to the disposition or threshold of an individual with regard to the expression or containment of impulses and desires. According to this author the concept is associated with the one of ego resiliency which refers to the capacity of an individual to modify his modal ego control capacity as a function of the demands of the environment. Honig (1985) on the other hand considers self-control as internalized compliance and ego resiliency the flexibility of controls.

Vygotski (1962) has argued that one of the main aims of human development is to gain control of what one can do. He stated that the process of developing an ability is not that of acquiring it, or putting it together from scratch, but of gaining control of an ability that somehow already exists within social relations.

Schaffer (1984) stressed a shift from parental control as the regulator of the child's behaviour to the child himself. He proposed a developmental sequence in children's social acquisition of self-control as follows: (1) In the earliest stages of development parents present controls, yet with no real expectation that the child will comply. The parents either themselves carry out the action on behalf of the child, or subtly introduce their control so as to give the impression of the child complying, (2) The child does become able to carry out the actions required by parents, and true compliance can be observed (3) Controls are internalized and the child is no longer dependent on continual parental regulation of his behaviour; he has developed from control by others to self-control.

Little is known about the process of transition from other-control to self-control that is how the child frees himself from immediate regulation of his behaviour by caretakers and assumes responsibility as an independent agent. Honig (1985) stresses the importance of adult-infant interactions in the building of reciprocal, mutually satisfying chains of compliance or cooperatio in feeding, soothing, gazing, communication games or play. Parents start exerting socialization pressures on children from the early weeks of life. There begins a long and gradual process whereby the parent gradually comes to hand over to the child responsibility for behavioural control once the requisite cognitive and motor abilities have emerged. This process of transferring the control from others to self not only depends on the particular strategies that parents adopt to foster the development of self-control but also on the development of various cognitive prerequisites such as the capacity to be aware or reflect upon and monitor one's own behaviour. According to Stayton et al. (1971) internalized controls (defined as self-arrest or self-inhibition) are evident in the nine to 12 months period and at the age of three children are considered able to exhibit reasonable levels of internal inhibition.

2.4. Conclusion

The study of young children's spontaneous encounters has revealed that they manipulate environmental factors, act as (reinforcing or punitive) agents in social contexts and influence or provoke changes in their social and material environmental events. Young children deliberately employ many different communicative strategies expressed by diverse social behaviours in order to create "social order" (Glick, 1978), "cultural and normative sense" (Cook-Gumperez and Corsaro, 1977) or achieve specific goals in their daily lives. Since very early in development they seem to be able to apply punitive (e.g. aggressive) and positive (prosocial) behaviours in their social encounters. The selective use

of aggressive, assertive or prosocial behaviours which may be assumed to structure, produce, change or maintain differentiated social interactions may also be mediated by some variables such as empathy and self-control.

In considering social behaviours such as assertiveness, aggression or prosocial behaviour in young children it is necessary to point out controversial issues. There is currently no single agreed definition that simultaneously considers the diversity, ambiguity and variety of behavioural expression and many difficulties exist in setting limits to categories which may not necessarily correspond to completely distinct, well-defined entities or may not represent homogeneous phenomena. The lack of single agreed definitions for constructs such as aggression, prosocial behaviour or empathy raises the question of the adequacy of considering them as unitary concepts or traits. These constructs may include behaviours which differ in the psychological processes, properties or capacities involved. Nevertheless this is a common problem observed when a classificatory scheme is divised; in the real world types of behaviour cannot always be differentiated or exactly accommodated to precise categories. However some system of classifying data is fundamental though its utility depends on the type of questions investigated and the conceptual framework adopted.

Finally, the possible lack of homogeneity in the dimensions or categories of behaviour related to some of the above constructs (that is, the probability that they do not constitute a specific but a variety of behaviours or psychological dimensions) also alerts the researcher to a number of factors: (1) to the need to employ multiple measures (or to avoid over-reliance on any single measure) (2) to the requirement to find out how all these different forms of behaviour are linked together or what light they throw upon the social characteristics or experiences children have when interacting with other children.

Most of the studies carried out in order to analyse these behaviours have not considered their relationship and the very few studies which have attempted to clarify their link have resulted in an inconsistent pattern of findings and controversy as shown in subsequent chapters.

CHAPTER THREE:

AGGRESSION AND PROSOCIAL BEHAVIOUR: MAIN THEORIES

> What is to be gained by overturning the table, by hurling cups upon the floor, by dashing oneself against pillars, tearing the hair, and smiting the thigh and the breast?
>
> (Seneca, "On anger")

> To say that altruism and morality are possible in virtue of something basic to human nature is not to say that men are basically good. Men are basically complicated; how good they are depends on whether certain conceptions and ways of thinking have achieved dominance, a dominance which is precarious in any case
>
> (Nagel, 1970, p.146)

3.1. Introduction

Human nature has been variously interpreted by philosophers as being selfishly motivated, positively social or morally ambivalent. These views have inspired the scientists who have developed theories which establish diverse expectations with respect to the origin and development of aggressive or prosocial behaviour in children and adults. In contemporary psychology, distinct theoretical perspectives are presented; these include the biological and evolutionary theories which stress innateness; cognitive theories reasoning

processes; psychoanalytic theories identification and guilt motivation and learning theories reinforcement mechanisms. Some stress more individual (internal) factors (instincts or general tendencies, need systems, traits) and others situational (or socialization) factors in its origins. Because behaviour is seen as purposive and goal directed, cognitive factors may be assumed to play an important part in the sense that environmental information is perceived and processed in such a way as to instigate and guide subsequent behaviour and motivational factors or emotions which also play an essential role may be ignored. There is no integrated account of the development of behaviour as an interaction of biology, society, cognition and affect. Although each theory may have made some contribution to the understanding of human behaviour, the field is lacking integration. Current views emphasize that individual as well as situational or environmental factors play an important role in shaping prosocial and aggressive behaviour. In fact, behaviour results from a continuous process of interaction between an individual seeking and creating or reacting to situations he encounters. Person or individual characteristics are obviously important factors to consider. In the situation, the actual physical or social environment and their psychological meaning for the individual are influential factors in the way the individual behaves.

A summary of the major perspectives will be briefly outlined.

3.2. Theoretical perspectives

3.2.1. Biological theories

Using animal and social data, Campbell (1965) argued for the innate bases of both egoistic and altruistic behaviours.

Storr (1968) stressed that the physical mechanism of aggression is indeed "instinctive" in that it is inborn, an automatic possibility which is easily triggered. A physiological mechanism is proposed which when stimulated gives rise both to subjective feelings of anger and also to physical changes which prepare the body for fight or flight. Some physiological changes associated with anger are internal but others are observable. The aggressive response is not a reflex action which dies down when the precipitating threat disappears but a complicated series of physiological changes which, once begun, persist to support the body in fight or other harsh action.

Ways in which human beings adapt to and control their feelings of rage differ from individual to individual. Reed et al (1984) consider that the development of inhibitory controls is closely related to the study of individual differences in the development of temperament. Temperament is defined by these authors as "individual differences in reactivity and self-regulation having a constitutional basis" and its development involves the acquisition of increasing levels of the self-regulatory control over excitatory or reactive process.

MacLean (1973) in a related biological perspective associated with the research on brain evolution attempted to provide a neural basis for empathy and altruism, relating specific brain structures (the neocortex and the limbic system) to such behaviours. Hogan quoted in De La Mothe (1987) considered empathy as a basic process in all social interactions, probably genetically determined in the same way as the "g" component of intellectual abilities.

Plutchik (1987) argued that empathy may be considered a mechanism which fits evolutionary requirements and has value in the human and other species survival. However empathy is considered in man to be under cognitive and perceptive control.

Trivers (1971) also suggested that certain emotions and dispositions may have developed particularly because of the role they play in the regulation of reciprocal altruism. Wilson (1975) and Barash (1977) from a sociobiological perspective, attempted to explain altruistic behaviours in genetic and evolutionary terms through mechanisms of group and kin selection and reciprocal altruism. Though considered of immediate disadvantage to the individual who performed them (as it promotes the genetic fitness of another at the expense of one's own fitness) these authors, stressed, however, that altruistic behaviours would accumulate indirect advantages for the actor (e.g. the reciprocity of altruism would entangle future benefits or in case of saving the lives of offspring the survival of own genes for later reproduction).

Biological perspectives have been the target of considerable criticisms and genetic factors can be considered to contribute only to the predisposition to learn complex behaviours as social experience and the opportunity for learning seems essential in human development. As with any set of social behaviours, biological or genetic factors interact with environmental agents in determining the extent to which these behaviours occur.

3.2.2. Psychoanalytical perspective

Freud (1930) considered that the love and death instincts were fundamental and inseparable in human nature and the individual development the product of the interplay of the contend for happiness (the "egoistic" trend) and the impulse towards union with others in the community (considered as the "altruistic" one).

Aggressive and sexual drives are assumed to be present in the new-born; hence the infant is considered to be potentially aggressive from birth. However, the control of aggression begins early in childhood. Psychodynamic explanations

of self-control stress unconscious processes and motivational dynamics as well as the internalization of values and intrapsychic conflicts. It is argued that self-control grows out of early sexual urges and developing constraints (the superego). The control of aggression begins to take place internally, after the identification (internalization of demands or concepts of value) with parents and the formation of an instance of internal pressure - the super-ego which comes to replace in part the external social pressure, the rules of education and culture and the representations and prescriptions of the social environment. The process of identification (the means by which societal values are thought to be internalized) which leads to the development of the superego (which Lewis, 1971 describes as comprising both a "sense of guilt" and an "egoideal") has been considered to underlie empathic relations with other persons in general: identification would result in a person limiting his aggressiveness toward those with whom he has identified, and in his giving them help (Freud, 1921). The feelings of guilt inflicted by the conscience for moral transgressions (Hoffman, 1976b) and the internalization of ego ideals (that develop into autonomous value systems according to Wolff,1978) would lead the child to behave prosocially.

Psychoanalytic theorists argue that empathy develops in the earliest infant-caretaker interactions and predict an association between good mothering and the development of empathy. Parental sensitivity to the child's interests, and actions or sympathetic and nurturant response to their child's feelings of helplessness and distress is associated with the child's sympathetic response to the distress of others (Tomkins, 1963). Thompson (1987) also points out the sharing of affect in a strong, intensive early mother-child relationship as the foundation of the development of an early interest or empathic concern for others.

Isaacs (1933; 1951) using a psychoanalytical framework in the interpretation of children's interactions with the school playmates pointed out that comradeship or feelings of jealousy, rivalry and hostility, should be related to the child's previous pattern of responses in his family where the fundamental pattern of his relation to the world was established. According to this author, one important mechanism for dealing with anxiety and leading the child to become co-operative and helpful in social life, was connected with the tendencies to restitution, that is of restoring, giving back or re-creating what has in phantasy been taken from the parents or rivals. Defiance and aggression in connection with the wish the child has to take (e.g. food, love, labour and his mother's time) in order to live, would give rise to the anxiety of destroying the source of good by having everything taken from oneself. Very young children would get some relief from the pressure of their own guilt by restitutive action, by "making good", by returning to the mother (or the father) what has been taken, thus making oneself (mother and child) good again. In the girl, this tendency to restitution is considered more intense than in the boy because of a greater anxiety connected with aggressive or destructive impulses associated with the fear of her being destroyed in her own body (supported by the evidence of the absence of a penis). On the other hand, because the boy has the power of real sexual restitution (as the giving of love and power, of semen and children is a prevalent component in the sexuality of the adult male) the aggressive or destructive impulses do not in the male endure as much repression as in the girl. Identification with the injured person and the tendencies to restitution are considered to encompass the possibility of sympathising with or acting for the benefit of other people. Also, identification with the good parent (who loves him and is tender towards his needs) can be related with the child's pleasure in carrying out a service to another, in being to them the omnipotent and loving parent that they would have. However, this would also relieve the boy's own anxieties connected with

helplessness and aggression as the child may simultaneously be satisfying, indirectly, the aggression itself (helping may become a too striking domination and even a real threat) since in the act of helping and protecting the other is made weak and helpless.

Another important mechanism, stressed by Isaacs, which permits the child to co-operate (with the person towards whom he is feeling love and trust) on the one hand, and on the other to express his hostility in safety (thus testing out aggressive and retribution phantasies in reality which in that way would have a minor grip upon him) is the tendency of splitting ambivalent feelings, such as love and hate, that is of dividing the imagos of the "good" and "bad" parents within his own mind and projecting them on to two separate real persons, thus making the control of the impulses easier and relieving the tension and anxiety associated with opposing tendencies. Processes of displacement and the dissociation of ambivalent feelings occur in the child's relation to other children; for example, children can be observed eliciting a favour of one child by being hostile to another. Also a sense of cohesion and union is enhanced when the child succeeds in diverting his and his friend's hostility on to an opponent or another child. Experiences of "togetherness", (associated with the mechanism of identification) allows a growing sense of reciprocity (as shown in "taking turns").

3.2.3. The cognitive approach

This perspective emphasizes that children's cognitive mediational processes (e.g. understanding of themselves and others, social judgments, attributions, implicit rules of conduct or justifications) may serve to regulate the development of social behaviour. Thus this model attempts to identify individual internal cognitive mediators of behaviour; to explain how developmental and individual differences in the response to a given social situation may be related

to particular mediational patterns and abilities and how particular patterns of mediation may lead to relative consistency across situations and stability over time in individual's behaviour. Cognitive models do not usually deal with dimensions such as affect, a fact which in the eyes of some diminishes their pertinence as the emotional experiences can contribute to cognitive changes or profoundly affect the way an experience is remembered and so influence behaviour. Emotional schemata in the form of perceptual-motor memories may also function as devices highlighting particular stimulus features thus triggering expectations and generalizing emotional experiences.

Dodge (1982) presented a social information-processing model of aggression involving five-steps: (1) decoding process which relates to the child's ability to search the environment for cues and to focus on, or attend to, appropriate cues (2) the interpretation process (3) the response search process (associated with the ability to generate varied responses or solutions to situations, the application of rules) (4) a decision process involving the choice of an optimal response (requiring the evaluation of the adequacy of each response possibility which may be a great source of difficulty for young or impulsive children) (5) the encoding process (requiring verbal or motor skills for the emission of response). According to this model children's abilities to infer motives about others'behaviour and the social interpretations or judgments about which interpersonal behaviours make up, for example, aggressive provocation and retaliation, may affect their behavioural depiction of aggression. Expectancies that peers will be hostile lead the child to attend only to what he judges to be hostile cues from a peer and the likelihood that he will make interpretations that the peer is hostile is greatest. When this occurs the child is highly likely to behave aggressively toward its peers thus leading to retaliatory aggression which in turn reinforces the child's original expectancy that peers are

hostile. Dodge and Frame (1982) found that aggressive boys who initiated more unprovoked aggressive acts also received more aggressive acts, thus implying that their biased attributions for aggressive behaviour (or expectancy that peers will be biased in aggressing toward them) was consistent with their experience.

The cognitive developmental approach to moral reasoning developed by Piaget (1932) and Kohlberg (1987), has also been important with implications for research in prosocial behaviour. According to Kohlberg the young child's justification for actions as "right" or "wrong" is based on the obedience-punishment orientation (ages 2-6 approximately). Lickona (1976) following a cognitive development explanation of morality stressed that self-control in children increases as a function of increasing cognitive sophistication with age. Hoffman (1987) also emphasises that the development of cognitive capacities (e.g. in babies the ability to distinguish one person from another and then themselves from others) is a prerequisite for the development of prosocial behaviour.

Mead (1934) pointed out that the understanding of self and other in an interaction including symbolic communication demands that the sender of a message must "take the role" of the recipient of the message; the sender must act out in herself the anticipated response to the communication. As children develop capacities to understand others'experiences, their ability to react adequately to the inferred experience of others should be comparably increased. Perspective-taking and role-taking ability have been indicated as cognitive precursors of prosocial behaviour. Although children's abilities to understand the experiences of others are, in some sense, a necessary condition to behave taking into account on others' interest, it is not assumed that such understanding is enough to motivate the child to initiate positive interaction (De La Mothe, 1987). Understanding can identically ease manipulative and aggressive

behaviour. Generally, one or diverse characteristics of perspective taking are investigated in relation to one or distinct indices of prosocial behaviour. Children from preschool age to early adolescence have been studied but significant correlations with age have not consistently been found; however, when correlations have been found most have been positive (the same for moral reasoning). In 20 or more reviewed studies of perspective-taking and role-taking there is no clear developmental or other pattern to justify why some relationships with prosocial behaviour are positive and others are not (Kurdek, 1978).

Other studies have examined the relationship between the level of moral reasoning or moral judgement and the child's helpfulness or altruistic behaviour. Eisenberg-Berg and Hand (1979) found that the frequency of spontaneous sharing in nursery school correlated with measures of moral reasoning (though the frequency of helping/comforting did not). Sharing was positively correlated with moral reasoning about others'needs in a judgment task; spontaneous sharing was negatively related to hedonistic moral judgment while helping and asked-for behaviour were not. Spontaneous helping was unrelated to moral reasoning. Results have generally been inconsistent; moral reasoning occurs in contexts of varied motivational and situational conditions. Research on the interactive influences of reasoning on behaviour as well as behaviour on reasoning is needed to give a more enlightening picture (Blasi, 1980).

Eisenberg et al. (1984a) also inspected the relation of preschoolers' self-attributions about their prosocial behaviours and underlined the difference between studies on prosocial behaviour and moral judgment in which hedonistic reasoning is more frequent in their self-attributions and the chiefly pragmatic and needs-related motives to explain own peer-directed prosocial behaviour.

General intelligence has not been considered a pertinent predictor of prosocial behaviour. Abroms and Gollin (1980) obtained evidence that neither IQ nor role-taking ability were found to be dependable predictors of prosocial behaviour, suggesting that psychosocial giftedness may evolve somewhat unconnected with IQ and cognitive role taking.

3.2.4. Learning theories

These theories focus on environmental influences, thus suppose that humans are less restrained by biological determinants than are other species. Learning theories, especially those in the behaviourist tradition, have been concerned with overt observable positive social behaviour, not accepting the view that a person's behaviour is determined by his emotions, intentions, ideas, reasoning or any other internal dispositions.

Aronfreed (1976) pointed out that the predisposition to empathic responses is an acquired capacity and introduced a detailed learning theory to describe the development of empathy. Empathy is acquired early by conditioning or association by repeated pairing of child's feelings of pleasure with someone else's expression of identical feelings. When the baby is emotionally distressed he elicits an empathic response in the mother; then the perception of mother's distress will become conditioned to his own feelings of distress. Subsequently the perception of her distress will elicit identical response in him.

In the classical operant learning perspective an individual's behaviour depends upon the control conveyed by the social environment (Skinner, 1971); that is both social behaviour and the concomitant internal state are assumed to be controlled by environmental reinforcement contingencies. Beyond this conception of acquisition of social behaviour through operant learning, observational learning in which the subject experiences some vicarious

reinforcement (as when observing a model being reinforced) has been considered also to lead to the reproduction of social behaviours (Bandura and Walters, 1963). According to learning theories aggressive or prosocial behaviours are acquired just as any other behaviour through direct reinforcement and modelling: moral values are developed by parents and teachers, or by the secondary reinforcement of association with them, and by imitation of models with whom the child can identify. Moral behaviour or "moral character" are learned by reinforcement and conscience is the conditioning of moral anxiety according to behaviourists.

Bandura (1973, 1977) considers that the greater part of aggressive behaviour among children is acquired by the imitation of models such as parents and peers as well as models on television and in other media. The internal physiological mechanism associated with aggressive behaviour - frustration or anger arousal - are facilitative but not a necessary condition for aggression; this requires an outside stimulus to elicit or trigger it. Prior learning histories and anticipated consequences determine the type of social behaviour that will take place under conditions of emotional arousal.

Experimental studies of modelling effects on prosocial behaviour have confirmed that peer models have powerful and various possibilities for affecting behaviour change in children (Bandura, 1977). Peer modelling spreads to sex-role stereotypes, problem-solving behaviour, reductions in avoidance behaviour in threatening circumstances or emotional disinhibition (Bandura et al., 1966). Personal characteristics of models and observers, sex of the subject and the model, perceived similarity in terms of personal background and interests all influence imitation of other children (Rosekrans, 1967) as do friendly relations between model and observer (Hartup and Coates 1967) and the possibility to share emotional experiences (Aronfreed, 1968).

Modelling has been effective to some degree at all ages of childhood. Modelling influences have been demonstrated in the few experiments of helping behaviour in preschool-age and kindergarten-age children (Staub, 1971a; Yarrow et al. 1973). Birch and Billman (1986) found that a successful experience as a recipient facilitated sharing in children three to five-years-old. Grusec et al. (1978) found that donating was less frequent when modelling was preceded by friendly interaction but friendly interaction preceding the modelling of helping behaviour resulted in significantly shortened latency for a helping response. Morris et al.(1973) found that first and second grade girls who observed a child model being punished for nonsharing, shared significantly more than girls in a control group. Increased sharing appeared also in children who observed a model receiving a strong reprimand that was not contingent upon any specific behaviour. The children had no way of knowing what had provoked the punishment. The authors considered that because in most children's learning histories prosocial behaviours have not caused punishment, such behaviours are apt to be expressed in occurrences in which the environment is experienced as threatening.

Later developments in social learning theory emphasise the importance of self-reinforcement processes (i.e. direct feedback in the form of rewarding and punishing events) in the origin of aggressive or other social behaviours. Self-evaluative or self-generated consequences enter into self-regulation of aggressive behaviour; for example, individuals who have fostered a self-reinforcement system where aggressive behaviour is a source of self-esteem may behave aggressively whereas individuals who incur in self-criticism (or anticipate self-punishment) after aggressive activities often refrain injurious aggression.

These perspectives have been criticized (Yarrow et al., 1975) as they increase more the knowledge of modelling and reinforcement processes than

clarify the singularity of certain types of behaviour such as helping or sympathy. Mediational processes are unclearly defined; also it is not obvious how principles of learning observed within an experimental context can be similarly applied in a nursery where children have to respond differentially to a diversity of discriminative stimuli not under the control of the experimenter.

3.2.5. Other theoretical approaches to the explanation of aggression

Two other important theoretical approaches to the study of aggression have been the subject of considerable contemporary research in this area. A brief overview of them will be presented here.

3.2.5.1. Ethological approach

From this perspective, aggression appears to be a means for human beings to master the external world, to fight for survival, to obtain the satisfaction of needs for protection, success or security and to assert personal existence or the control of one's own life.

Hostile threats must be surmounted or avoided in the natural world if life is to proceed. According to Lorenz (1966) man is an instinctive aggressor; he conforms and fights for possessions or territorial demands. The aggressive part of human nature is a protection against predatory attack mainly from the "neighbours" or those whose wants or needs are identical and thus compete in the fight for survival. The nature of aggressive behaviour is, thus, chiefly intra-specific rather than inter-specific. However, and probably associated with the protection of the species, individuals may also fight in communal actions until the disappearance of an external danger or threat. Individual aggressive behaviour may thus also be undertaken to fulfil prosocial motives (Ferguson and Rule, 1983). The use of aggression according to institutionalised rules convinces

the individual or the child that he is not aggressive or is so only when it is necessary or justifiable but always with the best intentions, in self-defence or in the service of high objectives or ideals.

Ethologists argue that a basic repertoire of behaviour develops as a function of maturational mechanisms during the process of development. The incidence of aggression is a function of the quantity of stored aggressive energy and the influence of specific aggression releasing stimuli. Lorenz (1966) considers aggression as an instinctual system the energy for which is triggered within the organism independently of external stimuli. His perspective on aggression as an ensemble of unlearned, endogenous responses to some excitation whose energy must be released conflicts with energy models of motivation in which human beings often increase and not lessen internal stimulation (Berkowitz, 1962). He has been criticized for overgeneralizing his observations from lower animal aggression to human aggression. Criticism of this approach comes specially from studies which assert that aggressive patterns of behaviour are learned and changeable. A more acceptable perspective is an intermediate one that emphasises that both learning and innate determinants can concur in humans and animals.

Other social ethological theorists stress the importance of the social ecology of the group including its organization as a great influence on the regulation of individual social behaviour. From this perspective, studies of the relationship between the social organization of children's groups, particularly social dominance and social behaviour such as aggression, have been undertaken. A widespread perspective (Tedeschi et al., 1974; Tedeschi, 1983) of aggression associates it with ascendancy or dominance (power in relationships) which is also manifest in other social animals.

In primates, the strongest tend to assert their "will" on defenceless or smaller animals thereby obtaining greater access to females, food or just a place to sit or sleep. Dominant animals get subordinate animals easily to give up rewards when confronted. The most elementary type of dominance concerns linear relationships where A dominates B, B dominates C and so on. There are also status relationships. In most primates dominance is accomplished by means of coercion or threat of physical harm. The picture is far more complex in human social relationships, for aggression is not the only means by which dominance can be achieved by children. However, the link with the present study is provided by Missakian and Hamer (1974) who tried to apply ethological tools of observation and analysis to the social behaviour, particularly aggression and dominance relations of communally-reared children aged six months to four years. They found: (1) that agonistic behaviour implies stable and linear dominance hierarchies for children of this age; (2) that there is a higher frequency of agonistic behaviour between children ranked in identical status categories; (3) that there are no sex differences in aggression frequency or position in the dominance hierarchy; (4) that children do not fight only or significantly over space/territory or possession of objects; (5) that there is a positive correlation between dominance rank and submission and a negative correlation between dominance rank and aggression; and, finally, (6) that there is a positive correlation between dominance rank and age.

In nursery schools, young children are often involved in struggles over materials, frequently and loudly stating 'that's mine!'. The significance of ownership in children's lives is reflected in the fact that children as young as 14 months are aware of the relationship between an object and the person to whom it belongs (Rodgon and Rashman, 1976). Studies have also found that preschool children are able to understand instructions regarding ownership, are aware and

obey ownership-related norms or conventions (Bakeman and Brownlee, 1982; Eisenberg-Berg et al., 1981; Newman, 1978). Eisenberg-Berg et al. (1981) also concluded from their study of the effects of possession and ownership on the sharing and proprietary behaviours of preschool children that "socialization agents might expect young children to behave relatively selfishly when told that a toy belongs to them" (1981, p. 67).

Furby (1978) viewed possessiveness in children as an expression of their desire to affect their environment (effectance motivation). But though children in different cultures may share a desire to influence and control their environments, their tendencies to do so are modified by the priorities of their social environments. She asserts that because young children are often forbidden to handle objects (fragile or expensive materials) they become very concerned about those objects over which they do have control and try to maintain that influence.

In western countries children learn to respect, protect and desire private property. According to Navon and Ramsey (1989) children who move in and out of classroom activities and who have more occasions to go in or form different groups and to request diverse materials, often make an attempt to protect their interactive space. For these children possession may have been a way of social control as well as efforts to keep control over the physical environment as Furby (1980) and Newman (1978) have suggested.

From an ethological and psychoanalytical perspective, Storr (1968) pointed out that the aggressive component also differentiates the territorial boundaries of each personality particularly where there is too great a mutual dependency between those who have a close relationship. The need to protect and assert or maintain human individuality or identity requires opposition. In

this view the child "needs" aggression to sever the dependence bonds with the mother, in order to acquire autonomy and later constitute his own family. Every child, if it is to become an adult in its own right, has to overcome dependency, and it does so by a progressive increase in displaying its power to master the environment sufficiently to achieve the satisfaction of its needs. The aggressive drive ensures that the individual members of a species can become autonomous and capable of defending and assisting their young. It is a common perspective that aggression will be particularly prominent in a species in which the young are dependent for an extended period.

It has been considered as a difficult emotional task to live autonomously after the long period of dependency during infancy. The child begins life as the most defenceless and helpless person in the family. From birth he is at the mercy of a female figure holding complete power over him. Authoritarian fathers may frighten him into submission, mothers may constrain him with their over-protectiveness. Phantasies of an aggressive type may emerge. The infant's world is peopled with "giants" to be defeated and "witches" to overthrow just because it is powerless and dependent. The adult's solicitude and sympathy, if excessive, turn into overprotection and possessiveness of a kind which restrains the child from developing into an autonomous person. Too close an identification threatens identity. Aggression enables the individual to sever bonds of dependency or of parental domination, to define, differentiate and preserve identity, to walk out on its own and reach personal autonomy.

The child's awareness of his own weakness leads him to use all opportunities of measuring his strength, to demonstrate that he can surmount obstacles and thus to assert his power in the world. Though needing company and support the child must also separate from others in such a way that one does not remain over-dependent but a distinct or autonomous individual.

Analysts find more aggression the further back into infancy they query. From this perspective, aggression may serve other functions than that of protest; it is a positive drive towards separation and independence which derives from an innate urge to master life.

3.2.5.2. Drive theory: the frustration-aggression hypothesis

This theory states that aggression usually results from obstruction of goal-directed activities. Individuals are motivated by internal drives activated by external stimuli. There is a recognition that external stimuli play a central role in aggression; thus environmental instigatory cues or stressors when for example, interfering with ongoing behaviour and leading to frustration or feelings of control loss are arousing and facilitate predispositions for aggressive behaviour.

The most important version of this view is the frustration-aggression hypothesis (Dollard et al. 1939). According to this perspective the occurrence of aggressive behaviour presupposes the existence of frustration or vice-versa the existence of frustration always leads to some form of aggression. However, this relationship is not direct, unambiguous or self-evident. Frustration does not always lead to aggression and not all aggression is caused by frustration. Some studies show that aggression is not the only response to frustration but demonstrate that the reactions to frustrating situations are a function of the response patterns that are dominant in a person's response hierarchy and that response hierarchies can be modified through training. For example, Barker et al. (1941) found that some children regressed when frustrated rather than exhibiting an increase in aggression. Cummings (1987) described different "individual styles" or behavioural responses in preschoolers when coping with anger between others; though a generalised heightening of emotional arousal was registered and an increase in aggression was observed in some children,

other behavioural responses were also obtained, such as "social and affective sharing" and "avoidance". In another study Davitz (1952) showed that alternative responses to frustration can be learned through training. One group of children was engaged in prosocial training sessions in which they were rewarded for constructive and cooperative behaviour and the other groups were rewarded with praise and approval for making competitive aggressive responses. Following this training the children were subjected to a highly frustrating experience after which the children's prosocial and aggressive behaviours were recorded during a freeplay session. The results showed that the prefrustration training experiences significantly influenced the children's postfrustration behaviour. Although aggression was the predominant response to frustration for the children formerly rewarded for aggression, children who had been rewarded for constructive behaviour played more cooperatively following frustration.

Frustration is not a unitary variable so not all occurrences included under the "frustration" label are equally likely to induce aggressive behaviour. Berkowitz (1973,1974) inferred that frustration creates readiness for aggressive acts but the presence of aggressive cues - stimuli associated with the present or previous anger instigators or with aggression in general - is necessary for aggression to occur. He proposed a classical conditioning theory to account for how cues acquire their aggressive-evoking qualities (Berkowitz, 1974).

In summary, frustration or physically painful experiences are considered more as facilitative than as a necessary or sufficient condition for aggression because aggressive reactions are thought to be determined by situational factors.

The suggestion in the drive theories that aggression is reduced by its performance is also vulnerable to the same criticisms as Lorenz's arguments. Nevertheless, this theory in conjunction with the social learning perspectives has

identified many of the triggers or antecedent cues and outcomes associated with human aggression. These will be summarized next.

3.3. Antecedents and consequences of aggression

3.3.1. Instigatory mechanisms

Many negative, aversive environmental or interpersonal conditions (stressors) which inflict frustration or painful experiences on the individual have been generally considered as facilitators, "energizers" or instigators of aggression (Bandura, 1983; Berkowitz, 1973, 1974, 1983; Berkowitz and Alioto, 1973; Ferguson and Rule, 1983; Geen, 1990; Mueller, 1983). These include:

(1) Painful treatment, delay of rewards, deprivation.

(2) Failure experiences or obstructions when they interrupt, delay or prevent information processing or ongoing behaviour

(3) Personal insults which demand the protection or re-establishment of positive identity.

(4) Failure to consider risk of retaliation, social disapproval or punishment which may lead the person to ignore ethical, normative standards of conduct

(5) When the goals of two or more people are interdependent or incompatible and neither is willing to acquiesce to the other. Often people are interdependent, only attaining certain goals by coordinated actions. However, each person has a set of (sometimes conflicting) wants or values to be implemented. Cooperative behaviour depends on the recipients and the influence style or social skills of the agent.

(6) Invasion or violation of territory or personal space (mainly in children's case).

(7) Others'rejection or lack of self-confidence or self-esteem which affects the likelihood of successful influence or of attaining interpersonal objectives. If the person successfully uses coercion he may become more reliant on this style of influence on future circumstances. Although the threatening/punishing technique earns the actor enmity, he may fall into a kind of vicious circle (referred to as coercive influence style) from which he may find it very difficult to liberate himself.

All these aversive antecedents do not have identical behavioural consequences. However aversive antecedents are good predictors of aggressive behaviour. Because they bring about unpleasant internal reactions, aversive incidents activate instigations to flight, fight or attack the perceived source of unpleasantness.

People also engage in aggressive behaviour because their cognitive skills and self-control may play a role in the service of destructive causes. Aggression is maximised not only if the observers are angered but if this anger is socially justified or legitimated or if shown to be more effective or successful in obtaining rewards than divergent courses of action. An expected profit may also lead to the choice of an aggressive response.

People tend to act aggressively toward persons and in a context where it is relatively safe and rewarding to do so but they are less likely to act aggressively when it carries a high risk of punishment. Also people learn to dislike and to challenge certain types of individuals either through direct unpleasant encounters with them or on the basis of symbolic and vicarious experiences.

A summary of the outcomes resulting from aggressive behaviour can be presented as follows (Berkowitz, and Alioto, 1973; Dangerink and Covey, 1983; Hersov, and Berger, 1978; Lefkowitz, 1977 and Zillman, 1983)):

3.3.2. Outcomes of aggressive behaviour

(A) For the agent:

Successful aggression may secure economic rewards and dominance over others. Successful fighting can bring different kind of rewards, such as: (1) compliance from the loser, who does what the dominant person wants (2) social effectance (i.e. being able to influence the behaviour or decisions of others); (3) self-esteem, for the winner can acknowledge superior strength or skill. In summary, there are several kinds of incentives accessible to the successful aggressor: these involve hurt or harm to the victim, diverse economic rewards, compliance, influence on others and higher self-esteem. Signs of distress in the victim may function as positive reinforcers for some but inhibitors of aggressive behaviour for others.

However, there is also a possibility of escalating aggression and laboratory and field observations support the prediction that persons will continue or increase their aggression if they fail to end or restrain another's aversive behaviour.

The reinforcement through pain reduction may cause an escalation in reciprocal aggression each member delivers each other.

(ii) For the recipient:

Confronted with another's aggression there are two possible reactions: one may either comply or resist. Some people seem willingly to comply to the

control of the person attempting to dominate. Their reward may come from identifying with the dominant person and sharing vicariously in the aggressor's status. The compliance may only be transitory and is adaptive in that it can lead to later dominant behaviour through observational learning. Victims may identify themselves with the aggressor effectively using, in fact or imagination, the violence that they themselves have endured.

Parents can be aggressive towards their child in the sense that their authority is not exercised to protect or to help him develop normally. A common way of being aggressive consists of trying to impose oneself, by occupying a superior position which places the other in a situation of subordination. The child learns that aggression in all its aspects can constitute a way of acting which though, painful and causing anguish and guilt, is legitimated by its ends. Children identify themselves with the adults aspiring to become like them so that they can legitimately practise aggression instead of being its victim.

It has been suggested (but evidence is chiefly anecdotal) that parents who beat their children were themselves beaten as children, having acquired that behaviour through observational learning. Parents may find themselves acting toward their children as parents had acted toward them. Equally, there can be a reaction formation. For example, some aggressors may react to the hurt of their victim with guilt or the anticipation of rejection and therefore attempt to undo the harm by being supportive or protective. Such behaviour may have the effect of reducing dislike toward the aggressor but it sends a mixed message to the recipient. When harmful consequences of one's actions are apparent self-censure may be aroused controlling future aggressive conduct. Personal restraint through anticipatory self-condemning reactions is achieved through guilt control.

The recipient facing aggression can try to avoid the other person. However, when the aggressor is a parent or other authority figure, avoidance is not easy and the most common reaction is compliance. If the dominant person is a respected authority figure or parent compliance is likely to be voluntary. If the dominant person is not admired, submission is resented and may lead to negativism. Compliant people need to inhibit counteraggression but they often become angry. The recipients of aggression who have resisted but lost fights are likely to resent the outcome. Recipients of continuous or permanent aggression may become chronically fearful and tentative in social interaction.

Another common response to aggression is passive resistance, a common reaction of young children, particularly two and three-year-olds whose negativism is often described. Passive resistance is more likely to be accepted and the child thus evades a counter-reaction of punishment.

The child who openly rebels augments the possibility of punishment. Active resistance is a direct challenge to the dominant person to strengthen authority by threat or aggression. However, active resistance may be successful if attempted. When the aggressor is a playmate, friend, sibling or acquaintance the most likely reaction is resistance. The conflict may be restricted when one member submits promptly and offers no more resistance. However, as Dangerink and Covey (1983) mentioned, aggressive behaviour is governed by a norm of reciprocity to a greater extent than by pleasuring behaviour. They summed up the situation by saying "Pleasure begets pleasure and attack begets counterattack" (p. 178). Subjects may respond aggressively when they expect attack to occur and aggressive behaviour may be effective in ceasing it. A "tough reputation" may prevent others from attempting to use coercion again.

Perceiving others as hostile can cause a person to misinterpret cues as signs of oncoming attack, lead to a state of readiness to fight and thus to a crucial deterioration in the encounter.

Defensive aggression is sustained to a greater extent by the anticipation of consequences than by its long or short-term effects (Dodge and Richard, 1985). Perceived efficacy of aggressive responses to offence or attack is related to the child's history of socialization for aggression; having the opportunity to practise violence may be the clearest method of facilitating it (Scott, 1975). If aggression is acquired via negative reinforcement it is more likely to be used when it is important to obtain a change in another's behaviour (e.g., in case of persons with whom the individual usually interacts).

In summary, aversive stimuli may elicit motivation for an expression of aggression which is reinforced by the termination of threat or pain experienced. In this sense reciprocal aggression may be viewed as instrumental in the attempt to end or modify the behaviour of an aggressor.

The recipients's reactions to an aggressive encounter depend however, upon his understanding of the characteristics of the situation, the kind of behaviour performed, the recipient's style or prior experience in dealing with such events and also upon the perceiver's expectations and relationship with the agent. For example, hostile behaviour performed by a liked person may be more attributed to a factor in the situation than to an hostile intention. Behaviour seems to be classified differently according to relationships between recipient and aggressor.

3.4. Conclusion: the study of behaviour within an interpersonal context

Although the different theories outlined above have made a significant contribution to the understanding of prosocial and aggressive behaviour they have attempted to explain these behaviours in terms of comparatively simple mechanisms leading to over-simplified statements about their origin and expression In fact, all seem to present partial explanations of the multiple processes involved in these phenomena. However, all seem to agree that social behaviour generally contrasted by its consequences for the recipients (e.g. punitive or positive outcomes in case of aggression or prosocial behaviour, respectively) can be observed in any individual's repertoire, including that of young children. Some theories even predict a close association between aggression and prosocial behaviour (mediated by guilt or dominance in psychoanalytic perspectives) or between assertiveness and aggression (both associated with dominance and power in the ethological approach, for example) in young children. But most of the theoretical perspectives point out the importance of the socialization process and mainly the kind of environment in which the child is integrated as more negative behaviour (such as aggressive behaviour) seems to be associated with deprivation or stressful factors.

A need for more integrative theories or approaches, relating several domains which so far have been separated (concerning learning, cognition, and affect) has been pointed out as necessary for further progress in this area as well as the collection of data which may contribute for a more comprehensive analysis of the characteristics of children's responses, the circumstances in which they occur and their cognitive and motivational components. In this context some methodologies for studying behaviour predominantly used by some of the theoretical approaches have been criticized. For example, the experimental method has been considered to have pursued "rigour" at the expense of

"relevance" (Bronfenbrenner, 1977), to define dimensions in artificial ways (Mussen and Eisenberg-Berg, 1977), neglecting the natural complexity of the phenomenon, to reduce psychological concepts in to manageable but microscopic dimensions as though it were exhausted by the trivial operations by which it is measured (Baumrind, 1980). It has also been criticized in a more generalized way for being rather artificial as the experimenters are often unfamiliar, the situations are atypical and the dependent variable often expresses unimportant behaviour. This approach, then, seems ill-suited to investigating an area in which access to children's behaviours in natural circumstances is required. On the other hand, the study of social relationships has not been regarded as a particularly appropriate topic for experimental research because as Hinde (1972) has stated:

> "Scientific knowledge grows like an amoeba, putting out pseudopodia now here and now there to engulf areas of ignorance, but rejecting indigestible fragments and avoiding areas uncongenial to it. This characteristic of science leads to the structuring of a value system. Areas of research in which the way ahead is clear where precise techniques are available so that conclusions can be cross-checked in half a dozen laboratories, become respectable. But it is foolhardy and disreputable to enter areas where the course ahead is not clear, where the complexity of the material makes it difficult to follow the same path twice, and the conceptual jungle chokes the unwary. However such value judgments must be reconciled with others based on the immediacy of the problems with which mankind is faced. By this criterion the understanding of our own behaviour must be given the highest priority". (1972, p. 15)

Among the perspectives described above, the ethological orientation towards the observation of social behaviours within the natural situation in which it occurs seems to be the most suited to study social behaviour in an interpersonal context. This perspective presupposes that only natural or ecologically valid settings provide the cues necessary to establish the functional significance of an activity. The use of direct observation and description of naturally occurring activities should precede a more systematic approach to the

inductive analysis of social relationships. Observational naturalistic studies may include a wider range of behaviour or expose children's verbalizations, affect and actions.

Whiting's (1980) model for the development of social behaviour stressed the importance of the characteristics of individuals and activities in a setting. Children may be included in different settings according to their sex, age, kinship and status. Different settings are characterised by diverse activities and amounts of time spent with adults or teachers, peers, siblings, infants and others. Children learn which patterns of social behaviour are appropriate, how to use physical and conceptual tools provided by the culture to manage the problems of importance in daily activities and how those patterns of social behaviour learned and practised in the most common settings may be transferred to new settings or to individuals of different status. Settings that occur repeatedly in children's experience may present demands, restrictions and controls on interaction or be associated with opportunities for children's assertive, aggressive or prosocial behaviour. Differences among families and societies in the allocation of settings in which children engage with others or the settings from which some children are excluded may help to explain the bases of differences in children's social development and may also shed some light on the reasons for differences in the effectiveness of any given socialization technique that is intended to influence behaviour. For example, analyses of sex differences in behaviours have revealed generalised trends in which girls are more nurturant or "responsible" than boys of their age; and boys are more aggressive than girls (Maccoby and Jacklin, 1974). Whiting and Edwards (1973) discussed these sex differences in terms of the influence of tasks attributed to girls and boys in different cultures. The nurturant behaviour of older girls is probably related to the fact that they are more likely to be charged with infant care than boys. Girls are given tasks at a younger age near

or inside the home, requiring submission to mother, while boys are accepted to play or work (e.g. herd animals) further from home and with their peers.

Vygotski (1967) stressed the individual's patterns of behaviour through cultural and institutional tools of action and thought (and norms for the use of those tools). Adult or children's activity is a concept involving goals, means, and conditions that mediate between the individual and a cultural context for action and problem solving which is constructed by people as they interact with one another. The individual takes into account cultural practices or goal-directed sequences of activities using a particular technology or sum of social knowledge which are learned systems consisting of standing rules involving socially constructed modes of thinking or actions appropriate to a particular situation. Thought and action are integrated processes by which an organism achieves practical results that are relevant in particular contexts. Activity is organized around practical problems that involve direct actions on the social environment; gradually these direct actions are replaced by mediating technologies or objects used as instruments to act on the environment in more efficient ways. Thus on the one hand we have to consider the individual's practical activity and active efforts to change the social and material environment (and even to reject the knowledge when it includes intolerable contradictions) and on the other to consider the system of social relationships within which practical activity occurs, the person's position in the system of social relationships and the acquisition of culturally organized knowledge which establishes the form and purpose of such activity. This approach emphasizes that the development of a child's personality, cognitive skills and behavioural patterns are closely related to the immediate social and physical contexts and the wider cultural contexts in which children are integrated. Sociocultural experience and human development or behavioural functioning are linked to one another; children adapt their social and cognitive

skills to the demands of their culture in particular activities; the meaningfulness of the social situation, materials, goals and demands of an activity conveys an individual performance on a task.

Topographical, ecological or environmental factors have been considered to influence behaviour, where it takes place, with whom, with what distribution of time or the types of materials available and how they can affect how children play or the force and manner by which the structure and dynamics of a certain setting regulate behaviour. Objects or a specific situation have not been viewed as neutral to the child but as having an immediate psychological influence on his behaviour. Lewin (1931) considered that environmental facts (e.g. different objects) may determine the direction of behaviour (or attracting different behaviours in children, such as eating, climbing, grasping, manipulating or sucking).

Analysis of children's interactions within the environmental context of the nursery, provide information both about the way the environmental contingencies influence the content of their interaction and how children organise their interactions within that context. The nursery provides opportunities for different types of activities and social interaction. According to Cook-Gumperez and Corsaro (1977) the nursery school:

> "provides a collection of physical-environmental locations, each having a specifically socially-defined character and providing different possibilities for social interaction" (pp. 411-412).

The activities or materials in the nursery, provide a frame of reference which may pre-determine the nature of interactions occurring in an area. For example, because role play is expected to occur in the playhouse this may be used to structure children's interactions in that area. But in case of less clearly pre-defined specific content for activities (e.g. in the sand-box) these will be

structured to a greater extent by children'interactions and development of each other's ideas.

The recognition of the intimate relationship between children's social (assertive, aggressive and prosocial) behaviour with the environmental context and so the need to study them within an interpersonal network is reflected in this research as described in the methodological chapter. In order to avoid the nursery teacher control and its inhibitory effect on peer interaction the naturalistic observations were conducted during free playtime where the structure imposed was minimal and the potential for realization of any activity through personal choice maximized.

CHAPTER FOUR

THE SOCIAL ENCOUNTERS OF YOUNG CHILDREN: REVIEW OF THE MAIN TRENDS

> These inner dramas composed of attacks, triumphs, recoils, defeats, caresses, bites... generous renunciations or humble submissions, all have one thing in common: they cannot do without a partner...
>
> (Sarraute, 1963, pp. 94)

4.1.Introduction

Many studies have attempted to describe and understand the role, functions and processes underlying peer encounters at various ages in the socialization of children. Aggression in children's interactions has been more extensively investigated than assertive or prosocial behaviour in part because it has generally been considered as constituting a developmental, sociopsychological or even legal problem, having substantial deleterious effects in social relationships. However, recent years have seen a shift toward a considerable concern for children's prosocial interactions as it is thought that welfare depends on people's and particularly, on children's learning of other-oriented positive social attitudes and relationships. Thus, theoretical findings in this area have engendered many intervention programs involving coaching children with "deficits" in social skills based upon conceptions of a theoretical

ideal about who is competent, popular or engages in group activities. However, much remains to be clarified in empirical evidence before theories can be dependable and elevated from speculation to data-confirmed formulations.

Studies of existing data have begun to reveal the contents of children's behaviours, verbalizations and affect and patterns of variables seem to emerge from some investigations. However, more detailed studies of the characteristics of children's responses and the circumstances in which they occur have to be conducted before more systematic analyses of the nature of children's prosocial, assertive and aggressive interactions over the course of development can be further developed. Studies have been carried out on different children at different developmental levels, using methodologies or procedures that are not comparable from sample to sample. Also the literature has been dominated in this area by a great amount of intra-individualistic approaches which isolate factors associated, for example, with determinants of interpersonal attraction (physical attractiveness, similarity, popularity or competence) and avoid the considerable interdependencies between the individual and the system or context in which he is integrated.

In spite of the difficulties imposed on any attempt to systematize the extensive number of studies carried out in this area, a brief summary of the empirical data obtained (with the exclusion of the studies mentioned in other chapters) which can be used as a tool for further research will be included in this chapter.

4.2. Children's interactions: synthetic approach to some of the main factors investigated in this area

4.2.1. Contextual factors in children's interactions

According to Elgas et al. (1988) the dynamics of the peer culture are enacted during play. Peer culture is a differentiated social system made up of various groups and different types of players in which objects play an important role as entry vehicles and social markers. Quay et al. (1984) reported that more positive social behaviour occurred in some play centres than in others. Few aspects of peer interaction are independent from situational restrictions such as the physical space, task, materials or the group composition (Fernie, et al. 1990).

4.2.1.1. Space

Quantity, type of materials and spatial arrangements have been considered as constraints on children's interaction. Smith and Connolly (1977) found that the availability of resources seems to explain more of the variance in social interaction and aggressive behaviour than spatial density (except in excessively crowded settings). Rogers (1976), on the other hand, reported that with maximum organization of play space, children are more verbal than physical, and physical behaviour is more productive than disruptive. Wuellner (1969) considered that the physical environment (or the opportunity play environment) may have a crucial role in eliciting aggression and has studied the effect of the availability of equipment in the incidence of aggression. Crowding large numbers of children into a small space appeared to increase aggression, particularly if there was insufficient play equipment to keep all the children occupied. However, the effect of crowding on aggression did not always occur and it was affected by variables such as the response or guidance of teachers or nursery nurses, the activities and the amount and type of play equipment. Analysing the effects of numbers of children, space per child, and numbers of

toys per child and by varying these systematically, it was observed that a range of from ten to 30 children in the group did not influence the level of aggression, provided that space and toys were multiplied in line with the number of children. Changes in space per child within a range of 7.0 to 2.3 sq.m./child did not influence the level of aggression; but a further reduction to 1.4 sq.m/child did enhance it, leading to a suggestion that 2.3 sq.m/ child should be a minimum provision in preschool settings. Finally, supplying more toys per child decreased the frequency of aggression between children though it also decreased the frequency of sharing. Johnson, (1935) also reported that positive and negative contacts simultaneously increase in nursery situations when the availability of toys is diminished.

4.2.1.2. Materials/Activities

Toys or play materials seem to affect the young children social interactions. Some observers stressed the importance of toys as social mediators. Vandell et al. (1980) observed that small toys modified individual actions and interactions. Coordinated social acts were more frequent without toys than with them: touching and gesturing, smiling and vocalizing, occurred more often in the absence of toys than in their presence. Eckerman and Whatley (1977) reported that the number of toys influenced the quality of social interaction: although toys did not lower the incidence of peer interaction, they modify its nature. The presence of another child changed the individual child's interactions with his own toys: childrens's use of objects can be more creative (unusual uses of the objects, imaginative play or goal-directed problem solving were more common) when peers are present. Charlesworth and Hartup (1967) and Rubin (1977) observed that toys constrain the nature of the interaction; for example, solitary and parallel activity are more frequent in art and book corners while coordinated

social interaction appears more often in doll corners, dramatic play and outdoor activities (particularly in large groups).

Tschantz (1985) found that in preschool classrooms complexity and variety of materials was negatively related to unoccupied behaviour and solitary-functional play and positively related to constructive and group play. On the other hand Carpenter (1979) found that children in low structure classrooms and performing low structure activities had more novel behaviour and spent more time in self-organized play. Compliance with teacher's directions was higher in high structure activities and high structure classrooms. Results also showed that within classrooms, boys participated more in low structure activities and performed more self-initiated activity changes than girls. Brenner (1976) found that make-believe in the household area elicited a greater proportion of social interaction than other types of behaviour and play areas.

4.2.1.3. Competition and cooperation

Ames et al. (1977) reported that while competition engenders self-punishment, unfavourable social comparisons and negative affects among "losers" (but not among "winners") cooperative experience attenuates these differences. Cooperative goal structures stimulate friendlier and more facilitative interaction, more positive attitudes toward self and others and greater productivity in most circumstances than competitive or individualistic structures. Rocha and Rogers, (1976) also found that competitive structures are characterised by more frequent aggression and task interference, particularly among children predisposed to be aggressive. Social interactions are usually more cohesive under cooperative conditions.

Instituto Superior de Psicologia Aplicada
BIBLIOTECA

4.2.2. Individual and social characteristics

4.2.2.1. Age

A growth in sociability and social differentiation is considered a major achievement in peer socialization during early childhood. Heathers (1955) stressed an increase between the ages of two and four in the child's use of peers as targets of dependency and an equivalent decrease in the direction of such behaviours to adults. Thus, bids for attention were observed to be more frequently directed toward peers and less often directed toward adults by older children than by younger ones, and forms of affection-seeking being replaced by attention-seeking (Heathers, 1955; Stith and Connor, 1962). Gunnar et al. (1984) reported that peer presence facilitated separation from mother in children of 18 months and 30 months old. Strain (1979) found that physically abused and neglected children often reacted to positive approaches by adults by ignoring them but that they usually responded in positive ways to overtures by peers. Sullivan (1965) indicated that friendships and peer relations were initiated mainly out of a need to increase status and popularity after about four years of age. The child attempts to obtain personal prestige in the eyes of his peers. Older children are more often occupied in talking, smiling, laughing and playing with other children; the younger children more frequently watch other children, yield toys, cry and are more oriented to the nursery teacher. However, play even at a very young age may be complex and varied. A progressive differentiated utilization of more complex social and problem solving skills characterizes the period of early childhood; task-related behaviour and collaboration appear early in social interaction and seem to increase with age. Parten (1932) described a change between the ages of two and five from asocial or one-way social interaction to associative or coordinated activity; unoccupied, solitary and onlooker activities decreased between three and four years of age, parallel

activities decreased between four and five years while associative and cooperative activities increased. The emergence of associative interactions has been stressed as one of the important acquisitions in peer socialization during early childhood. Rubin and Krasnor (1979) also found that children spent less time in unoccupied, onlooker, solitary-functional, and all functional play, and more time in reading. games, parallel-dramatic, all group, and all dramatic play as they grow older. Monighan (1985) showed that the frequency of solitary play decreased significantly with age and group play significantly increased. The fact that parallel play increased from age three to four and decreased from four to five years suggested to the author that parallel play may be a formative context helping the child to discriminate between private and social aspects of psychological functioning. Tremblay (1980) found that low social interactors engaged in significantly more isolated and observer activity than high social interactors who engaged in significantly more cooperative and fantasy activity though this "finding".seems tautological. Barnes (1981) questioned whether solitary play is an indicator of social maturity or autonomous achievement striving. Pellegrini (1982) reported that children's play became more social as they grew older. Although positive social interaction increases in the preschool years, competition and rivalry also increase.

Pepler et al. (1981) found that older children initiated prosocial and combative behaviour more often than younger children and submitted less often to dominant behaviour. Yarrow et al. (1975) did not find age or sex related to prosocial behaviour. These authors stressed that if some factors increased the likelihood of older children to behave more compassionately (e.g. due to a greater competence, capacity for empathy and role-taking) other factors such as concerns with individual achievement and competition or right to privacy would tend toward the inhibition or reduction of prosocial behaviour. On the other

hand, some experimental studies (unlike naturalistic studies) found that generosity or altruism increased with age. However, Zarbatany et al. (1985) found that older children were influenced by experimenter obtrusiveness not by other factors such as whether peers would know how generous the child was. The authors concluded that the finding that older children were more generous than younger children presented some justification for concern that laboratory investigations of age differences in children's generosity may evaluate age differences in conformity to adult expectations rather than age differences in altruism. Even if such compliance could be associated or considered similar to that involved in altruistic behaviour, the kind of "genuine" helpfulness does seem different from that envisaged in experimental studies by very young children who have no idea of what is expected of them. Bar-Tal et al. (1982) observed the helping behaviour (defined as "an act which benefits others") of children between the ages of 18 and 76 months and found that this did not increase with age as a whole but with age children performed fewer helping acts in imaginative play (roleplaying) and fewer giving (donating the whole of an object) acts and more real helping and comforting acts.

Age changes in the aggressive encounters of children have been extensively described. Total frequencies of aggressive peer interaction increase between the ages of two and four years and then decline (Blurton Jones, 1972; Hartup, 1974; Walters et al. 1957). Sex differences, however become more accentuated and types of aggression change. The general trend is that during development physical forms of aggression decline and verbal aggression increases between two and four years of age (Goodenough, 1931; Jersild and Markey, 1935). Goodenough (1931) reported a development in certain forms of physical aggression (e.g. hitting and stamping) until the third year, after which the frequency of physical aggression decreased. Accompanying this decline in

physical attack was an increase in verbal aggression. The author also indicated that physical discomfort and need for attention were common antecedents of outbursts of anger in infancy, while "habit training" was often a trigger in the second and third years. Conflicts among peers provoked angry outbursts in four-years-olds. Dawe (1934) also found changes in quarrelling during early childhood. Disagreements over possessions and quarrels were most common in the period from 18 to 65 months. During the preschool period there was a decrease in straightforward instrumental aggression and an increase in retaliatory, person-oriented aggression. Garvey (1974) observed that older preschoolers incurred in fewer, but longer quarrels. Disputes occurred most often between children of the same sex; boys engaged in more quarrelling than girls. Most quarrelling was over objects even though the occurrence of such struggles decreased in relation to other forms of conflicts.

Wilson (1988) also stated that two and three year-olds often used aggression when acting out of anger or great annoyance but employed more physical means than verbal strategies in the solution of conflicts. Pushing and using hostile gestures were the most common aggressive strategies this children used. Repelling and rejecting (making a physical barrier with own bodies and hands) were also common strategies used by the youngest children to gain control over possessions as well as screaming and crying, thus bringing adults attention to the situation. Verbal strategies were not frequent among these children. On the other hand, four year olds often used aggressive strategies as part of play, for example, to take the rise out of a peer.

Such as other authors (Buss, 1966; Feshbach, 1964; Rule et al, 1974), Hartup (1974) distinguished between hostile aggression (that is, person-oriented aggression) and instrumental or goal blocking aggression (directed towards recovering objects, territories, or privileges).

In his observational study, Hartup (1974) determined developmental changes in these two types of aggressive interaction. Although younger children were more often aggressive than older children the age difference was mainly the consequence of a higher frequency of instrumental aggression among the younger children; while younger children engaged in instrumental aggression more often than older children, older children used more hostile or person-directed aggression (insults, derogation and other threats to self-esteem), than the younger children. Thus, the author reported a decline over the preschool period in instrumental aggression and an increase in hostile, person-directed or retaliatory aggression.

Among the "prerequisites of hostile aggression" (that is, person-oriented aggression) Hartup (1974) included (a) frustration-produced stimuli which involve ego threats or threats to one's self-esteem, and (b) an inference by the recipient that the agent has behaved intentionally. The influence of eliciting situations was observed to differ according to age. Thus, while older elementary school age children often reciprocated an insult, preschoolers did not; among older children, derogations (negative social comparisons, gossip, criticism, ridicule) were highly likely to elicit some form of insult or reciprocated threat (78% of the time), but relatively unlikely to provoke physical aggression. In contrast, for younger children, derogation provoked reciprocated derogation or threats only about half of the time and was almost as likely to take the form of physical aggression. However, when either older or younger children's goals were blocked, the proportion of hostile behaviour did not differ.

Although an association between social-cognitive processes and age changes in children's aggression has been expected, Hartup (1974) stressed that there were no grounds to consider that different types of physical aggression have similar functions either within or across developmental stages. However,

the change from instrumental to hostile aggression has been linked with the older child's ability to infer the aggressive intentions and motives of his opponent.

Rothenberg (1980) demonstrated (in a study, using stories in which a child either intentionally or accidentally inflicted harm) that kindergarten children were unable to use intentionality as a cue for inferring dispositions about people and making differential attributions about future behaviour. The attribution of intentionality or the development of "reputations" or inferences about other children's attitudes and behaviour seems to be an important determinant in the development of individual stable (and often resistant to change) dispositions to others. However, when analysing the issue of how children at different ages recognize a situation as "aggressive", very scant attention has been given to the role of non-verbal cues. Stroufe (1979) indicated that young children identify facial expressions of emotions such as happiness, sadness, anger and fear. Camaras (1980) reported that children five to six years old can use facial expressions to modify a partner's behaviour in a conflict situation. But how young children use different expressions for controlling a social situation is well yet known.

4.2.2.2. Sex

Many studies have been conducted into sex preference (children choosing same-sex partners) or differences between boys' and girls'activities. Some of these studies point out that same-sex situations provoke more active social interactions.

Lubin and Field (1981) considered touching, vocalizing and imitation as behaviour initiating and sustaining preschool children's peer interactions. Imitation was more frequent in pairs who were also friendly and helpful towards

each other, and also in same sex pairs. Children in a close relationship or having an intimate knowledge of each other often showed warmth, friendly social behaviour and some physical aggression.

Jacklin and Maccoby (1978) also observed that 33-month-old children directed positive and negative behaviour toward same-sex partners rather than towards opposite-sex partners. Aggression appeared more often in the same-sex condition indicating that sociability was facilitated by that situation. Equivalent results were obtained by Langlois et al. (1973) using children who were acquainted with one another. Children showed more talking, nonword verbalizations, smiling and body contact in same-sex pairs than in opposite-sex pairs. But it would not be appropriate to analyse encounters among children in terms of an exclusive dimension of warmth/hostility: this is because there is a broad range of individual differences in the affective tone of the interactions. Although it may seem unexceptional, for both positive and unfriendly social behaviour to be displayed by the same child to others, these behaviours do not seem to form a simple pattern.

In many studies boys were observed to behave more aggressively than girls (Meadows and Cashdan, 1983; Smith and Green 1974); other authors (Poorman et al. 1976) reported that aggression by females toward females was stable over age, while aggression by males toward other males increased. Condry and Ross (1985) investigated the influence of gender labelling of adult's perception of aggression in children and found that adult's perception of aggression in preschool boys and girls was biased in the sense of seeing interaction as less aggressive if it was thought to involve a boy than a girl. Observer bias was greater with more experienced participants in dealing with children. Thus, the authors concluded that true sex differences in aggression may be larger than those reported in the literature to date. Noppe and Ray (1990)

compared the social behaviour of preschool children from different cultural backgrounds and found that young children's peer interactions were segregated on the basis of culture and sex. Negative attitudes toward other-race children were also observed to be present in early childhood especially among the majority group children. Blakemore's results (1979) indicated significant sex and age differences in the frequency of nurturant behaviours. In general, males and preschoolers interacted less with an infant than did females and subjects in older age groups. In emotionally disturbed boys, O'Connor et al. (1979) found that the more anxious, inhibited and sensitive boys were the most prosocial.

Sex segregation in socialization has been observed to be consistent with the traditional sex-role stereotypes (Maccoby and Jacklin, 1974) in which males seek autonomy, while the intensiveness of female groups promotes close, intimate friendships. Libby and Aries (1989) found gender differences in young children's narrative fantasy: boys seemed more concerned with coping with aggressive drives and channelling them into attempts at mastery but girls were more interested in caretaking and responding to the needs of others. Chiu (1982) studied the norms of reciprocity in social interaction by analysing the social encounters of preschool peers in a free-play condition. A positive reciprocity norm was observed in interactions among girls but not among boys. A negative reciprocity norm, however, was described for both sexes. In addition, the author reported that the degree of reciprocity varied as a function of popularity.

Smetana and Letourneau (1984) stated that, among females, gender concepts may have an organizing role in sex-role development by motivating children to seek social contexts in which to acquire and practise sex-appropriate behaviour. Fling and Manosevitz (1972) found that parents discouraged cross-sexed interests in boys more than in girls; on the other hand, parents of the same sex as their child reported more encouragement of sex typing than did others.

Fagot (1978) examined the relationship of choice of play-style and sex of child to the type of feedback children receive from teachers and peer groups for their behaviour (positive or negative). The results were discussed in terms of high and low scores on four factors: (1) task complexity (2) social cooperation (3) activity level, and (4) passive-withdrawn behaviour. It was found that children high on factor 1 received more positive teacher feedback, while children low on this factor played alone significantly more and received more negative teacher feedback. Children high on factor 2 received more positive teacher and peer feedback; within this group, girls received more positive teacher feedback and they played alone less often than boys. Children high on factor 3 received more peer comment and more teacher criticism. A significant sex difference was found on factor 4 with girls receiving more positive teacher feedback than other groups. Lamb et al. (1980) observed the sex-typed activities of children during free-play sessions in nursery school and kindergarten. They found that children reinforced one another particularly for gender-appropriate activities. Most reinforcements and punishments were received from same-sex peers. Fagot (1978) reported that boys received greater criticism than girls when occupied in dressing up and doll play but more positive reactions to hammering and play in the sandbox. Girls received positive reactions when involved in "domestic" activities. Children seemed to show obvious sex differences in the choice of play activity and consequently sex differences in social interaction.

In many studies (Eisenberg et al., 1984b) girls have been observed to choose less physically active tasks such as sewing and painting, dressing up, playing with dolls or playing in the "Wendy house". These activities are often carried out near or with the teacher. Boys have been reported to prefer blocks, transportation or construction toys (e.g. meccano) and activities involving gross motor movements such as rough and tumble play, throwing or kicking balls. Boys

seem to spend more time in larger groups of children, mostly of boys, and in physically active and often obviously aggressive play; on the other hand girls spend more of their time with small groups of other children, mostly of girls, or with adults (Meadows, 1986).

Many activities observed do not show a sex preference between two to four year of age in the nurseries. For example, the only sex difference Brenner (1976) found was that boys engage in more make-believe than girls in non-structured areas like open floor spaces. Beeson and Williams (1979) found that boys chose traditionally male-oriented play activities (wheeled vehicles and sand/water) while girls chose all four traditionally female-oriented play activities (house play, books, art projects, and table activities) and also the traditionally male-oriented climbing apparatus. However, differences for these three activities were not statistically significant. Block play was the only activity revealing significant sex differences suggesting that there are many exceptions to the rather bland generalisations of so many authors in the field. The authors suggested that the changing societal attitude and the national movement toward eliminating sexism is reflected in the play activities of young children.

4.2.2.3. Social acceptance and personal variables

Issues concerning the kinds of social interaction that take place in reciprocal interchanges between individual child characteristics and peer influences have been studied. Evidence show that some children have more influence on the behaviour of their peers than others. Some children invariably receive unsympathetic responses when they are in distress others seem to have the effect of inducing other children in social interactions.

Associations between personal variables and the way they affect the child's influence as a socializer, how personal characteristics modify the effects

that peers have on the child's social characteristics and diverse social behaviours have been explored. Emotional stability, affiliativeness and social responsibility were associated with several prosocial indices in studies by Bond and Phillips (1971) and by Midlarsky and Bryan (1972). In Hartup and Keller's (1960) study, seeking help and nurturance was positively associated with giving nurturance to peers. However, teacher ratings of kindergarten girls' competence and the girls' helping behaviour were negatively related in Staub's work (1971a). The relation between self-attitudes and social acceptance suggests a curvilinear relationship between these variables (Reese, 1961). Children with moderately high self-concepts were more accepted by their peers than children with either low or very high self-esteem. Quay and Jarrett (1984) found that the major predictor variables of social acceptance in young children were positive social interactions, occupied behaviour when not interacting, mental age, chronological age, and sex. Children who were disliked engaged in significantly less social play than popular children (Tschantz, 1985). Black and Hazen (1983) found that popular children directed their communications more clearly to others and when they were intruders, were more likely to respond contingently to others than were the other groups. Rejected children were least likely to direct communication clearly and respond contingently to others. Connolly and Doyle (1979) pointed out behavioural factors defined by the frequent use of successful social behaviour such as attention-eliciting, question-asking, directing a peer's activities and competing for toys as being associated with the construct of social competence.

Many studies have found that social acceptance and rejection have different correlates but no single trait can predict popularity. Research on social attraction has focused on different categories of children's social standing: "stars" (receive many positive choices), "isolates" (chosen neither positively nor

negatively), "mixers", "teacher negatives" or "amiables" (low impact but highly preferred) and "rejects" (high impact but non-preferred or actively disliked) - for example (Peery, 1979). In general, positively valued characteristics, such as intelligence, physical attractiveness, or social competence were identified and account for significant amounts of variance in peer acceptance whereas negatively valued characteristics (e.g. antisocial behaviour) account for significant variation in peer rejection.

Stohl (1981) reported that children aged from three to five who were more attractive to peers communicated in a more contentious, impression-leaving, dramatic, open, and animated style. Those children who were more attractive to teachers had a style that is more attentive, friendly, and relaxed.

Jacobson and Wille (1986) found that, in an initial encounter with an unfamiliar peer, attachment patterns appear to be related more to the child's attractiveness as an interactive partner than to the child's own active interest in engaging in peer interaction. Children seem to have different expectations of attractive and unattractive children. Preschool children attribute friendliness and non-aggressiveness to attractive children and attribute negative social behaviours to unattractive children. Attractive children were rated more prosocial and less antisocial and considered to be better prospects as friends than unattractive children as judged by preschoolers (Dion, 1973). Attractiveness in young children may elicit differential expectations in adults which in turn influences the adult's behaviour toward the child and the child's self-attitudes and social behaviour. The evidence showing that "beauty is good" is a social stereotype prevailing since a very early age. This will affect children's social encounters thus leading to self-fulfilling prophecies. By the age of five unattractive children seem to show some of the behavioural characteristics attributed to them by other children and adults; they often are more aggressive and more socially active. Downs and

Nelson (1983) showed that behavioural differences do seem to exist between attractive and unattractive children, i.e. unattractive children showed higher activity levels. In addition, teachers appeared to react more favourably to children rated as attractive than to those rated unattractive.

Smith (1984) found that attractive girls engaged in more interactive play, while less-attractive girls engaged in more noninteractive play but this trend was not evident among boys. Attractiveness has been observed to have social advantages for girls. However, preference for attractive agemates did not develop among girls until the age of eight. Attractiveness seems to have both advantages and disadvantages for boys as it seems associated with a variety of prosocial and antisocial behaviour, "competence" and "incompetence"; attractive boys are better liked among three year olds but more disliked by older children. Unattractive males seem to employ more often aggressive commands; but a more direct, aggressive and persuasive style appears to be more accepted among males than a more indirect, pleading style.

Many studies show that peer acceptance is directly associated with friendliness (Hartup, 1964). A repertoire of friendly, prosocial and competent social behaviours seems to predict social acceptance, while deceitful, aversive behaviour increases the probability of social rejection. Murphy (1937) observed that friends, younger children in the group and group "favourites" received more often peers' sympathetic attention. The popular child was friendly and socially skilled in initiating and maintaining social interaction. The rejected child shows more inadequate, antisocial or disruptive behaviour in interaction with other children. Other authors (Doyle and Connolly 1987) found that play enactment and negotiation of play were significant correlates of peer popularity as measured by peer likability ratings and by positive peer nominations. The findings on preschool-age children indicate a tendency for popular children to be

more reinforced by their peers and more cooperative; children generally preferred to give help to and to receive help from, popular peers. A study by Hampson (1979) suggested that different peer statuses may be related to different kinds of helping. Popular children were associated with the visible peer-oriented kinds of help; on the other hand, the helping by children who are not high in popularity was less peer-related.

4.2.2.4. Children's relations: familiarity, acquaintanceship and friendship

Imitating, coordinating activities, offering a toy, struggling over an object, smiling and touching are social behaviours present at all ages in peer encounters out of which social interactions are made. Packer and Richardson (1980) considered social interaction to involve changes in participants'status, intimacy and openness. Repeated exposure to persons may enhance liking and promote positive interaction. Eckerman et al. (1975) observed that peer life, beginning very early, gives the opportunities for learning to deal with the needs of self and others. Familiarity increases social interaction in a number of ways. As children become acquainted with one another their social repertoires become more coordinated through experience, thus promoting flexible and complex interaction as compared to the interaction observed among unfamiliar children (Lewis and Rosenblum, 1975). Wariness on the part of the child might, in strange environments, decrease social interaction. Initiation of interaction, engagement in prolonged social interactions and aggression seem more frequent among children observed in their own homes implying that, when there they have a strong influence over social activities. Particularly significant is the increase in aggressive behaviour observed among the children in familiar environments (Jeffers and Lore, 1979): however, the variables underlying these situational effects were not identified. At home, territorial sensitivities may be also manifested.

Ipsa (1981) observed that peers function as a source of security in distress situations. Familiar peers have an affective influence on their associates and may act as a "secure base" for exploration of the environment. In this case interaction with the physical and social environment would be expected to be more effective than when strangers prevail in the social scenery.

Imitative interactions or proximal activities (including body contact and touching) have been observed more frequently between familiar babies than between babies who are strangers (Young and Lewis, 1979). The influence of acquaintanceship on social interactions among preschool children seems comparable. With a familiar child, the social interaction is more regular and the complexity of the social play increases. Smith (1978) reported that group play was enhanced and solitary play was reduced during a nine-month period of observation, while parallel play did not differ much in overall occurrence. Ross (1977) found that not only physical attractiveness but also proximity and familiarity were all significantly correlated with how popular a child is in nursery school.

In most of the observational studies familiarity has been synonymous with "mere exposure" so that it is difficult to establish connections between the diverse studies in this area. The elements in "familiarity" and experiences (such as processes of impression formation on initial interactions) which may affect subsequent attitudes and behaviour that appear in the course of acquaintanceship are not known.

Peer preferences seem to persist over time. Negative nominations have lower stability than positive nominations, perhaps because of greater environmental pressures (Hartup et al. 1967). Martin and Dreger (1983) reported significant behavioural continuity and intra and inter-individual stability

in the early modelling of social behaviour. Frankel and Arbel (1980) reported that formerly unacquainted two-year-olds constituted a group structure coincident with a stabilization of social relations.

Stability is associated with acquaintanceship; changes in social status are more prominent during the early stages of group formation than later (Humphreys and Smith, 1984)). Early acquaintance fluctuations are also more accentuated among children included in middle sociometric positions than either high or low position.

Vespo (1989) showed that children have a process view of relationships and selectively chose behaviour within the context of preferred relationships which maintain those particular relationships over time. Target children interacted most often with best friends, and more often with associates than with acquaintances. As level of association increased, self-disclosures increased and disagreements decreased. Fantasy play, a group activity, was engaged in equally often with best friends and associates, but rarely with acquaintances.

Friendships seem to decrease anxiety and encourage exploration in novel environments; they maintain proximity or contact with the other person but separation is distressing. A vivid example of the operation of peer affectional systems among human children comes in the reports of the orphaned German-Jewish preschool-age children brought to hostels in England during World War II (Freud and Dann, 1951). These children showed high dependency on one another, particularly in the early months in their environments when adults had little affective importance for them. Regular accounts documented the children's awareness of one another's conditions and needs. In this instance, the interdependence of peers all under severe stress, provided the basis for prosocial responsiveness.

Friends have been observed to be more interactive, talkative, affective, chose to work under cooperative conditions more often and to pay closer attention to equity rules in their interactions. However, competitiveness can sometimes be observed in the interaction between friends more frequently than non-friends; sensitivity and spontaneity expressing friendship relation may enhance either competition or cooperation, depending on task conditions (Hartup, 1983).

From a psychoanalytic position, Sullivan (1953) stressed close, intimate friendship as the basis for the development of a sense of the perspectives and feelings of another person and hence for the development of prosocial or caring behaviours. Studies by Staub and Sherk (1970) of young children show more sharing between friends than between non-friends. Sharabany and Hertz-Lazarowitz (1981) found more generosity with non-friends than with friends. Birch and Billman (1986) found that young girls shared more with friends than acquaintances and boys did not share differentially; this could be either associated with the fact that girls interact in smaller and more exclusive groups in which friends are clearly distinguished from others or because boys (interacting in larger, more extensive groups) showed more incidents of sharing as "dumping" nonpreferred items sometimes despite the protests from recipients ("I don't want that") after requests for preferred food (Birch and Billman 1986). Friends were also found to be more active in inducing sharing than acquaintances - a fact associated with the children's conception of sharing as a component of friendship. For the youngest children, becoming a friend is to play together and share; for older children, it is getting to know each one another. These responses may be reflecting identical sentiments, namely, mutual understanding and relatedness. Peer interactions, however, have not themselves been analysed as structured systems in which empathy and prosocial behaviour is fostered. As the

contexts of interaction and intimacy of relationships differ one would expect the processes of peer impact to vary and to be differentially significant in the socialization of prosocial behaviour.

Hayes et. al. (1980) asked preschoolers to name and give reasons for liking/ disliking an actual best friend and an actual enemy. Questioning of parents and observation of subjects' free play were conducted to verify the existence of close, reciprocal friendships. Content analyses of subjects' responses revealed that different dimensions underlie unilateral and reciprocal friendship.

Rubin(1980) asked young children about the qualities that friends are expected to have. Questioning four-year-old children Hayes (1978) was able to elicit at least one reason for liking a best friends and one reason for disliking a particular child. Common activities, general play, nearness and possession of interesting things were the most frequently mentioned bases for liking; aggression, aberrant behaviour and rule violations were most commonly repeated in association with disliking. Selman (1980) found that some expectations (e.g. sharing and reciprocity) appear early in the child's conceptions of interpersonal relationships. Other attributions (e.g. loyalty, sensitivity and intimacy) develop at a later time.

Reciprocity underlies friendship expectations at all ages. Development change can be conceived as a succession of elaborations and transformations of the child's understanding of these reciprocities. There is a lack of information about relationships between the development of children's conceptualizations of friendships and their actual interactions with friends.

Although reciprocity and mutuality are common elements significant at all ages, cooperation, synchrony, smoothness and intimacy become successively evident later in childhood. Angoli and Hensley (1979) found that children as

young as three identify and use reciprocity in social interactions. The role of peer relationships in moral development has also been investigated empirically. Piaget (1932) emphasized the equality of relationships and the reciprocity in interactions among peers as children's education "out of egocentrism" into cooperative interactions. In Marcus' study (1977) it was reported that help given by children was consistently reciprocated by peers. Reciprocity was greater when the recipient was liked by the giver than when the recipient was disliked. A negative relationship was also found between sociometric status and directed (solicited) help received; high sociometric status children received more help than they gave while low sociometric status children gave more help than they received. Helping behaviour happened chiefly between same sex peers and invariable sex differences were found in favour of males on all observational measures of helping behaviour. Holmberg (1977) stated the view that the development of reciprocal acts expresses concurrently changing capabilities of children and concomitant changes in the social feedback provided them.

Evidence indicates that good peer relations develop together with sociability and friendliness, the internalization of social standards and regulation of aggression.

4.2.3. Prosocial behaviour, empathy, self-control, assertion and aggression: other factors investigated

4.2.3.1. Prosocial behaviour: frequency, consistency and continuity

Eisenberg-Berg and Hand (1979) reported a mean frequency of 2.7 prosocial incidents per classroom hour. Strayer et al. (1979) indicated an average of 15.5 prosocial behaviours acts per hour. Sharing, helping and comforting were shown on average at a rate of just under one per hour. Sharing acts were defined as those in which the child gives away or allows temporary use of a material

object previously in his possession, either solicited or unsolicited. Helping acts were those in which a child attempted to alleviate another's nonemotional needs by giving information, helping with a task, offering an object and so on. The frequency of such acts was not high. Children and siblings shared in about two percent of their interactions at each of the three time points observed and the older siblings helped the younger in about five percent of interactions.

Yarrow et al. (1975) and Yarrow and Waxler (1976) stated that helping is more frequent than sharing or comforting. Sharing and comforting appear to be related to each other but unrelated to helping. Stockdale et al. (1989) indicated that the frequency of helping behaviours was not correlated with age or sex and was not stable over four 10-minute observation periods. Most helping acts were performed during nonimaginary play.

Holmberg (1977) found support (from both a longitudinal and the cross-sectional design) for the claim that prosocial acts increased over time due in part to changes in the form of the acts, that is, an increase in verbal initiations in the young child and his growing capability to maintain interchanges, first by responding to overtures rather than ignoring them, then and subsequently by varying the response acts in complex patterns.

Murphy (1937) reported a study in which children in the nursery exhibited a broad range of prosocial behaviour (helping as an assistant, another in distress, comforting, punishing the cause of someone's distress, protecting and defending, warning of danger, asking an adult for help for a peer, inquiring of a child who seems to be in trouble, giving something, becoming visibly anxious). Considerable individual variation was observed in prosocial responding. Of 70 children studied, 18 never expressed sympathy, some were regular recipients when in distress whilst the distresses of some were overlooked. The relation

between frequencies of giving and receiving sympathy were insignificant. Other researches on prosocial development from two to six years provides evidence of children's complex responsiveness to others' needs and distress and of children's individualistic ways of dealing with these situations. For instance, Radke-Yarrow and Zahn-Waxler (1984) observed individual variations in children's expression of empathetic concern and on the cognitive and the affective behavioural components. Some children imitated other's emotional expressions almost reflexively; others imitations were more like analytical deliberations, as if the child was studying the other's emotions or was attempting to find out how the other felt.

A pattern of moderate relationships between a wide band of positive, outgoing, and socially competent behaviours and a more confined band of prosocial behaviours that are also positive and outgoing results from some of the studies which investigate the association between personality variables and prosocial behaviour (Mussen and Eisenberg-Berg, 1977). However, contradictory personality findings require equal consideration. In some, anxiety, inhibition, aggression and guilt have also been associated with empathy and altruism. It is generally stressed that different motivations may be underlying helping, sharing and prosocial behaviour. Not only might the altruism of different children be differently motivated but also the same children may be differently motivated under different circumstances. Personality studies have not been in-depth investigations but the prevailing concern has been on a search for generic relationships; thus there is little information about the etiologies and functional significance of prosocial behaviours of various kinds.

The hypothesis that altruism is innate or that social norms or parental practices are major determinants of the child's prosocial behaviour implies the study of the consistency of different forms and degree of generality of prosocial

behaviour. Underwood and Moore (1982) suggested a moderate consistency in these respects. Some studies offered evidence for the specificity and of generality of children's prosocial actions (Strayer et al., 1979). Dunn and Kendrick (1982) for example pointed out that children (aged one to three years) who expressed friendly interest and concern for a new baby in the first three weeks after birth were also likely to respond with concern if their younger sibling was hurt or distressed at a follow-up six years later. Mussen and Eisenberg-Berg (1977) reported a study in the nursery school in which stability in the assessment of prosocial behaviour was observed five to six years later. Rushton (1984) mentioned that "there is more consistency to altruistic behaviour than is often supposed" (p. 275). However, the author pointed out variations in personal consistency and continuity. From the research evaluated on the relation of socialization, affect, cognition and personality to prosocial development some variations in degree and kind of behavioural consistency at different times in development were reported.

Radke-Yarrow et al. (1983) indicated other authors who have compared one group of prosocial acts with others across situations or in response to different stimuli. In many studies comparing prosocial responses on one task or occasion with responses on another led to significant positive associations in the low to moderate range. In few studies almost no consistency across measures was reported; in another one a moderate and significant negative association was indicated. The authors stressed the importance of identifying the conditions and experiences that lead to the generality and selectivity of children's prosocial behaviour at a given time in development and which determine its continuity and change. Children were observed to develop conflicting loyalties which may be associated with the expression of different kind of social behaviours. They also

vary in their consistency and some important questions for research concern the determinants of individual differences.

4.2.3.2. Empathy

4.2.3.2.1. Affective states

Marcus and Roke (1980) pointed out that the experience of positive feelings in response to others' happiness appears distinct from the responses to their affective states of anger, fear or sadness, both as it appears developmentally and as it relates to social behaviour.

In Strayer's work (1980) preschool children who exhibited most happy emotions ranked high in empathic behaviour toward peers, whereas children who ranked high in the experience of sad emotions ranked low in empathy. Chapman et al. (1987) suggested that helping tended to be positively correlated with positive affect but negatively correlated with negative and neutral affect. They explained the positive correlation between positive affect and helping found in the study not attributable to paradoxical expression of positive affect to other's children distress but to positive feelings associated to helping in its own right.

Lennon and Eisenberg (1987) found positive affect or mood to be associated with young children's spontaneous prosocial behaviour. Children who shared or received sharing responses from others were those who exhibited very few sad expressions and much more positive (happy) than negative (sad and angry) affect both prior to and subsequent to the prosocial behaviour. By contrast, non-positive displays tended to be followed by the receipt of defensive reactions. The authors also found that children seldom displayed sad responses in play: most negative displays were instances of anger (which is not expected to

lead to prosocial behaviour) and were followed by defensive not prosocial action from potential benefactors.

4.2.3.2.2. Guilt

From a psychoanalytic perspective the capacity for identification and internalization of societal norms and values underlies empathic interactions with other people. Children restrain their aggressiveness toward those with whom they have identified, behaving instead in a prosocial way towards them (Freud, 1921). The process of identification results in the development of the superego, which comprises both a "sense of guilt" and an "ego ideal". The child may develop prosocial behaviours either through feelings of guilt imposed by the conscience for moral transgressions (Hoffman, 1976) or through the internalization of ego ideals that evolve into autonomous value systems (Wolff,1978).

Hoffman (1982; 1987) has outlined the role of guilt and its developmental progression as follows: (1) rudimentary guilt feelings (guiltlike reactions associated with a sense of being the cause of distress by virtue of proximity to the person in distress) may appear early but the child is uncertain about being the causal agent as he cannot clearly differentiate self from other. (2) feelings of guilt when the child is able to separate self and other, make causal attributions or take the perspective of the person and enable the child view his own actions as the cause of the other person's distress (3) the development of abstract thinking and the extension of empathy beyond the immediate situations to groups of people in which the child may express not only guilt feelings about possible harm but also about prosocial actions not carried out, or about his own advantaged position compared with that of others.

4.2.3.2.3. Perceived similarity

The extent to which the child in need or distress is perceived as similar to self seems to be an important factor in the probability of empathic response and the tendency to act prosocially (Feshbach, 1978). Children are also more likely to empathize with familiar people whose lives and feelings can be better understood (Meadows, 1986). Barnett (1983) found that a young child's empathy with an unhappy agemate will increase when the observing child has had a similar unpleasant experience. Feshbach and Roe (1968) considered that similarity on one dimension of personal characteristics should promote the generalization of other attitudes and behaviour including emotional experiences.

The child's recognition of others as similar to the self was also pointed out by Hoffman (1987) as forming the basis for sympathy. Blum (1980) sees sympathy not as depending on perception of similarity but as prior to it.

4.2.3.2.4. Role-taking skills

Role-taking skills are considered in some studies as a component of empathy but in others as a cognitive skill mediating empathy.

According to Hoffman's framework of developmental progression, imagining the other's feelings becomes a possible mode of empathic arousal; the development of capacities to understand another's experience should, correspondingly, increase the ability to respond appropriately to the inferred experience of others. Thus perspective or role-taking abilities have been suggested as cognitive precursors of prosocial behaviour.

Several types of perspective taking have been examined in relation to indices of prosocial behaviour in children from preschool age. However, significant correlations have not consistently been found though when they are

found they are positive. This may be due to several factors: some may be associated with the conceptualizations of perspective taking involving different capacities that are often considered artifacts of the task selected and which according to some authors (e.g. Donaldson, 1978) often underestimate the ability of children to perceive the intentions and perspective of others. Children's ability to show empathy depends on the situation in which they are studied; Dunn and Kendrick (1982) and Dunn (1986) observed children demonstrate empathetic understanding toward familiar others or in contexts that have emotional significance for them earlier than they do in unfamiliar contexts. Although children's abilities to understand the experiences of others are, in one sense, a necessary condition for acting effectively on others' behalf, such understanding - as the same authors pointed out - may also facilitate manipulative or aggressive behaviour. Thus, the ability of one child to understand another's emotional state or intentions, to make inferences about the experience of others may motivate him/her to enter into either a positive and sympathetic or into provocative, aggressive or hostile interaction.

Leighton (1989) found that role-taking could not predict either sharing or cooperation. According to this author, role-taking does not assess the kind of processes underlying prosocial behaviour but seems rather to reflect other cognitive skills more associated with IQ than with generous and cooperative behaviour.

4.2.3.3. Self-control

Some authors stress the role of language as a regulative device (Zivin, 1979; Mischel and Patterson, 1979) in the development of impulse control and inhibitory mechanisms. Toner and Smith (1975) found that overt self-verbalizations by preschool girls significantly influenced their delay maintenance

behaviour. McKaughan (1974) proposed a theory of propositional control in which the child progresses from an early self-control consisting of simple verbal or perceptual cues or even single propositions (which might simply summarize for the child where reinforcement comes from or what he should do in a given context) to the development of a propositional self control which is parallel and follows the child's acquisition of the use of propositions within the speech community. Thus the child first learns how to follow verbal instructions and then give instructions to himself; he learns that objects may be reinforcing in their own right but that special significance may be given to certain objects in particular contexts and also how to relate his behaviour to them in ways that are considered acceptable. Although the verbal processes may be important in the self-regulation of behaviour this also involves processes not necessarily of a verbal nature. just as other-control can be accomplished by numerous non-verbal means.

4.2.3.4. Assertion and aggression

4.2.3.4.1. Sociometric status

Sociometric status varies in children's groups and some investigations emphasize the importance of "poor peer relations" and aggression in the emergence of conduct disorders. Some evidence indicates that aggressive socialization develops in children's interaction as well as in adult-child interaction. Both aggression and reactions to others'aggression are socialized within certain social environments (Patterson et al. 1967).

The relation between aggression and sociometric status is not linear or direct. With young children no relationship between popularity and aggression has been demonstrated (Lippitt, 1941). Campbell and Yarrow (1961) reported that popular children expressed more friendly aggression than unpopular

children. Evidence suggests that the child who both initiates and receives negative interactions gets many negative nominations. For example, "negative reinforcements" administered by preschoolers were positively associated with rejection scores on picture sociometric tests (Gottman, 1977). In addition, rejected preschool children are experienced by their peers as more antisocial and depict more aberrant aggressive patterns in doll play (Dunnington, 1957). Significant sex differences in the relationship between aggressive/antisocial behaviour and popularity are not manifest among young children.

Patterson (1981) found that children continually rejected by their peers displayed high rates of coerciveness frequently of a hostile or harassing nature. Unprovoked aggression leads such children to be consistently disliked - they interrupt a game or push another child with little or no obvious justification or provocation. Hatch (1990) found children with unsuccessful social adjustment patterns such as breaking the rules by behaving aggressively, failing to recognize or accept routines, rules, and limits, and missing opportunities to have positive contact with peers. This rule-breaking behaviour leads to three general patterns of peer responses: exclusions, snubs, and put-downs.

The transgression of peer group norms such as unrestrained aggression can have consequences for children's acceptance by others. Dodge (1981) amongst others constituted groups of children who were unfamiliar with one another. Over a period of eight play sessions the children who were involved in physical aggression and in hostile verbalizations (insults, quarrelsome statements, exclusion of peers from play) were rejected by their peers. By contrast, children who were involved in more cooperative play and social exchanges were rated as more popular with their peers. These studies indicate how aggressive behaviour influences future peer interaction but not the nature of the processes that lead to the development of individual differences. This type of

research, however, has tried to discriminate "social skill deficits" in aggressive children and non-aggressive children, which could lead to later development of intervention strategies and give some indication concerning the antecedents of these trends. In addition, these studies suggest some of the conditions that may sustain these patterns. For example, to the extent that aggressive children are unpopular and rejected by peers, the probability of peer interaction may decline and with it the opportunities for gaining other more suitable social skills through interaction. Other studies propose that aggressive children have a pattern of social skill deficits, which may take the form of erroneous or scant knowledge of desirable behaviour, poor impulse control or biases in the ways in which they process social information; they may also lack knowledge of suitable ways of resolving conflict. For example, teacher ratings and maternal reports stress difficulties with aggression and peer relations among young hyperactive children. Hyperactivity seems to be closely associated with negative nominations and nominations for negative roles in play (Campbell and Levine, 1980) Since hyperactivity is associated with a group of attentional, affective and communication difficulties, low social status of hyperactive children may be mediated by bizarre and inadequate social behaviours rather than by aggressive behaviour. However, preschool hyperactive children were reported to be no different from other children in sociability and cooperation but to be more non-compliant and aggressive (Campbell and Levine 1980).

4.2.3.4.2. Dominance hierarchies

Some studies (for example, by Manning et al. 1978) have differentiated between "specific hostility" (defending one's own rights, e.g. keeping a toy) and more unprovoked forms of aggression such as teasing or behaving wildly in a rough and tumble game. Some children are quite aggressive and highly skilful socially but not obviously disliked (Dodge and Richard, 1985). Peers portray

them as "good leaders" but also as "starting fights": they use aggressive behaviour as a means of obtaining status in the peer group. Observations suggest that the children can classify others for dominance or fighting strength in a stable way. Psychologists have verified that this can be done reliably from about four or five years of age onwards (Sluckin and Smith, 1977). They seem to have acquired the notion of a "dominance hierarchy" in groups. Winning fights is one criterion of dominance, but more frequently it is taken as getting one's own way in leading others. Thus, the concept is associated with that of "leadership". Theoretically the existence of social structures or dyadic dominance and maintenance of a stable dominance hierarchy exist to reduce the amount of aggression developed between group members by establishing a relatively stable sequence of individual privileges or rights (Hinde, 1974).

Social structures in nursery school classrooms have been studied principally in relation to physical aggression, threats or conflicts. In nursery schools where children interact over an prolonged period of time, children seem to develop group structures in which the members are arranged in some hierarchical pattern. Dominance hierarchies seem to appear in social interaction or in group structures in early childhood. Some authors have investigated the presence and function of dominance hierarchies among children. In one study of four-year-olds, Abramovitch and Strayer (1978) observed two categories of conflict: aggressive (threat-submission and attack-submission) interactions and object/position struggles. Results suggested stable dyadic dominance relationships and linear group status structures (already mentioned in chapter two): the authors found that interactions between the children follow a linear model. However, behaviours by which dominance are sustained among groups change over development; as noted above, verbal forms of aggression increase with age while physical aggression decreases. The criteria that establish rank or

status may also change with development (i.e. from toughness or physical proficiency among nursery school children to athletic ability; Savin-Williams, 1979). Finally, it is plausible that dominance hierarchies are not invariably linear or inflexible although some authors report that some kind of social order maintained by aggressive interactions may evolve in all groups (Sluckin and Smith, 1977).

4.2.3.4.3. Cognition and competence:

Dorman and Rebelsky (1969) characterized assertive behaviour in children as manipulation and exploration of the environment. They hypothesized that learning could be dependent on assertion and the distortion or inhibition of assertive behaviour could restrict or distort the learning process. Testing fifty Head Start children for the existence of assertive behaviour, using teacher and observer ratings, and comparing the data with the children' scores on the Stanford-Binet, they found that the "assertive" children scored better on 29 of the 35 items than the less assertive children, with significant differences occurring in eight of the 29. Thus, the authors concluded that assertive behaviour and cognitive performance appeared to be positively related.

Suggestion and persuasion can be associated with social influence. Most imitation can be considered conformity since the changes in attitudes and actions of the observers develop within a normative frame of reference. Imitation may be exhibited spontaneously to influence others. On easy tasks children become less and less compliant to peer suggestion as they grow older but difficult tasks frequently elicit greater conformity (Hartup, 1983). With increasing age, individuals seem disposed to adopt peer information when the task is very difficult. Competent individuals usually have greater influence than non-competent ones but self-esteem or self-evaluations of competence generally lead

to diminished conformity; subject differences explain significant variance in conformity (Hartup, 1983).

4.2.3.4.4. Peer feedback

Parke and Slaby (1983) reported the influence of the behaviour of one member of a peer dyad in controlling the level of aggressive behaviour of the other: supposing a reciprocal influence, aggressive behaviour of children tends to induce equivalent behaviour from others. Thus, in a dyad, the aggressive behaviour of one child would be the main determinant of the other child's aggressiveness. The process explaining the effects of reciprocal control is unknown. Dyadic control has generally been viewed as reciprocal modelling (i.e. peers act as social models just as older siblings act as models for their younger siblings).

Various studies have established that peers function as reinforcing agents of each other. For example, in an observational study of nursery school children, Patterson et al. (1967), reported that when a child who was attacked responded by crying, withdrawing or yielding, the attacker was disposed to enact the same kind of aggressive behaviour (e.g. seizing or pushing toys) toward the same recipient in subsequent interactions. However, if the aggressive behaviour was followed by negative reinforcement, such as attempts to recover toys or materials, retaliation or teacher interference, there was a high probability that the aggressor would either select a new recipient or change his aggressive behaviour.

Peer feedback not only changes the agent's aggressive behaviour, but non-aggressive recipients may begin to act aggressively if they are repeatedly the victims of aggression. In the Patterson et al. study (1967), children who were molested by peers were given and took advantage of opportunities to counter-

attack their aggressors. The evidence showed that the number of subsequent aggressive acts against them declined and that the probability of the victim initiating subsequent aggressive attacks increased. Children seemed to learn to behave aggressively in order to avoid being victimized. The authors reported a significant relationship between the frequency with which children were victimized by their peers, the frequency of their successful counter-attacks and increases in their aggressive behaviour. These results indicate: (1) that peers' behaviour are important mediators in the elicitation and maintenance of aggression, and (2) that negative reinforcement plays an important role in aggression control, thus underlying coercive cycles of aggressive interaction.

4.2.3.4.5. Stability of aggression

Olweus(1979) reviewed 16 longitudinal studies on the stability of aggressive behaviour and concluded that they provide support for some form of trait position as the stability found in the area of aggression was not in fact much lower than the stability found in the domain of intelligence testing. Actually those studies showed that individual differences in aggression manifested as early as three years of age were stable over long periods of time. However, though Olweus concluded that there are stable internal reaction tendencies or personality variables that are important determinants of behaviour in the aggressive-motive area he also acknowledged that this conclusion should not be taken to imply that situational factors or rewarding and maintaining conditions in the proximal environment are considered unimportant for the evocation of aggressive behaviour. Behaviour may be sustained across the life course through the progressive accumulation of its own consequences (cumulative continuity) and by evoking maintaining responses from others during reciprocal social interactions (interactional continuity).

2.3.4.6. Conflict encounters

In the study of the origins of aggressive behaviour, researchers have investigated the social encounters of infants and young children, especially those which involve conflict, for example, over possessions, territory or space, play conflicts or social intrusion (disruptive attempts to enter a play interaction when the goal was not necessarily to gain entrance into a play situation but to initiate one's own kind of play), teasing or frustrating the recipient (Wilson, 1988). The study of children's use of conflict-resolution strategies has prevailed for decades (Green 1933; Maudry and Nekula, 1939). In most of the studies involving conflict among young children it was observed that conflicts often terminated when the child attained the desired goal while others yielded or complied (losing) followed by both going in separate ways; only a small percentage concluded by the resolution of the problems and cooperating. The most common conflicts among children involved possessions; territory and space was also a frequent issue for conflict among the youngest children (Wilson, 1988).

Observational studies (Maudry and Nekula, 1939) suggested that approximately half of the interactions among children 12 to 18 months in a nursery school setting could be considered as disruptive or conflictful though there is no indication that the use of aggressive behaviour in and of itself increases a preschooler's prospect of winning (Shantz and Shomer, 1978). By contrast with prosocial actions the proportion of aggressive behaviour tended to decline with age. By two and a half years of age the proportion of disruptive interactions with peers has decreased to 20 percent. In the nursery school setting the children 12 to 40 months old showed few assertive behaviours directed toward adults (only 5 percent), and this proportion shifted only little across age. These conflicts are most usually disagreements concerning resources and space and have been considered by some researchers as neither aggressive nor hostile.

In fact Maudry and Nekula (1939) have deemphasized the social nature of early conflicts and defined them as "socially blind", or, in other words, different from conflicts amongst older children and adults in which negative affect and hostile intentions are more characteristic. This perspective has more recently been opposed by Hay and Ross (1982) who argued that "young children may be swayed by the social significance as well as the objective properties of the objects of dispute" (1982, p.106). Even though the early conflicts between infants and young children may not have all the attributes of the aggressive behaviour of older children and adults, the precursors of social regulation of aggressive interactions are most likely to be found in an analysis of these embryonic interchanges.

In the preschool research, agonistic encounters most often developed as a result of arguments over the possession of toys or use of apparatus and increased when the number of toys was limited. However, in addition to increased aggression, there were increases in sharing under situations of less equipment and in the size of groups playing together with the same toys. Aggression also increased when new and desirable toys were included, especially when they were toys that could be played with by one or two children at a time. Non-verbal indicators could reduce or prevent physical aggression; threat expressions were used in a process of conflict resolution which seemed to involve information transmission rather than physical fighting.

An investigation of the relationship between early social interactions and the development of aggression was conducted by Hay and Ross (1982) involving the conflicts of unacquainted 21 month old children.The greater part of conflicts (72%) were associated with object or possession disputes while the remaining struggles were either interpersonal arguments, as when one child's behaviour led to complaints or were opposed by the peer, or struggles involving

both object-related and interpersonal subjects. This study highlighted the social features of early conflicts; the data indicated that types of behaviour by children were differentially successful in persuading peers to relinquish. For example, instrumental behaviours (e.g. pulling a toy; active resistance) were more likely than communicative behaviour (e.g. gesturing; verbally requesting) to lead to submission. These results also indicate that children's behaviour within conflicts are not chosen randomly. Further evidence of the social or interpersonal characteristics of these conflicts comes from observation that conflicts developed over objects for which reproductions were available and because of the winner's inability to use objects that he had obtained. Obviously one child's possession of an object increased the peer's interest in the object. Together these findings stress the social quality of early conflict and are incompatible with statements that young children's conflicts are "socially blind".

Hartup and Laursen (1987) studied the role of conflict in the formation and maintenance of children's friendships and concluded that friends used negotiation more frequently than did nonfriends; they also effected more equitable outcomes, had less intense conflicts, and more frequently maintained proximity and continued interaction.

Wilson, (1988) examined: (1) the kinds of conflict in which preschool children between two and five years of age become involved; (2) the methods children use in dealing with such conflicts; (3) the outcomes of the conflicts; and (4) differences in behaviour according to age and gender of children. A total of 20 conflict situations were observed at each age, producing a total of 80 instances; some children were involved in more than one conflict. Instances were coded as possession conflicts, territory or space conflicts, course of play conflicts, or social intrusion or annoyance conflicts.

Laursen and Hartup (1989) observed that high levels of affective intensity were associated with aggressive encounters and one or both children enhanced the occurrence of inequitable outcomes and discontinuation of the interaction; thus it was more likely to occur between children who did not remain together after conflict, to result in winner/loser outcomes and in discontinued proximity or social interaction. If one child indicated subordination, this usually resulted in discontinuation of the interaction. The use of conciliatory resolution behaviours was more likely to result in continued interaction after conflict than was insistence (a strategy used more by younger than older children in the "heat" of aggressive conflicts). Also continual interaction was more likely to follow conflicts between friends; these were less "intense" than with associates, resolved more often with disengagement and to result more in compromise. However, one of the strongest predictors of behaviour after conflict was the kind of social interaction before it began. Thus, for example, children who were interacting before the conflict continued to interact afterwards, regardless of specific conflict. For most of the observed conflicts the authors concluded that they were: (1) brief and lacked aggression; (2) resolved without adult intervention by children's insistence; (3) resulted in winner/loser outcomes; (4) concluded with children remaining together after the conflict. Social interaction before conflicts was unrelated to conflict behaviours other than aggression.

4.3. The influence of the family in the child's social development

Since in western society the family is the child's first reference group, major interest exists in its influence on later extra-familial peer interaction.

Parents, siblings and peers are the special targets of early social responding because of their similar background and experiences and the child's emotional attachments which facilitate the emotional sharing and responsiveness

to others'needs. Radke-Yarrow and Zahn-Waxler (1984) and Thompson, (1987) reported the increasing sensitivity shown by children toward family members.

Children's relationships in family and with friends provide opportunity for the development of their ability to understand other people's feelings, intentions and relationships and to learn norms and principles. They will also learn about mutual help, cooperation and aggression. Parents may indirectly influence peer relationships through the nature of their own relationships with their children. However, parents may be trained to display behaviour as a function of contingencies supplied by children; they may be shaped by interactions with infants and children to initiate physical aggression if hitting terminates aversive child behaviour.

Links between patterns of parent-infant attachment and later social interaction in peer interactions have been reported by Easterbrooks and Lamb (1979) and by Pastor (1981) amongst others. Infants who develop secure attachments to their parents in the first year of life appear to show greater competence in their subsequent peer interactions; according to Kestenbaum et al. (1989) children with secure attachments at 12 and 18 months of age were found to be more empathic and prosocial toward others as preschoolers. Infants whose attachment is coloured by insecurity and anxiety differed significantly and in expected directions in their sympathy for peers in distress. Denham (1987) also found that attachment scores were related to social-emotional competence and certain aspects of maternal emotional socialization. The opportunity for children to learn to regulate affect in the context of parent-infant interaction was stressed as an important factor for later success in peer encounters. However further work is required to clarify the nature of the parent-child interaction that can explain the relationship between early attachment patterns and later peer interaction.

Hoffman (1987) connected the development of empathy in very young children with the developing concept of self and the emotions of anxiety, guilt and fear experienced when children fail to live up to the standards of socialization set by their parents. It has also been hypothesized that the parent's way of dealing with a child's own feelings of distress may have consequences for the child's capacities for empathy and concern for others. Also, the sharing of a common world of relationships and experiences (arousing diverse motives, such as concern, understanding and sensitivity of other's intention or mood, as well as rivalry) between siblings (especially if close in age or same sex) may be an important factor for the development of empathic tendencies.

Crockenberg and Bryant (1978) observed some factors that they hypothesized as contributing to the development of prosocial behaviour, namely the general modelling of prosocial acts, the rewarding of prosocial acts, an environment permitting one to convey one's own feelings and to recognize the feelings of others and appropriate use of control by the adult. Techniques such as reinforcement, punishment, exhortation or modelling have being suggested mainly by learning theorists as effective processes involved in the early appearance of prosocial behaviour specially when performed by an adult whom the child loves and respects. Grusec (1982) also stressed the parents' intermittent reinforcement of children's prosocial behaviours as an efficient process to maintain these responses once they have become established. In experimental studies of the use of contingent praise, reward or punishment to influence children's generous and selfish behaviours, an inconsistent relationship between positive reinforcement and children's generosity has been found. Although prosocial behaviour may sometimes be enhanced by positive reinforcement simple conditioning is often ineffective in bringing changes in prosocial responding. The provision of verbal explanation along with reinforcement or

punishment increases the effectiveness. Little is known about the durability of social responses acquired in this way. The extent to which some prosocial actions can be brought under control is considered to depend on conditions that apply generally to the conditioning of social behaviour.

There are numerous occasions for prosocial learning as infants observe their own caregivers tending to their basic needs, comforting them when they are distressed, showing and giving them interesting objects, and helping them to solve problems. Modelling by parents or others has been described as a useful technique in prosocial behaviour development. In earlier studies (Sears et al. 1957) theories of identification with the loved or feared parent were the framework for analysing the behaviour by the child that suggested adoption of the parent's behaviour. Findings generally show group differences in the generosity of children who have observed a model and those who have not. Wolff and Levy (1978) concluded that modelling played a major role in the experimentally-induced altruistic (sharing) behaviour. Grusec et al. (1978) for instance, found that adult modelling of helpful or altruistic acts, which the child observes, does increase the probability of altruism in a child who is watching compared with moral exhortations or preaching, though both do have some effect.

Many limitations of these studies have been pointed out mainly connected with the artificiality of laboratory or experimental researches as the experimenters are unfamiliar, the situations are artificial and some deception is involved. Also the validity of what is being measured in these conditions has been questioned, that is, if it is really helpfulness and altruism that is being measured or some kind of conformity to adult demands mainly in the case of more compliant or uncertain children who tend to go along with what the adult seems to be indicating. The fact that there was no effect of modelling at follow-

up periods would be consistent with this argument. Also in these studies only a single adult models a single dimension of behaviour: there are no competing models and no competing behaviours. Because the child's learning in everyday life takes place with various potential models who display a wide variety of behaviours, a central issue is the determination of factors influencing which models and which modelled behaviours are selectively adopted and rejected by the child.

Parents'influence on children's social development is not straightforward but multidimensional including, for example, specific acts directed to the child, continuing attachment relationships with the child, conditions and patterns of daily living, and parental conceptions and values of human behaviour. The data of developmental psychology only begin to identify contributory rearing situations for the development of children's social orientations and behaviour.

Some authors examining family composition and structure found that children from larger families were more generous than only children (Ugurel-Semin. 1952). The discrepancies in the mother's treatment of the two children were associated with an increase in negative behaviour between siblings and the children's friendly approaches to the adults and spontaneous sharing of confidences were most frequent in the democratic structure.

Other studies on the effectiveness of different parental techniques in the influence of prosocial behaviour (Gelfand et al. 1975) found that prompts and praise for donating were effective in enhancing donation rates in a group of children aged five to six years. Other studies have suggested that material reinforcement may be more powerful than social reinforcement for young children, and that the person who is giving the reinforcement is an important factor. The evidence shows that offering cognitive explanations, positive

exhortation or reward fosters prosocial behaviour. Similarly, experimental studies have indicated that the most effective way to induce resistance to temptation is to associate the threat of punishment with an explanation or cognitive rationale (Rushton, 1980).

Hoffman (1970) analysed a large number of studies relating parental rearing techniques with measures of either moral reasoning or moral behaviour. He elaborated a theory of parental influences on children's moral development based on a categorization of the dominant parental techniques into "love-oriented discipline" (which threatened withdrawal of affection or approval), "power-assertive discipline" (physical punishment or withholding privileges), and "induction" (explaining the consequences of actions) in which he compared the effects of power-assertive and reasoning techniques (Hoffman 1963; 1970). He predicted that induction would bring out empathic feelings and foster internalized altruism. In contrast emotional arousal with punishment that is power assertive would be expected to arouse fear and anger in the child because it is presupposed that the child will ascribe the cause of negative arousal to the external punisher, and so theoretically remains an external source of motivation. Its use would not be expected to promote altruism. With reasoning the child is prone to attribute the cause to his own transgression. A perceived external cause is expected to lead to less internalized control than perceived internal cause. This view has been the guiding orientation of many of the research studies.

In some studies "induction" is related to moral maturity whereas "power-assertive discipline" tends to be associated with moral immaturity. However, all possible relationships have been observed between power-assertive techniques and prosocial behaviours. One can imagine diverse explanations of this variance. The many characteristics of power assertion have not been identified in the research. Power assertion can differ in form, severity and rationality and in the

kinds of transgressions for which it is applied. Parents may use it indiscriminately; it may indicate a parent's angry state or it may be an expected cost for given severe transgressions. The effects of power assertion may depend on the purpose of this technique as part of a total system of parental attributes and techniques. Baumrind's (1978) research offered an indication in this regard. Parents of children who were most socially responsible were high in the utilisation of control procedures over their children's behaviour (which could involve power techniques); parents of children who were withdrawn and distrustful were high in authoritarian control techniques. Parents of children who were least socially responsible were low in control practices.

In summary, the research evidence on reasoning and power assertive techniques averts predictions about the consequences of either procedure on the child's prosocial behaviour, selfishness or guilt. The consequences of each technique on prosocial behaviour are uncertain. Power assertion (usually negatively related to children's prosocial behaviour) can be linked with other negative procedures on the part of the parent such as punitive power assertion (Olweus, 1980). Henry (1980) pointed out that the concepts are not clear-cut and there has been no dependable analysis of types of reasoning or power. For instance, the assumed opposition between power and reasoning techniques can be questioned as reasoning may be seen as authoritarian and the origin of authority in the reasoning is a pertinent concern. Reasoning has been connoted with parental influence based on justice and humanistic values. Neither reasoning that alerts the child of transgression nor nonmoralistic reasoning has been differentiated. Hence control techniques need to be more clearly specified in research. Also reasoning and love withdrawal may be not considered as unrelated types of discipline.

Hoffman (1963) found no relation between prosocial behaviour of three year olds and a global measure of nurturance (including attentive care, support, and feelings of love and acceptance). Baumrind (1971) also reported no significant correlation between nurturance and preschool children's social-responsibility scores. However nurturance was an important component. Staub (1971a) found that a previous period of nurturance enhances the probability of a young child's responding to another child's distress cry. However, some authors have observed that some children who are reared by disturbed parents also show sympathetic, helpful and responsible behaviour (Radke-Yarrow et al., 1983). In summarizing the diverse studies relating prosocial behaviour of the child to affective (nurturant) behaviour of the adult, it seems evident that nurturance by itself has not been an effective predictor of the child's prosocial behaviour.

Other factors which may be associated with children's sensitivity or responsiveness towards others may involve the child's feelings about self. Also the affective relationship may influence the child's feelings toward and conceptions of the caregiver thereby modifying not only the effectiveness of the caregiver's reinforcement and prohibitions but also the child's receptivity to direct teaching by the caregiver.

Other trends in the research on parental influence have investigated the interrelation among situations associated with the rearing environment and specific socialization practices. Staub (1979) alluded to situational provisions for child behaviour through the engineering of situations in which the child will be receptive to helping or sharing (Harris, 1972; Staub, 1979) thus increasing the possibility that the child will behave prosocially. This presupposes that a significant parental influence on prosocial behaviour comes from the sort of experiences or situations that parents present either on a principled basis or by the characteristics of their own life conditions. Parents intentionally or

unintentionally seem to create or manage situations in which prosocial or antisocial behaviour is possible, expected or encouraged - or in which it is not. Parents of young children specifically seem to have a considerable degree of control over the types of experiences to which the child is subjected including situations that involve exposure to the needs and distress of others. Parental techniques of modelling, power assertion, reasoning or reinforcement, seem to take place across quite dissimilar situations and it seems plausible that the effectiveness of certain techniques depends on the kinds of situations in which they are usually applied. Parents are, then, socialization agents who (1) control children's social learning environments and, (2) in those environments or settings they also control specific child behaviours. However child characteristics should be also considered possible significant modifiers of parental influence.

Although child rearing and social norms may influence children's behaviour and have been considered as relevant factors if integrated into the investigation of parental techniques, these are issues that can not easily be brought into the laboratory and thus very little is known in predicting their influence in the prosocial characteristics of children. Also, the specific techniques of parents occur within larger contexts that influence the form of parental practices and also the successes and failures of parents in achieving their childrearing purposes. Traditions of social, political, and religious philosophies may influence how prosocial or antisocial behaviour is regarded (the organization of work, community life, family structure, age and sex roles, and so on). In many respects these direct in what activities children may participate, the models available to them, their goals and challenges, and the systems of rewards and punishments they undergo.

Some of the conditions or properties usually associated with the concept of social class (e.g. parents'education, parents'work lives, neighbourhood and

housing, economic plenty or scarcity or interests) which define the context of childrearing and may influence goals, principles and practices in childrearing, have been related to children's prosocial behaviour. Overall the research results in this area are not unequivocal. Kohn and Schooler (1973) found that middle class parents were twice as likely as working class parents to choose self-control as an important child attribute and that fathers were more likely to declare using physical punishment the more closely they were controlled or supervised at work. They demanded subjection, service, authority from their children and wives as they required from their bosses. Wuelner (1969) concluded that the aggression threshold for children of middle class parents seemed to be higher; it took more for them to be aroused to aggression as they view aggression as more of an extremist kind of behaviour, a last resort when all else fails and thus to be avoided or replaced by alternative behaviours more amenable to everyone involved. Other authors, such as Madsen (1971) found Mexican urban poor or rural poor children significantly more cooperative than urban middle class children. Social influences via direct interaction (as in the child's interaction with the parents or peer), the settings in which the behaviour occur (and which may facilitate or interfere with prosocial actions), the interpersonal responsibilities assigned or assumed at home, school, or societal settings and the influences of society on modes of thinking, norms of behaviour, and conditions of life, all provide possibly different developmental demands and opportunities for prosocial behaviour. The properties that distinguished cultures might be expected to render different experiences or pressures in children's life that would in turn determine diverse types of relationships or interpersonal behaviour. There are particular institutionalized messages frequently repeated which pertain directly to human needs, distress, justice and injustice, and approved and disapproved reactions in human interactions. In developmental research societal norms of responsibility, reciprocity, cooperation or competition are also

presupposed to underlie social behaviour. Whiting and Whiting (1975) reported that cultures in which children had higher responsibilities in task assignments were cultures in which the children had higher prosocial scores. Peterson et al. (1977) related children's behaviour with the knowledge of principles of reciprocity and social responsibility and found some discrepancies between children's behaviours and their principles which implies that knowledge of a norm is not sufficient for the corresponding behaviour to be performed.

4.4. Summary

The research reviewed in this chapter suggests a multiplicity of factors which determine the content, direction and development of a young child's social encounters. Some features of the environment and the social context seem likely to influence frequency and intensity of aggression and of prosocial behaviour all of which are certain to co-vary in an observational study of a group of children of nursery school age. The chapter also suggests a number of ways of characterizing the social structure of groups and a bewildering array of manifestations of the underlying basis of attraction and of the comparatively stable individual differences among young children. Global dimensions such as dominance, friendship and aggression have been employed to describe the relations between them. From a behaviouristic perspective peer interaction could be described as a group of events that are reinforcing and which children use with increasing frequency as they become older. Whatever explanation is adopted it is clear that children's actions are not chosen randomly. Some of the research reported presents evidence that children actively and selectively establish differential relationships that are stable over time. Authors like Martin and Dreger (1983) demonstrated a significant behavioural continuity and intra and inter-individual stability in the early structuring of social behaviour. Some children (friends, popular children) received quite consistently more peers'sympathetic attention

than others. This suggests that children's expression of aggression or prosocial behaviour may take into account factors such as friendship and dislike. Children seem consciously to choose behaviour within the context of a particular relationship which maintains it over time. This is inconsistent with the Piagetian conception of the young child as prosocial or egocentric. A social framework based on reciprocal regulation and control has been observed in the nursery in the interactions among young children though they might not reflect upon these characteristics verbally.

In the nursery, children are expected to engage in particular activities with specific individuals. The interactional possibilities are necessarily constrained in such contrived settings; structural features intrinsic to an activity area per se can dictate interactional possibilities; thus different areas may induce different possibilities for social interaction. It seems important, therefore, to consider the contextual conditions in which behaviour occurs in a study of children's interactions. However, though interactions may reflect environmental contingencies it is unlikely that children's interactions can be explained only in terms of the physical context within which they occur. This is because children are able to manipulate environmental constraints; the social context can also be based on children's organization of their relations. The course of their activity can be directed within the framework of contingencies dictated by particular relations which they establish within a specific activity.

Expectations (e.g. sharing and reciprocity in friendship) appear early in the child's conceptions of interpersonal relations. Children distinguish between friends (those with whom they have common activities, play together, or possess interesting things) and disliked children (those they consider aggressive or expressing behaviour which violate the rules). Much of peer playful behaviour consists of conflict and negotiation. Some authors have found that the type of

social interaction observed before a conflict to be the strongest predictor of behaviour after the conflict has ended. Thus, for example, children who were interacting before the conflict continued interacting afterwards, regardless of specific conflict. With associates, the conflicts were less intense and resulted more in compromise. High levels of affective intensity were associated with aggressive encounters and more likely to occur between children who did not remain together after conflict. Some studies have shown that the reciprocal influence of a peer dyad in controlling, eliciting and maintaining the behaviour of the other acts in such a way that behaviour of children tends to elicit similar acts from others. In this view, negative reinforcement rather than positive reinforcement plays an important role in aggression control in the peer context of coercive cycles of aggressive interaction.

Peer interaction may change or maintain behaviour through selective reinforcement but one must also take into consideration context-specific or more general rules (such as gender-appropriate behaviour) that young children have a clear perception of in the nursery. For example, positive and negative reciprocity norms have often been found in interactions among young children. However, though behaviour has been found to be reliably reciprocated by peers this norm is not always consistently applied; for example, children of high sociometric status have been observed to receive more help than they gave while low sociometric status children gave more help than they received. Also, reciprocity was stronger when the recipient was liked by the giver than when the recipient was disliked.

Other interesting findings concern the fact that aggression not only appears to be associated with clearly frustrating negative events but also when children are observed in familiar environments or in their own homes or in low structure situations in which children spend more time in self-organized or self-

initiated activity or play and which presents more novel behaviour. Young boys have been observed to spend more time in low structure self-organized activities often in rough, boisterous, physically active play which is consistent with the traditional sex-role stereotypes in which males exhibit a quest for autonomy or rebellion against authority. Boys observed in many studies have been seen to behave more aggressively than girls. On the other hand positive interactions and behaviour toward others not only appear in cooperative goal structures but also in threatening environments. Environments with less equipment or a reduced number of toys elicit not only aggression, but also an increase in sharing.

Aggressive, assertive or prosocial behaviours may be directed more often to those with whom children have greater contact as shown in some of the empirical studies on siblings, friends or children of the same sex. Older children have also been observed to initiate prosocial and combative behaviour more often than younger children and submitted less often to dominant behaviour. Although older children had greater competence (capacity for empathy and role-taking) to behave more prosocially other factors such as concerns with individual achievement and competition or right to privacy lead toward inhibiting or decreasing prosocial responses.

Children in a close relationship or having an intimate knowledge of each other often show warmth, friendly social behaviour and some physical aggression. Positive (prosocial) and negative (aggressive) behaviour seem to be directed when sociability in general is facilitated such as between same sex peers or friends. Although friends usually choose to work under cooperative conditions more often and pay closer attention to equity rules in their interactions, competitiveness can sometimes be observed in the interaction between friends more frequently than among non-friends. This may suggest that boundaries between acceptable and non-acceptable behaviour may be more versatile in a

closer relationship. Friends may allow a wider latitude of behaviours including disapproved actions as these may not seem part of actor's identity whereas if a child is disliked, unattractive behaviours may be viewed as an integral part of his personality. Even young children seem to respond to others on the basis of perceptions of what sort of person the other is, but expectations and stereotypes may not be rigid at an early age.

Age changes in aggression seem to reflect a greater personal hostility in its expression as the child becomes older. Negative reputations may contaminate the spectrum of potentially positive interactions and stigmatized children less likely to receive or make friendly overtures; peers may react in a more negative way to stigmatized children, they may elicit aversive responses on the basis of their reputations rather than on their immediate behaviour (which can even be at certain moment prosocial). This may reinforce the continuation of hostile exchanges and the presence of fewer positive exchanges with disliked children mainly in later childhood. Early in development aggression is generally viewed not so much as an expression of personal hostility but as specific behaviours children have learned in order to protect themselves against the possibility of being victimized or to maintain some control over the environment.

Prosocial or aggressive behaviour (positive rewarding or unfriendly punitive social behaviour) is quite commonly shown by the same child to others. However, there is a wide range of individual differences and diverse aspects of both positive and negative social behaviour which do so not form a simple pattern or dimension of warmth/hostility. The few studies carried out in this area have resulted in an inconsistent succession of findings and controversy as will be shown in the following section where the dimensions of children's interactions to be investigated in this research will be examined.

CHAPTER FIVE

RESEARCH AIMS, PREDICTIONS AND QUESTIONS

> The providence has made our interests and our duties coincide perfectly...
>
> (Thomas Jefferson, quoted in Mansbridge, 1990)

5.1. Assertiveness, aggression and prosocial behaviours

5.1.1. Research questions

Based on research among young children described in the previous chapters, one of the most important assumptions which supports this work is that young children are active intentional human beings whose behaviour is purposive and self-directed. They act upon their social world in a way which take into account the properties or demands of the social context. They actively and selectively use behaviour (positive or negative, punitive) in order to change or maintain different social interactions or to manipulate environmental or social contingencies. Selective use of aggressive, assertive or prosocial behaviours is assumed to produce, change or maintain differentiated environmental conditions or social interactions. For some children, aggression and assertion are associated with various categories of prosocial response leading to a pattern of high social sensitivity (Muste and Sharpe, 1947), responsiveness or power to influence the situational outcomes. The common factor is the child as agent.

Based on these assumptions, spontaneous prosocial, aggressive and assertive behaviours can be adopted by young children in order to change, re-

create, re-establish or modify their physical or social environment in the direction of a more desirable state of affairs ("desirable", that is, by self or other).

This can be illustrated by the following diagram:

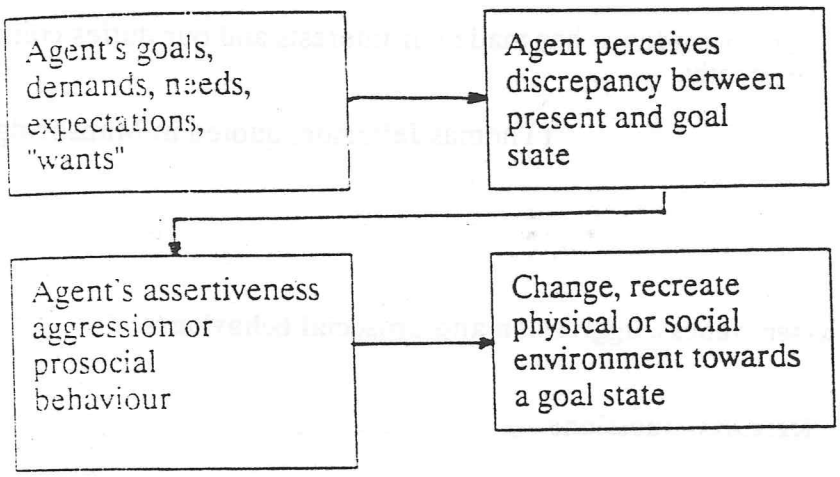


Figure 1:

Phases common to assertiveness, aggression and prosocial behaviour

In this diagram only the spontaneous (self-initiated) prosocial behaviour is considered. As stressed in chapter two the distinction between spontaneous or asked-for (other-initiated) prosocial behaviour seems essential (Radke-Yarrow and Zahn-Waxler, 1984) as the latter often involves compliance to another party's request.

The paucity of research involving the relationship between prosocial, assertive and aggressive behaviour in young children is marked, in spite of the importance of these behaviours in children's social ecology. The few existing studies have concentrated mainly on the relationship between aggression and prosocial behaviour: it has been found to be of an inconsistent pattern and has generated controversy as shown later in this chapter. Possible reasons for the

inconsistent results obtained in empirical work may be associated with the non-unitary nature of these behaviours as was stressed in chapter two. In fact, a very restricted group of actions has been manipulated or observed in research in this area some of which have been trivial and not meaningfully representative of the reality of children's experiences (Yarrow et al., 1975) and, therefore, did not have a general or appreciable effect on the important dimensions studied. In principle there has been increasing understanding that aggressive, assertive, prosocial behaviours cannot be dealt with as one undifferentiated class of behaviours or as homogeneous entities. Few authors have investigated how different categories of behaviour are related. For example, most of the empirical work has not distinguished between prosocial behaviour initiated by self or in response to others, has dealt mostly with positive assertion or limited its study of aggression to different forms of physical or verbal aggression. The need to acquire more knowledge or information about the complex nature of these behaviours and the circumstances in which they occur has prompted this research to include several categories of assertive, aggressive and prosocial behaviours (operationally defined in the next chapter) and will aim to answer the following research questions:

(i) What is the relationship between differentiated categories of behaviours used to represent the assertive, aggressive and prosocial theoretical constructs? Are they measuring the same phenomenon?

(ii) What are the characteristics (frequency and distribution) of the principal behavioural categories and subcategories among the group of children studied?.

(iii) Are sequences of assertive, aggressive and prosocial behaviours identifiable? Is their occurrence best described as random or systematic? Which

specific situational factors precede each type of behaviour and which follow them?

(iv) Is there a tendency towards reciprocal or asymmetrical assertive, aggressive or prosocial interactions?

The predictions about the relationship between these behaviours have been derived from the main theoretical assumptions and empirical work and will be presented next.

5.1.2. Relationship between assertive and aggressive behaviours

Assertiveness is a construct relatively unexplored in empirical work involving young children. It seems to include different forms of behaviour which are not well differentiated and thus needs to be further studied.

As pointed out in chapter two, the child begins very early to resist the demands of others and to make requests so that his partner changes his behaviour. As in the case of aggression these behaviours may also appear when the child attempts to control, direct or regulate another person mainly where there are conflicting or inconsistent needs. However, aggression implies the use of noxious or unpleasant stimuli such as threats or punishments; though it may be effective in gaining compliance or in asserting one's rights, it also increases the potential for counterattack. Assertiveness is considered a more socially acceptable expression of the person's rights and feelings; the person tries "to get his own way" without applying violence or hurting another. As assertion does not necessarily require punishment or threat of punishment it diminishes the possibility of negative reactions from recipients. If assertion fails, however, it may easily lead to an escalation of conflict and often recourse to threat.

Assertiveness and aggression in young children have been viewed in terms of what has variously been labelled "autonomy", "independence", "mastery", or "initiative", enhancing independence and protecting the child against a variety of unpleasant stimuli or perceived threats. Hold-Cavell (1985) demonstrated that young children who were assertive also engaged often in physical aggression; these children were ready to defend their space, objects, or status or even to challenge the status of another child.

As can be inferred from what was said in the previous chapters, most often the primary goal of aggression is not destruction but - especially among young children - is to change the situation to satisfy a particular need or desire (e.g. for attention, communication, development of interpersonal relationships or to obtain something tangible) or to end or modify the behaviour of an aggressor (to defend one's own or others'rights). Montagu, (1975) considered aggression as behaviour related to the motive of humanity as the "struggle to master anxiety" an expression of what in free-living animals is called the "self-preservation" instinct. Anxiety and hate can be observed as an expression of apprehension or discomfort at the frustration or threatened frustration in the important motive of, for example, the infant's longing for his mother. Elicitors of aggression are thus often associated with frustration-produced environmental or interpersonal stressors which have ego-threatening properties. Situations of conflict and threatened self-interest are encounters in which the child's aggression or assertiveness may be expressed and fostered.

Hartmann et al. (1949) suggested that assertion and aggression have evolved from a common source. According to them, the energy associated with assertive behaviour comes from aggressive drive energy, although probably sublimated or thwarted. They considered assertion and aggression within the construct of "ascendance". Both may enhance or reflect the young child quest for

autonomy and independence or protect against a variety of harmful situations or threats. The parallel between assertion and aggression seems more evident in case of negative assertion, i.e. disagreeing or denying unreasonable requests or non-compliance (when standing for one's own rights).

In the light of what was said above and in chapters two and three, a positive and significant association between aggressive and assertive behavioural categories in young children is predicted. The specific situational factors which precede and follow these behaviours will be analysed. Assertive and aggressive behaviours may be expected to appear associated, mainly in situations in which the individual has to cope with specific environmental or personal "stressors" as illustrated in the following diagram:

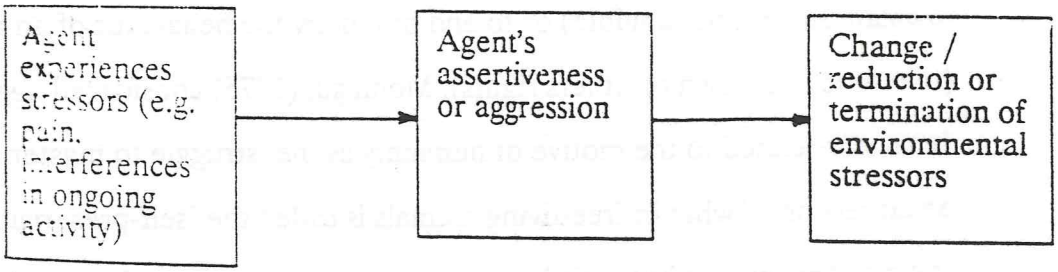


Figure 2:

Phases in aggression and assertiveness

5.1.3. Relationship between assertiveness and prosocial behaviour

Associations between assertiveness and some aspects of prosocial behaviours have been explored in previous research mainly with older children. Yarrow et al. (1975) considered assertiveness as a quality that might be expected to be associated with the ability to act on behalf of another person. Marcus (1977) suggested an association between level of assertiveness and helping. Children who are assertive and confident in their relationships with others have

been found to have the higher scores on prosocial indices (Aronfreed, 1968; Barrett and Yarrow, 1977; Lenrow, 1965; Staub, 1971a). Barrett and Yarrow (1977) found that six to eight years old children's level of inferential ability mediated the relation between assertiveness and prosocial behaviour. Assertiveness and prosocial behaviour were correlated only in the case of children with high inferential ability. However, and in line with other studies, these authors have considered only a very limited range of measures and did not distinguish between spontaneous and asked-for prosocial behaviour. Eisenberg et al. (1984a) showed that children who most often refused to comply with requests for sharing were those who engaged in many social behaviours and were assertive with peers whereas children who complied with requests for assistance made by others were relatively dependent and submissive. This work points to a negative relationship between assertion and asked-for sharing. However, although the empirical evidence relating to these constructs is almost non-existent in the case of young children, the prediction of a significant positive relationship between assertiveness (e.g. initiating social interaction through requests, directives or physical leading) and spontaneous prosocial behaviour seems to be theoretically justified.

5.1.4. Prosocial and aggressive behaviour: a controversial dichotomy

5.1.4.1. Considerations

Prosocial and aggressive behaviours have been studied independently of each other in most of the reported research. Researchers have tended to contrast prosocial ("good") with aggressive ("bad") behaviour. Arising from this dichotomy, intervention strategies or programmes have been designed to increase the former and to decrease the latter especially among children showing social "deficit skills".

Conceptually, too, prosocial behaviour is understood and defined by contrast with coercive or aggressive behaviour. Prosocial behaviour is considered to provide positive consequences for the recipients, to promote or sustain positive aid or benefit to another person. To this definition is sometimes added the condition that aiding or benefiting are actions which should be carried out without the actor's anticipation of external rewards and may even entail some cost, self-sacrifice or risk on the part of the actor. Aggression by contrast, while having punitive consequences resulting in cost or personal injury for the recipient, may also benefit the actor leading him to achieve some reward (economic reward or dominance over others). Prosocial behaviour has been associated with social competence but aggression with social skill deficits, personality or conduct disorder.

Intuitively, aggression and prosocial behaviour are incompatible within a single behavioural sequence. It is not surprising therefore that an early study by Murphy (1937) showing that nursery school children who were inclined to express sympathy were also those more inclined to express aggression had not attracted further interest at least over almost a quarter of a century of investigations (Barrett and Yarrow, 1977). Yet in day-to-day and in more systematic observational studies of young children (such as the one reported by Dunn and Kendrick, 1982) one finds that aggression and prosocial behaviour co-exist or follow in quick succession. Many contemporary studies suggest that prosocial behaviour may also be carried out by the child because of a concern for his own's needs (for example, when a child helps or offers and gives objects to others as a way of initiating play or engages another in interaction) and an aggressive act may be performed out of a concern for another's needs (e.g. when the child punishes the cause of someone's distress or tries to protect and defend a younger child). Prosocial behaviour may also be associated with maladjustment

as a way of resolving inner conflicts by reaction formation (as for example in Ekstein's reviews of cases of pathological altruism - Ekstein, 1978) and aggression with mastery, a way of defending own's or other people's rights, of maintaining identity and individuality or a safeguard against predatory attack.

Many authors have described the empathetic process in which children incorporate others'interests and feelings in such a way that they become their own. Empathy makes possible an "altruistic" process of identification in which another's pain is transformed into personal distress and another's pleasure into personal pleasure. Many empirical studies have demonstrated that preschool children are sensitive to the needs and feelings of their peers, may feel responsible and distressed by others'suffering and react to the hurt of their or another's victim with guilt or anger and therefore attempt to overturn any harm by being supporting or protective. In such cases, children would provide assistance (or help) either motivated by the desire to relieve one's own aversive state of arousal (personal empathic distress or self-orientated emotions such as anxiety or worries) or by concern for the other's distress. Prosocial behaviour may thus be performed because of a child's experience of anothers'affective states and be self-reinforcing. Under these circumstances prosocial behaviour has been considered as a response to aggression, anxiety and guilt.

Jencks (1990) argued that empathy may be an important variable not only when considering another's needs but also when anticipating what we as persons will become or how we will feel if we choose a given course of action. The psychological processes that lead the individual to take into account the welfare of others should probably be the same as the processes that lead the individual to take into consideration his own welfare. But to take into account his own and other's possible antagonistic interests may entail a multitude of conflicts and of mixed motivations underlying either prosocial or aggressive behaviour.

Conflicts can be avoided when all interests (of self and of others) intermingle in people's actions such as in the context of cooperation. But what Holmes (1990) has called "disinterested malevolence" or "selfless cruelty" (i.e. being cruel in the name of others, an ideal or even for the benefit of the victim), challenge any simplistic dichotomy between "good" prosocial and "bad" aggressive behaviour. The mutual hostility of subgroups which often prevents the subject from giving assistance to another person, has also been seen a result of (selective) identification with (and loyalty towards) some human beings to the exclusion of others. Its advantage for the actor may be questioned.

Situations in the nursery, in which aggression and prosocial behaviour seemed to imply the presence of one another have been described by Isaacs (1933) when the child forms close relationships with particular individuals. The contrastive nature of prosocial and aggressive behaviours seemed in fact, to strengthen the bond; a sense of "togetherness" or "warmth" within a group seemed to be fostered and heightened by the shared enmity towards an outsider. Forming an exclusive relationship with certain individuals entailed establishing boundaries, maintaining inter-group differentiation, an interpersonal division separating friends and non-friends expressed by alliances or aggression within groups against non-members. But the private interests of young children in a group could also diverge and Isaacs (1933) found that they quickly stopped cooperating either when an activity lacked appeal for themselves or when the actions of others were undermined by their own self-interest. In these instances defection or non-reciprocation would abate the cooperator's "we-feeling" and the prosocial behaviour would be extinguished over time or even replaced by punitive behaviour toward those who were not behaving with sufficient altruism towards the actor (or were taking advantage of his previously altruistic behaviour).

5.1.4.2. Relationships in empirical studies

Few correlational studies of the relationship between aggression and prosocial behaviour in young children have been carried but those which have been undertaken have produced variable results.

Yarrow and Waxler (1976) found a complex relation between prosocial behaviour and aggression and stressed the need for more research which could provide information about the conditions under which children can behave both aggressively and prosocially. They obtained positive, negative and zero correlations between the variables depending on the absolute level and amount of aggression received. If aggression was infrequent or moderate, more assertive" than "hostile", more situationally related than expressive of widespread hostility, then this kind of aggression was expected to be associated with prosocial behaviour. Prosocial and aggressive acts in Yarrow's study were positively related for boys who were low in aggression but negatively related for highly aggressive boys. High levels of aggression, however, would be associated in an unpredictable way with prosocial behaviour. The pattern was not applicable for girls whose general level of aggression was lower than that of boys.

In an early study, Muste and Sharpe (1947) showed that preschoolers with the lowest frequencies of aggression also had the lowest scores on social participation. These authors observed the children's prosocial and antisocial interactions to acquire more information as to when and with whom the behaviours developed. Some socially active preschoolers emitted and elicited considerable amounts of aggression and sympathetic or prosocial behaviour but anti-social activity did not affect popularity; their effects were short-lived and easily forgotten or reversed by subsequent pleasant behaviour. For some children frequent aggression (which seemed to be more a reflection of child's social interest and activity than of hostility) was combined with a variety of other types

of social responses and gave a pattern of high social sensitivity and responsiveness. Conflict could be inferred from the reactions of some children (i.e. responses of aggression and sympathy following each other in close succession) which may probably depict early evidence of feelings of anxiety and guilt concerning their own aggression. Guilt over aggression and hence, reparative or prosocial behaviour may be observed in association.

Friedrich and Stein (1973) described positive associations between frustrating stimuli, interpersonal aggression and prosocial behaviour in preschool children. According to these authors this relationship appears to indicate that some children were more actively social than others. They manifested more of all types of interpersonal behaviour; thus, aggression would probably result from an increase of social interaction.

Not all enquiries have produced clear-cut results, however. Marginal negative relationships between aggressive and prosocial behaviour have been described by Rutherford and Mussen (1968) and by Harris and Siebel (1975) whereas Bryant and Crockenberg (1980) revealed no relationship. Thus it appears that a simple conclusion of a positive association between aggression and prosocial behaviour is not tenable. Level, origins of aggression and context of interaction, sex of child as well as kinds of prosocial behaviour (generosity, protecting the underdog, sympathy) are, according to these authors, among the modifiers of the significance and the direction of relationships.

The lack of consistency and even the apparent contradiction of some of the results reported may also be associated with the use of different variables to assess the criteria. Most of the researchers have limited their studies to a few undifferentiated behavioural categories of aggression (e.g. instrumental vs. hostile aggression) or of prosocial behaviour (most do not distinguish between

the spontaneous and asked-for dimensions of prosocial behaviour) which may hypothetically even have opposite relationships (e.g. "asked-for" prosocial categories may be associated with compliance, obviously not related with the construct of "ascendance" or "dominance" attributed by some authors as associated with aggression and assertiveness, as mentioned before). Also, very little is known, about the social context in which these behaviours appear. In fact, Radke-Yarrow and Zahn-Waxler (1984) pointed out once more the importance of investigating the conditions under which children are both aggressive and prosocial. More evidence and knowledge about the interactive influences of giving and receiving aggression and prosocial behaviour could promote the development of more efficient strategies to help the child to cope with the difficulties associated with the development of social relationships.

In summary, prosocial and aggressive behaviour may be shown by the same young children to others. Considering what has been said in this work about the relationship between aggressive, assertive and prosocial behaviours, we might expect a positive relationship between spontaneous prosocial behaviour and aggression in young children.

One of the main aims of this work will also be to provide the information that authors such as Yarrow and Waxler (1976) and Radke-Yarrow and Zahn-Waxler (1984) have repeatedly requested about the circumstances under which children can behave both aggressively and prosocially.

5.2. Relationships of assertiveness, aggression and prosocial behaviour with other variables

As already mentioned, prosocial or aggressive behaviour have been commonly observed to co-occur in the interaction between a young child and others. However, there is potential for individual differences: some children may

behave, more frequently, prosocially but others more aggressively. Empathy and self-control have been considered as important variables mediating social behaviour. The importance of including these variables in this work comes from the prospect of studying their effect on the possible individual differences which might be found associated with the frequency and types of assertive, aggressive and prosocial behaviours observed in young children. More specifically, the main aims associated with the inclusion of these variables are: (i) to analyse the relationships between these variables and children's (assertive, aggressive or prosocial) interactional styles; (ii) to see if there are relationships between the distribution of assertive, aggressive and prosocial behaviours by agents to recipients and differences in children's empathy and self-control.

The empirical work showing the relationship between these variables and aggressive and prosocial behaviours will be summarized next as well as the predictions for these relationships in this research (no noteworthy studies were found relating these variables with assertiveness in young children).

5.2.1. Empathy and prosocial behaviour

Research in this area has attempted to examine the relationships between empathy and prosocial behaviour. Because empathy often occurs in response to another's suffering, it has been considered as predisposing the individual to help others. Feshbach (1977) mentioned that many theorists consider empathy (especially in the sense of sharing another's emotional responses or distress feelings and the alleviation of vicarious distress) as having a central role in altruistic response, and others as one of a number of possible antecedents for altruistic or helping behaviour. Marcus (1978) stressed that cooperation and altruism require behaviour adapted to the feelings and needs of the other.

Mussen and Eisenberg-Berg (1977) described empathy as a chief motive for altruism. Empathic concerns appears to motivate the child's prosocial behaviour as young children make references to others'needs when justifying their prosocial acts. Moral motives such as feelings or sentiments of benevolence, sympathy, compassion or pity as well as moral principles based on reason have been acknowledged as playing a central role in moral behaviour.

Hoffman (1987) interpreted empathy as an ability to transform another's pain in personal distress leading individuals to feel responsible for the suffering of others and, incidentally, turning helpee's pleasure into helper's pleasure. This author found that empathy (including a tendency to feel guilt over harming others) is more prevalent in girls than boys. Hoffman (1976b, 1982) presented research evidence that empathic and sympathetic distress and guilt feelings function as motives for moral action. However, according to the definition of empathy (arousal of empathic feelings) it does not lead directly to attempts to assist others. In some cases empathic arousal in reaction to another's need or distress leads to feelings of personal distress and self-focus. An individual can also empathize with a variety of affects - including happiness, sadness, anger - but should not be expected to act in a prosocial manner in all circumstances. Thus the relation between empathy and prosocial behaviour is not direct; there are other factors that must be considered when one is attempting to predict a relation between the two. According to Hoffman (1987) a child's empathic response usually includes two components: a wish to end the other's distress - the sympathetic distress component - and a more purely empathic wish to end distress in the self. The pure empathic component is both egoistic and prosocial. It functions prosocially because the other's distress must be relieved if one's own distress is to end.

Leiman (1978) showed four and five-year olds a videotape of a peer's sad experience (a collection of marbles was stolen). Children's facial expressions during the viewing were rated. Children whose facial expressions had been rated as more empathic offered significantly more marbles for the peer. These results were not observed by Sawin (1979) who found no consistent correlation between children's facial and vocal expressions as they responded to the Feshbach and Roe (1968) test of empathy and prosocial behaviour.

Marcus (1978) reported a positive correlation between cooperation and empathy in young children. Eisenberg and Miller (1987) showed that both trait and state empathy were positively related to prosocial actions.

Underwood and Moore (1982) pointed out that findings relating empathy to altruism have not been consistent probably due to the variety of measures which express different empathic processes. Although cognitive factors may also be implicated some studies suggest that the emotional and not the cognitive aspect of empathy most strongly predicts behaviour on behalf of others (Rushton, 1980). It is also possible that perspective taking, for example, affects helping only as a result of its effect on empathic emotional response (Coke et al., 1978). Sensitivity to affective cues has been found to distinguish empathic from nonempathic individuals; only when affective indicators are included do lower aggression and higher prosocial behaviours result for empathic but not nonempathic subjects (Feinberg, 1978; Mehrabian and Epstein 1972).

Eisenberg and Lennon (1980) studied the relation between prosocial behaviour and empathy among four and five year olds using a modified version of the Feshbach empathy measure. Prosocial behaviours were assessed naturalistically. They found spontaneous prosocial behaviour negatively related and asked-for prosocial behaviour positively marginally related to empathy

measures. In Iannotti's study (1985) spontaneous prosocial behaviour was also unrelated or negatively related to structured measures of social perspective taking; however, inferring another's emotions based on affective cues was a predictor of sharing and spontaneous prosocial behaviour while recognizing another's affect based on situational cues was related to helping an adult in a structured setting and was a predictor of eacher requested prosocial behaviour. Situational cues would specify the kind of help required. The absence of consistent relationship between perspective taking and prosocial behaviour suggests that perspective taking development cannot presuppose the presence of prosocial behaviour. Although perspective taking may be evident in specific prosocial acts, competencies in perspective taking do not increase because the capacity or skill to understand the point of view or cognitions of another may also help the child to find alternatives to prosocial behaviour. However, these relationships have been too context specific to generalize to other settings involving perspective taking.

In summary, many studies have attempted to show a positive and direct relationship between empathy and prosocial behaviour. However some inconsistent correlations have been obtained in studies involving young children. This should lead according to authors such as Feshbach (1977), to a reexamination of the concept and the techniques which measure it. Considering that empathy is also not a unitary phenomenon a wider examination and measurement of its dimensions seems to be required.

Though the empirical data regarding hypothesized relations between empathy and prosocial behaviour is somewhat equivocal this relationship seems to be theoretically justifiable according to authors such as Iannotti (1985) and Strayer (1980). This is either because of an individual's sympathetic concern to relieve a needy other's distress or in order to relieve one's own negative affective

state caused by empathizing (Batson et al., 1981). The assumption is that children who respond empathically to others'distress or sadness are more likely to assist than are less empathic children. Having once acknowledged the other in need (recognizing the affective cues) the individual may experience empathy or sympathy and feel motivated toward (prosocial) behaviour to benefit the other. Responding to the needs of others without an explicit request would suggest that children understood the feelings and motives of others (perspective taking) and act on this awareness.

In this work a positive and significant relationship between prosocial behaviour and empathy will be expected. This relationship can be simply illustrated by the following diagram in which the agent is assumed to be high in empathy:

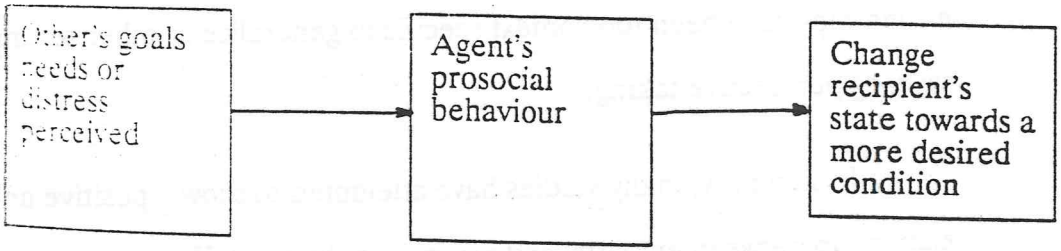


Figure 3

Phases in prosocial behaviour

This diagram is intended to portray the hypothetical events consequent upon the agent's motivation to reduce the distress of the recipient and interprets the occurrence of prosocial behaviour as a consequence of empathic identification. However, exactly the same positive relationship would be predicted from the alternative motivational principle in which the agent - sharing the recipients'distress - acts prosocially in order to reduce his or her own feelings of discomfort. It would clearly be extremely difficult, if not impossible, to

distinguish which of these two explanations has greater validity and, indeed, both sources of discomfort could conceivably be reduced concurrently. To examine this issue further at this point would be to enter the controversy as to whether or not altruism exists which is unnecessary in a section whose principal concern is to set up an observational study.

The methodological problems associated with the measurement of empathy will be summarily exposed in the next chapter. Empathy will be operationalized in several ways using affective, cognitive and motivational dimensions. The analysis of the relationship between these differentiated dimensions of the empathy construct, that is, to see if they measure the same phenomenon, is another aim of this research.

5.2.2. Empathy and aggression

Because observation of unpleasant or painful consequences is expected to elicit distress responses in an empathetic observer (even if the observer is the instigator of the aggressive act) empathy as a vicarious affective response would be expected to act as an inhibitor of the instigator's own aggressive tendencies. High empathic children should thus undergo intense distress or evidence of feelings of anxiety and guilt over the distress response of a child who is the object of his aggressive behaviour and, hence, not only end aggressive behaviour before the object of aggression suffers serious injury but also show reparative or more generally prosocial behaviour following in close succession or association with his own aggression. On the other hand children whose behaviour is modulated by an empathic concern may attend to more information about others while less sensitive children may ignore information about others or attend only to immediate situational factors. In the light of the important characteristics of

empathic inhibition one would predict a significant inverse relationship between empathy and aggression.

Staub (1987) stressed that if empathy is a source of connection, openness to experiences among people or the participatory joining with or being connected with some people, then this might be expected to imply separation from and hostility towards others. Though empathy, guilt feeling or sympathetic distress, have been acknowledged as having an important role in diminishing aggression, empathic injustice or anger includes a disposition to intervene and protect the victim and may lead to retaliation. If the cues indicate that someone else has caused the victim's problems, one's attention may be diverted from the victims to the offender. One may feel anger at the offender because one sympathizes with the victim and, because one empathizes with him, might feel oneself vicariously attacked. One's responses may also alternate between empathic and sympathetic distress and empathetic anger.

Feshbach (1977) considered the affective component of empathy as having a special relationship to the regulation of aggression. The observation of unpleasant consequences would be expected to elicit distress responses in an empathetic observer even if he is the instigator of the aggressive act. The painful consequences of an aggressive act through vicarious affective response of empathy would then function as inhibitors of the instigator's own aggressive tendencies. Considering the important property of empathic inhibition one would predict that children high in empathy would manifest less aggression than those low in empathy. A significant inverse relationship has been found between empathy and aggression among older children but not with young children. Murphy (1937) noticed that children who are active in a situation calling for an aggressive response are apt to be active in a situation calling for a sympathetic response. However, the distress response of a child who is the object of an

aggressive act should produce distress responses through empathy in the aggressor thus leading to the termination of aggressive behaviour before the object of aggression suffers severe harm. Though clear in theory, these relationships have not yet been subject to reliable demonstration.

Considering that aggression unlike assertiveness may lead to other's hurt or humiliation, a high empathetic child would be expected to express less aggressive and more assertive behaviours in his social interactions, even in threatening and frustrating situations. Thus, one of the aims of this work will also be to observe if empathy is differentially related to aggressive and assertive categories.

5.2.3. Self-control

As mentioned previously, Fagen et al. (1975) considered self-control as mastery of impulses in the process of active self-assertion; the capacity to regulate and inhibit own's behaviour in order to cope with the situational or other demands. Pressley (1979) pointed out that altruism involves self-control because when children are altruistic they are not as self-gratifying as they could be in the situation. Those who rated high in characteristics such as "helpful and cooperative" or "generous" scored higher on indexes of self-control, ego-resiliency or capacity to delay gratification. Honig (1985) considered self-control as the ultimate goal of socialization for cooperation. Self-control is a voluntary or self-imposed delay of reward. Friedrich and Stein (1973) showed that self-control declined when preschool children were subjected to aggressive television programs and increased in the prosocial condition. Rutherford and Mussen (1968) indicated that more generous children showed greater "impulse control" or capacity for suppressing desires for immediate gratification (such as taking all the available sweets). Mussen and Eisenberg-Berg (1977) argued that aggressive

children are unable to delay gratification and thus rate low in self-control. Strong predispositions to prosocial behaviour are associated with high degree of self-control. However, the authors also stressed that the relationships reported in this as in other areas are somewhat inconsistent. Some of them have been replicated but others have not.

From the sum of data on preschool-age children a positive and significant relationship between self-control and prosocial behaviour but not with aggression is predicted in the current study.

5.2.4. Other variables

Considering the importance attached to characteristics such as age, sex or family characteristics in the literature on children's social encounters, the relationship between these and the variables included in this study will also be examined.

5.3. Summary of the research questions and predictions:

In order to clarify the empirical enquiry the main research questions and predictions are re-stated below:

(1) Questions:

(i) Assertive, aggressive and prosocial behaviours have been observed using a range of categories of observable behaviour. Empathy has also been operationalized in several ways using affective, cognitive and motivational dimensions. What is the relationship between the variables used to represent these theoretical constructs? Are they measuring the same phenomenon?

(ii) What is the relationship of the variables included in this study with children's characteristics such as age, sex or family characteristics (e.g. parental occupation, parental absence and the number of siblings)?

(iii) What are the characteristics (frequency and distribution) of the principal behavioural categories and subcategories among the group of children studied?

(iv) Are the sequences of assertive, aggressive and prosocial behaviours identifiable? Is their occurrence best described as random or systematic? Which specific situational factors precede each type of behaviour and which follow them?

(v) Is there a tendency towards reciprocal or asymmetrical assertive, aggressive or prosocial interactions? Are there relationships between the distribution of these behaviours by agents to recipients and differences in children's empathy and self-control? What are the relationships between these variables and children's interactional styles?

(2) Predictions:

(A) There will be a positive and significant relationship between (i) assertiveness and aggression in young children (ii) spontaneous prosocial behaviour and assertiveness (iii) spontaneous prosocial behaviour and aggression.

(B) There will be a positive and significant relationship between prosocial behaviour and empathy.

(C) The relationship between (i) aggression and empathy and (ii) aggression and self-control will not be positive and significant.

(D) There will be a positive and significant relationship between prosocial behaviour and self-control.

The methodological procedures used in the data collection and operational definitions concerning each of the variables will be described in the next chapter.

CHAPTER SIX

METHODOLOGY

> Some ways of doing research are easier than others. I got tired of carrying the rat back to the other end of the runway.
>
> (B.F. Skinner quoted in Aldis, 1975, p. 61)

6.1. Methodological issues: the main approaches to observational procedures

A number of observational procedures have been adopted in research of this type. The main approaches have already been identified and described by Hutt and Hutt (1970) so only brief summaries are needed here. The main methods and their chief features can be described as follows:

a) Ethological approaches seek to record in detail all the behaviour of the subjects observed and to correlate these with the stimuli which are thought to evoke them and the full context in which they occur. Repeated observation is made in many different socio-material environments to see if certain regularities tend to occur in similar circumstances. No control is exercised over the situation; also no evaluation or interpretation is offered and no inferences drawn. Behavioural reports are in terms of observables only (plain recording): adultomorphism is avoided and attribution of motivational or affective states is not made.

b) Experimental psychological approaches are very varied but most have tried to exercise some control over the stimuli of behaviour. For example, Hutt (1966) introduced clearly defined objects into the environment to examine

the behaviour they provoked; similarly different forms of adult intervention may be introduced. Such an approach obviously throws little light on the spontaneous activities of children in other contexts.

c) The ecological approach, according to Wright (1967), is especially suited to the observation of behaviours, particularly the social, which are difficult to reproduce under controlled conditions, and to an examination of the sequences that exist among behaviours. Here, children are studied in the "natural" context while the observer makes as detailed notes as possible including the contextual features of the behaviour. Problems are noted for later clarification and the goals or attitudes of the actor (child) are inferred where necessary to make sense of the behaviour observed. Whilst, in extreme cases, ecologists have abandoned attempts at objective description in the pursuit of vivid accounts, others make sparing use of elaboration only where necessary for the aims of the approach to be achieved.

The method of observation chosen for the present study is fully described in section 6.3. below.

6.2. Description of the environment and sample

Pilot fieldwork to develop and refine the observational methods and instruments used was carried out among two playgroups, two nursery classes and a day nursery. These settings were independent of the nursery which took part in the main study. The number of children involved was 82. More than twenty hours'work were required for this purpose as it was essential, not only to practise the use of stop-watch, video-recorder and observation sheet (shown in appendix 2, p.389). More important, pilot work was undertaken to make estimates of the occurrence of the target behaviours which proved useful in the choice of observational period eventually selected. Preliminary observations suggested that

aspects of assertiveness (giving commands and directions) were most frequent, and comforting the least frequent of the target behaviours. Five consecutive periods each of one minute were judged to be the most suitable length of time for a single observation period to allow each of the least frequent behaviour some probability of occurrence and the unit of one minute long enough for these behaviours, their antecedents and consequences to be observed and recorded. Once a decision had been made as to the appropriateness and practicability of the methods and instruments, practice sessions of approximately 18 hours duration were held in the main study school. Data from these sessions were not employed in the analysis.

The research work took place in the nursery school attached to an English university attended by two groups of children (one composed of children between 18 months and three years of age and the other between three and four years old) the majority (82%) of whose parents work or study in the university. The home backgrounds of subjects are, therefore, unlikely to be representative of children of these age groups.

After being personally contacted the school's supervisor was informed about the main aims of the research. These were to study the relationship among different kind of prosocial, aggressive and assertive behaviours in the social interactions of young children and their association with some person variables such as self-control and empathy. The nursery supervisor was receptive and interested in the achievement of the aims and introduced the nursery nurses who would participate as well as the group of older children who were playing on the second floor of the nursery building (the building has two floors).

A time-table for study consisting of three mornings each week for five months from March until July 1990 was established by the nursery supervisor as

the maximum amount of time for which an observer could stay in the nursery without interfering with its organization. Additional amounts of time were considered for testing the children or questioning the staff.

An important feature of the educational philosophy of this nursery was that children were allowed to play freely for an extensive period of time, to provide children with opportunities for meaningful learning in response to the environmental changes produced by their own manipulations, at their own pace and in their own way while enjoying themselves. Children were seen as active curious human beings, continually seeking new experiences, exploring the environment and searching for novelty.

A typical morning's organization was as follows: (1) free play time (coinciding with the reception of children arriving with their parents), (2) breakfast, (3) TV programme for children if suitable, (4) activities oriented by the nursery nurses or the teacher of music (on Thursdays). These might consist of drawing, cutting and pasting, making collages, painting, telling (through the reading of books) or listening (audiotaped) to stories, conversation (about daily activities or to teachers talking about general/scientific knowledge, e.g. about the organs of sense) or singing (including "action" songs associated with simple movements or listening and playing with different instruments), (4) Free-play (5) Lunch (taken at approximately 12.45 p.m. each day).

The observations in this research were made during free play either in the classroom setting or the courtyard. Plans of the physical environment are shown in appendix 1, pp.384-385. In these distinct environments different kind of materials were provided:

(1) In the courtyard: (a) material to aid movement (climbing, sliding, ride-on toys, pedal trike) using items of machinery (tricycles and wheeled toys,

tyres, wheelbarrow), slides, seesaw, wooden or metal structures and cardboard boxes (b) construction (e.g. wooden blocks) or "creative" material (e.g.play dough, clay, water and water play toys) were sometimes provided

(2) In the classroom setting: (a) material to build or develop skills (lego, puzzles, fit together materials, jigsaws, sorting and matching materials particularly for colours and shapes) (b) small versions of household equipment mainly contained in the "playhouse" which included all kind of house-play material associated with kitchen and bedroom tools (e.g.cooker, sink, cupboards, tea-set, saucepans, plates, knifes, forks, spoons, cot with dolls or teddy or cuddly toys) (c) small scale models of houses, farm and zoo animals, vehicles, garages, human figures (d) collection of sections of train set (traffic lights, railways to be placed or linked together) (e) material for pretend play (big box with dressing up clothes) (f) rocking toys (rocking horse), (g)books with pictures of animals or pets (h) paper, colours of paint, brushes, felt pens, pencils or crayons (i) a rug with cushions where children could sit or lie and relax (j)television video set and tape recorder (k) water and sand material and tools (l) water table.

The selection of the children of both sexes was undertaken from among those between the ages of three and four years. Seventeen children (seven boys and ten girls), of varied ethnic origin and nationality took part. The composition of the group (shown in appendix 1, p. 386) was as follows: Girls - seven of British parentage; three born outside Britain or having non-British parents (N=10); (b) Boys - Three of British parentage; the remainder with either one non-British parent or born outside this country (N=7). All spoke English in their interactions with other children with the exception of one girl whose English was limited. The verbal interactions of this last-named were principally initially with her sister. These were translated by the researcher into English.

6.3.1. The method of naturalistic observations in this study

The approach adopted in this study, not a pure example of any of the above in section 6.1, was to make as detailed a description of the behaviour which occurred in the periods of observation as possible. Detailed handwritten notes of all activities, characteristics of behaviour, contextual elements or objects were recorded as far as possible to help clarify the nature of the responses associated with the previously delineated behavioural categories. Though an attempt was made to employ the most objective, unambiguous (or the least "evaluative","interpretative" or "judgmental") terms to characterize the observable behaviours, some inferences had to be considered in order to record the complex behavioural interaction observed in the field, using a standard form. The records were revised if necessary and any ambiguities were eliminated after examination and questioning by a person who did not himself witness the events.

In order to write up the records during the observations and to ensure they were as complete as possible, all the incidents, context and actors or recipients involved in the field it was necessary to follow unobtrusively each "target child" (see later in this section) in the group as closely as possible (so that the observer could hear what was said or register the facial expressions and gestures). The practice sessions carried out were indispensable not only because they allowed additional periods of training in using the procedures to collect consistent and reliable material but also as a period of acquaintance in which the observer and the "subjects" were able to become familiar with each other (so as to neutralize effects of "novelty") as well as establishing the specification and acceptance of the role of the observer by the staff and the children. In fact it was necessary to explain to the staff that as an "observer" I would not interfere under any circumstances (unless there was a danger to children or property) so they should carry out their activities normally, not avoiding nor spending an unusual

amount of time with the child selected at random for observation. It was explained to children that I was there because I was interested in what was happening during the day in the nursery and when they spoke to me, I tried to answer them as briefly -and as kindly- as possible, whilst recording the incident as an interruption.

In spite of all the effort made to identify and record all behaviours, verbalizations and gestures, it was beyond the capacity of a single researcher to obtain a complete record of all information in the field. If the behaviours became too complex or occurred too rapidly for complete records to be made some selection had to be made. This selection was not arbitrary but determined by the purpose of the study. So, when several movements and activities occurred concurrently, certain behaviours (e.g. postures) could not be recorded at the expense of others considered more important. Use was also made of shorthand terms but redundant words, unnecessary phrases or dispensable terminology were omitted in order to abbreviate commentaries. The use of the video-tape which could clarify or discriminate some of the global contextual factors, complex actions or rapid changes of behaviour was restricted to some sessions either because of its limited field of view (especially when target children were moving around) or in deference to the sensitivity of some of the nursery personnel to its presence (in spite of the camera being fitted on a tripod in a corner of the room without intruding into the scene of action). Indeed its main use in this research was limited to the checking of the reliability and validity of a sample of naturalistic observations. Because only one child could be followed and the entire group could not be scanned in most of the sessions, it was also not possible to observe and record simultaneous or infrequent events in the group, neighbouring children (those within viewing or hearing range of the target child) or their responses, thus limiting the analysis of the global contextual factors in

which the observations were made. The chief problems encountered by this choice of method can be summarized as follows:

1. Events occasionally proceeded too quickly for a complete record to be made. In such cases the direct summary was elaborated immediately following the period of observation.

2. Verbalizations by the children were not always intelligible either because of indistinct speech or because they were below the level of audibility at the distance maintained.

3. The free-play which occurred sometimes took the children out of the field of vision of the observer especially when the target child entered the cardboard boxes or ran around the courtyard, for example. Attempts were made to follow the child but where this was impossible an interruption was recorded.

4. The need to control the length of observational period entailed divided attention on the part of the researcher. The possibility that essential details were omitted cannot, therefore, be excluded.

In the subjective view of the writer the most serious limitations were in instances of type 1 and 2. Consequently, some selection from the information potentially available was inevitably necessary and some inferences were included where the researcher considered it relevant to the types of behaviour being studied. For example shouting (behaviour) while threatening (an inference) which were judged to indicate aggression were accompanied by the actual words used, whereas a discussion or description of a holiday in France and unrelated to the target behaviour would ignore the actual words used. The extent of inferences and inclusion of verbalization necessary to make target classifications is implicit in the description of the criteria which appear later in this chapter. In

terms of the classification made by Hutt and Hutt (1970) and briefly described in an earlier section, the observational approach adopted here is a pragmatic combination of ethological and ecological approaches but with the essential difference that it was designed to answer the principal and prior psychological questions of interest.

6.3.2.Sampling

Recording by focal-sampling (Martin and Bateson, 1986) of children's prosocial. assertive and aggressive behaviours in free-play was adopted and was carried out as follows.

According to Arrington (1939) as quoted in Hutt and Hutt (1970) reliable quantitative measures of the occurrence, incidence or frequency of the specific behavioural acts or patterns can be obtained using time-sampling procedures in which observations are made on a basis of a series of short time periods or intervals of uniform length, randomly distributed in a way to provide a representative sampling of target behaviours of individuals or groups under ordinary conditions of everyday life. Olson and Cunningham (1934) describe the following features of a formal time-sampling technique:

1. Observation by an eye witness.
2. Behaviour to be observed defined in terms of overt action.
3. Behaviour of an individual or group observed for a stated time unit, usually short
4. A stated number of repetitions of the time unit employed.
5. An individual score based upon the number of time units in which the defined behaviour occurs, or the total frequency of occurrence of the defined behaviour in the total observational time, or the average frequency of defined behaviour per unit of time.

Items 3,4 and 5 are , according to the above mentioned authors, the characteristics which, in combination, serve to differentiate time-sampling studies from observational studies in general.

In the current study a sequence of children to be observed was determined by focal sampling methods in which one specific child in the group was selected at random and followed for periods of five consecutive minutes in which only one "incident" for each category per minute (one minute was the "unit of observation") was recorded. More specifically, the random series was obtained after drawing pieces of paper with the children's names from a bag in which they had been mixed up. Several random orders of names were written before the observations began. Although every effort was made to adhere to the order, if a child could not be observed either because he/she was absent or working with the nursery teacher, the next available child on the list was selected and observed. This was followed by a second attempt to observe children who were omitted before moving onto the next series. All subjects were observed during sessions of five minutes. After a five minute rest interval (in which the next child was selected from the list) behaviours were again recorded for five consecutive minutes and the process was repeated to a total recording of two hours per child. The choice of five minute-periods was mainly to minimize the possibility that the target child could become aware of being the focus of observation and thus "play up" to the observer as was suggested could occur in the attempts to use longer periods of time in the pilot studies. Behavioural data were thus recorded on an observation sheet divided into sessions of five consecutive minute periods. Occurrence of categories in each of one minute of these periods was noted. The choice of one minute as the unit of observation was shown to be appropriate for the kind of behaviours recorded; on the one hand it was not so short that many of the events or incidents recorded could be considered independent from each

other and on the other hand was more discriminative of individual differences than in the case of longer periods in which only one occurrence for each category of behaviour is scored.

The total period of time for which each child was observed was the longest possible consistent with an initial agreement with the nursery supervisor about the amount of time per week for which an observer could stay in the nursery without interfering with its organization. It was also impossible to continue the observations into the next scholastic year as the group of children would radically change (as many of the children would move to other schools). Thus, considering these external constraints ten children (6 boys and 4 girls) were observed for a total of 120 minutes (that is 24 periods of observation). In the case of seven children (who were attending the nursery more rarely), however, observations varying from 60-90 minutes (12 to 16 periods of observation) were obtained.

The behavioural data obtained were timed and recorded in terms of whether any of the categories (or subcategories) were present during the one minute period. Only a single instance of each category was scored in any minute period. Total scores are thus the number of minute periods in which the categorized behaviour was observed.

6.3.3. Operational Definitions (examples of observations of the categories described below are shown in the appendix 2,pp.390-398; examples of behaviour non-categorized also provided in 2, pp. 399-403).

6.3.3.1.The main psychological constructs

The operational definitions of the principal constructs were based on the work of Barrett (1977), Mussen and Eisenberg-Berg (1977), Wenar (1982), and

Radke-Yarrow and Zahn-Waxler (1984) among others. They are formally stated as follows:

A. Assertiveness: attempts by a child to direct (or stop) another's activity which are intended to influence or control but not to injure.

It consists of:

(a) Commands or directions. Orders, instructions or demands intended to influence, conduct, guide, manage or control other's behaviour

(b) Acts of physical leading. Non-verbal signals, indications, clues or behaviours which induce, activate, set in motion or direct another's activity

(c) Disagreeing with another person. Standing one's ground in an argument without any form of aggression which may include the expression of thoughts/feelings in a non-hostile, non-coercive manner in response to frustration or provocation or any statements, opposition by arguments or argument of refusal or failure to agree, or expression of dissimilar or alternative opinions

(d) Non-compliance. Resisting, not surrendering or giving way under pressure or to an unfair demand in a non-hostile manner which may be expressed in the denying of unreasonable requests, the stopping of another's activity or the request for new behaviours

(e) Requests. Making requests for behaviour such as to be allowed to have or do something or to ask or express a desire for assistance or help

B. Aggression: Harmful or offensive action usually initiated by the actor

It consists of:

(a) Destruction of or attempt to damage objects (such as to break, to throw onto the floor or to make objects dirty)

(b) Physical aggression (e.g. to fight physically, to push, to pull others'hair, to throw earth or sand, to spit)

(c) Threat (any menace or indication - either by mimicry, gestures or verbally - of an intention to do harm, inflict pain or misery)

(d) Verbal aggression (e.g. to shout or violently dispute, to "laugh at" or to ridicule. to call "ugly" names or to use "bad" words, to make biting criticisms)

(e) Improper appropriation of others'objects

C. Prosocial behaviour. Behaviours which represent an attempt to fulfil another person's need for physical or emotional support

It consists of:

(a) Sharing. Giving up of an object in the child's possession or giving a "turn", materials or work space one is using

(b) Helping. Attempting to alleviate another's non-emotional, non-distress related needs, including offering physical assistance or physically assisting another to achieve a goal, giving information, offering an object not previously in child's possession

(c) Comforting. Attempting to alleviate another's emotional distress, for example, expressing sympathy or reassurance. It involves time and attention, but seldom the loss of possession or physical exertion.

All prosocial categories were also classified as either (a) "spontaneous" (the behaviour is initiated by the actor without the potential recipient, or anyone else, requesting - verbally or non-verbally - assistance) or (b) "Asked-for" (the behaviour arises in response to either a verbal or non-verbal request for aid from

the potential recipient or a third party). All the behavioural categories described were analyzed according to two different conditions: I- "non-roleplaying"; II- roleplaying", i.e. situations in which it is obvious that the child is performing a role, such as pretending to be the "dad", "baby" or "donkey".

6.3.3.2. Contextual categories

In analyzing the context preceding and succeeding assertive, aggressive or prosocial behaviours, some other categories were considered, based on the work of Sylva et al. (1986) and Meadows and Cashdan (1983). They are as follows:

A. The activity categories

1. **Posture and large movements:**

a) Active play involving global movements of the child's body, such as running around, flitting, rolling, cycling, hopping, rocking, swinging, climbing, jumping, chasing and catching or jostling in a mob.

b) Cruise or purposeful movement - active movement around from one thing to another, or purposeful looking around (when the child appears to be searching for something to do) or movement towards an object, person or place (e.g. searching for an object, going outdoors, crossing the room to another activity, following another child).

c) Lying in boxes, barrels, planks, pillows, etc., sitting or standing still .

2. **Vision and fine movements:**

The mastering or refining of manual skills requiring coordination of the hand/arm and the senses: e.g., handling sand, dough, clay, water, arranging and sorting miniature objects (such as farm and zoo sets, transport toys, dolls' houses and specific furniture and equipment), dressing, handing out or assembly

structured materials (e.g. jigsaw puzzles, board games, picture or shape matching materials) or making large or small scale constructions (using large crates, blocks, or small constructional materials such as lego, or meccano).

3. Social interaction:

Physical or verbal interaction- with another child or with an adult, in addition to including the assertive, aggressive or prosocial categories recorded in the naturalistic observations such as requests, positive or negative commands/directions (orders, instructions or refusals, warnings not to...), physical leading (showing a skill or use of materials, pointing for the purpose of drawing other's attention to something), fighting or helping, it also includes more generalized behaviours such as chatting (including comments, general remarks, of asking or giving information, e.g. "have you got new shoes?" "how would you do that?" or "that's orange, pink, blue") or crying, complaining, giving or receiving comfort or being cuddled (sitting on lap, arm around, patting). It also includes listening-in to conversations without participating or watching other people or events.

Social interaction is used when the child is not engaged in another activity code category; e.g. if he is handling dough while chatting to a friend the code is 2a (vision and fine movements).

4. School subject-related activities

a) Three Rs Activities: attempts at reading, writing or counting. It includes attentive looking at books or listening to stories.

b) Art: "Free- expression" creative activities such as painting, drawing, chalking, tracing, cutting, sticking

c) Music: Listening to sounds, rhythms or music, playing instruments, singing solos and dancing

5. **Pretend:**

This includes any of the previous categories performed in roleplaying situations.

6. **Waiting, sitting or standing around, aimless wander or gaze**

The child is not actively engaged in an activity or watching a specific event.

Each of the categories above may include talk. Sometimes it may appear that social interaction is more important to the child than the task, but this is acknowledged in the social code. If there is an appropriate activity/task code, it was used.

B. Social code

1. Solitary = playing alone
2. Parallel = playing alongside others in a definite group but not interacting with them. This includes:

(a) Parallel to a child;

(b) Parallel to an adult

(c) Parallel to a small group (two to five children inclusive)

(d) Parallel to a large group (six or more children)

3. Associative = engaging with others socially but not integrating this sociability into play or non-play activity, i.e. not reciprocating or dividing roles in the activity but talking socially whilst carrying on activities alongside each other. This may also include:

(a) Association with one child

(b) Association in a small group

(c) Association in a large group

(d) Association with an adult

4. Antagonistic = fighting, arguing, some talking, whining, crying.

Antagonistic behaviours may be performed:

(a) Towards a child

(b) Towards a small group

(c) Towards a large group

5. Co-operative = reciprocating or dividing roles in activity

Cooperation may be shown:

(a) In a relationship with another child

(b) In a small group

(c) In a large group

(d) With an adult

C. Materials Categories

1. Small/moveable or large apparatus

a) Swing, see-saw, rocking horse

b) Slide, climbing frame

c) Fixed vehicles, steering wheels, huts, houses and cabins

d) Wheelbarrows, trunks, trailers, baby walkers, trolleys (push-pull toys)

e) Go-cart, trikes, scooters, tyre on wheels, cars, bouncing toy

f) Bats, balls, sticks, hoops

g) Boxes, tunnels, barrels, bars, crates, steps, trestles, junk for building outside, planks, large blocks

2. Constructional toys/kits, puzzles and pliable materials e.g. sand, water, dough

a) Small bricks, lego

b) Meccano-type construction kits, sticklebricks, fixo straws

c) Puzzles, form-boards, matching cards, lotto

d) Sand, water and sand or water toys (tray)

e) Plasticine/clay, dough, spaghetti/pasta/rice/beans

3. Real or scale-version toys or material

a) Wendy house, including prams, pushchairs and specific furniture and equipment

b) Clothes and material associated with doctors and hospitals, police, fireman. soldiers, prisoners, hairdressers, cowboys, spacemen, monsters

c) Model vehicles

d) Animals (of any size or material), puppets

e) Natural objects, e.g. stones, leaves, plants, nature table or real animals

f) Furniture. parts of building, household decor and items (real or imitation) e.g.clock. telephone

g) Chores equipment, tidying

h) Other person made objects

4. Art and craft/pre-reading

a) Books or other reading materials

b) Drawing, painting, writing, or printing tools

c) Materials to make specific objects (cards, cut-outs, fans, etc.) cut, and stick

d) Musical instruments

5. Others

Coding of the context using all these categories was done for all the aggressive and prosocial behaviours and a similar number (that is about 200 out of 600) for the assertiveness behaviour.

In order to represent assertiveness categories a sample was selected by numbering all the sessions of observations and drawing at random until the

sequence in which the 200th assertiveness behaviour occurred, when sampling was ended.

In the appendix 2, pp.404 to 458, the contextual coding preceding ("antecedents") and succeeding (the "consequents") the several assertive, aggressive and prosocial categories (the "events") are presented as follows:

(1) The antecedents and consequences of each assertive, aggressive and prosocial category are presented separately. These categories (mentioned as the "event") are represented using the following abbreviations:

CD - Commands/Directions: This category was also discriminated in CD.a and CD.b meaning respectively directions presented in a positive (e.g. "come and help to tidy up") or negative way (i.e. instructions not to, refusals). See Meadows and Cashdan (1983) for further detail.

D - Disagreeing

NC - Non-compliance

R - Requests

PL - Physical leading

Aggression:

AO - Appropriation of objects

DO - Damage of objects

PA - Physical aggression

T - Threat

VA - Verbal aggression

Prosocial behaviour:

CS - Comforting Spontaneous

CA - Comforting Asked-for

HS - Helping Spontaneous

HA - Helping Asked-for

SS - Sharing Spontaneous

SA - Sharing Asked-for

When any of these behaviours were performed in the roleplaying condition a "II" is added.

(2) The numbers on the upper left corner of appendix 2, pp. 404-458, represent the order by which the different sequences of assertive, aggressive or prosocial events occurred. Sequences of behaviours observed in each five consecutive minute period are associated by the same number before the dot, and differentiated (by order of appearance) by the number following it. For example, on page 405, 5.4 means that CD.a was the fourth target behaviour observed and recorded in the five minute period coded as 5. Lack of a number following the dot means that it was the only assertive, aggressive or prosocial behaviour recorded in that five consecutive minute period.

(3) The number in the upper left corner following a dash indicates the target child and the others in parenthesis (as well as the letters G, Y or O for group, younger children and others, respectively) the code associated with children with whom the target child was interacting or had performed the behaviour observed.

(4) The contextual categories coded (according to the numbers and letters which were attached to them above, in their definition) are those which immediately precede or follow the target behaviours (the "events"). However, in order to facilitate a qualitative analysis of the sequences among assertive, aggressive or prosocial behaviours, these were recorded together with the contextual categories, even if they were observed one minute before or after the "event" described.

(5) An asterisk before the numbers or letters in the sequence means that activity or behaviour has initiated the one on the left.

(6) When any of the contextual categories could not be applied (e.g. the child was playing with no materials) a dash was used in the description of that situation. On the other hand a bla· k space means that category (or those categories) could not be attributed because of lack of information, e.g. in cases where there was an interruption in the observation.

(7) Finally, the qualitative analysis of antecedents and consequents of the target behaviours (sub-heading "antecedents and consequences" p. 404) takes into account data which it is not possible to present in this coding. Thus, examples of assertiveness categories, not included in the random selection and therefore not coded in context are, however used in the qualitative analysis whenever necessary to illustrate the issues in question.

6.3.4. Dependability of the descriptions of observations

It would obviously have been desirable for a second observer to be present during the sessions to make independent written descriptions of the behaviours which occurred during the periods of focal and time sampling. However, in view of the fact that the nursery supervisor expressed doubts about the potentially disruptive presence of people with whom the children were unfamiliar, a small-scale strategy of video recording was adopted since it was beyond the scope of a single researcher to record all the periods of observation on tape.

Six children were randomly selected from the sample of 17 for observation by video recording and recordings of five one-minute periods were made for each of them. The second independent observer studied each minute time segment individually and wrote "everything that could be observed of the

behaviour of the target child in each minute". The two descriptions of each five minute period were then handed to a third person who was required to compare the texts and rate the correspondence on a five point scale as follows:

5 Corresponds in every detail

4 Corresponds in most details

3 Some correspondence but differing in substantial detail

2 Limited correspondence

1 Little or no correspondence: two different events seem to have been described

The mean rating of the 30 minute-long descriptions was 4.02 with a standard deviation of .83. These data are interpreted as a demonstration of substantial dependability of the descriptions of observations made by the researcher.

6.3.5.Inter and intra-rater reliabilities of coding: psychological constructs and contextual categories

6.3.5.1. Inter-coder reliability

6.3.5.1.1. Reliability of behavioural coding

In order to examine the dependability of the author's classification of the behaviour which occurred in the minute-long periods a second, independent, judge was asked to classify a total of 170 minutes'observation, ten minutes for each of the seventeen children. This represents almost ten percent of the total of 1755 minutes of observation. The behaviour recorded in each minute sampled was first categorized as assertive, aggressive or prosocial behaviour (the major categories) and a blank left where the behaviour observed fell outside these categories. Behaviour which was judged to belong to one of the major categories was then classified using the key presented on pp.188-189,which indicates the 12

subcategories (4 aggression; 5 assertive; 3 prosocial) used. Behaviours were also classified as "roleplaying" or "non-roleplaying" and as "spontaneous" or "asked-for" where relevant (see text). The first analysis of the degree of agreement did not take into account those minute periods in which none of the major categories was assessed by judge A (the author) to be present (i.e. those for which three blanks were recorded). For the entire sample, judge A recorded 86 behaviours as belonging to the major categories. Judge B (also a psychologist) recorded 84 behaviours for the same transcripts. Taking judge A as standard, "1" was scored where complete agreement was achieved and "0" both where judge B failed to classify a behaviour which had been classified by A as present and where a difference of opinion existed as to the actual sub-classification used. Disagreement ("0") was also scored if one judge had classified a behaviour as "spontaneous" whilst the other judged it to be "asked-for", and so on. The inter-judge agreement (r_A) was calculated using the formula:

$$r_A = \frac{\text{No. of agreements}}{\text{Total comparisons}} \times 100$$

Substituting obtained values $= \frac{68}{92} \times 100 = 74\%$

Of the twelve comparisons scored "0", the majority were disagreements within the major categories. Thus, for example, one behaviour classified as "Requests" (R) by judge A was placed in the category "Commands/Directions" (C/D) by judge B. Similarly, "Helping asked-for" (HA) by judge A was placed in the category "sharing asked-for" (SA) by judge B. In these and other instances no disagreement as to the major type of behaviour occurred. If the less stringent index of inter-judge agreement (r_B) is employed a higher percentage agreement is attained.

$$r_B = \frac{\text{Agreement on major category}}{\text{Total comparisons}} \times 100$$

substituting obtained values $= \frac{80}{92} \times 100 = 87\%$

Comparison of the two values indicates that a high degree of agreement exists as to the behaviours'status as "aggressive", "assertive" or "prosocial" with satisfactory agreement as to actual subcategories of behaviour within categories.

A third - but somewhat inflated - index of agreement (r_C) can be obtained by taking into account also those recorded behaviours which were judged by both judges as not belonging to any of the major categories used.

$$r_C = \frac{\text{Total no. of agreements}}{\text{Total comparisons}} \times 100$$

$$r_C = \frac{492}{3 \times 10 \times 17} \times 100 = 96\%$$

One explanation for the lack of higher agreement in the most rigorous index of dependability r_A is that judge A recorded the observations and classified them in the light of contextual information registered at the time and remembered later. Nevertheless, in the light of the percentage agreement obtained in other published studies the values obtained above are judged to be satisfactory for numerical analysis to be undertaken. Precise comparison with other studies is ruled out, however, not only because a different set of categories and subcategories has been used but also because the exact computation of indexes of agreement in other studies is not often provided.

6.3.5.1.2. Reliability of contextual coding

The unit of study for the reliability was the antecedent - event - consequence sequence. Sixty units were selected at random from a total of 611 sequences coded: this is approximately ten percent of the total. Each sequence

was coded into four elements for each of the three main categories; activity, social code and materials as follows:

Antecedents		Event	Consequents	
Child	Others		Others	Child
(1)	(2)		(3)	(4)

Thus for each event twelve separate codings were required (excluding the event code itself). The total number of codings by the second, independent, coder was, therefore, 60 x 4 x 3, a total of 720.

In order to calculate the reliability a second coder was used and the number of agreements (including zero entries) between the author and the second independent judge was expressed as a percentage of total codings for each of the three main categories. Results were as follows: 221/240 for activity, 201/240 for social code and 233/240 for materials. The corresponding percentage agreements were 92, 84 and 97 percent. Overall agreement was 91 percent.

It will be noted that the lowest agreement was exhibited in the social codes category. Examination of the discrepancies revealed that the second coder (who did not record the observations and so had fewer cues about the contextual information in case of doubt) experienced difficulty in applying the distinction between instances of parallel and associative play on the one hand and associative and cooperative play on the other. However overall results are deemed to be satisfactory and in line with the application of similar coding schemes used by other workers (e.g. Meadows and Cashdan, 1983)

6.3.3.5.2. Intra-coder reliability

6.3.3.5.2.1. Reliability of behavioural coding

This was examined using the 170 minutes of observation employed in the inter-coder reliability reported in the previous section (10 percent of total length of observation). It involved the re-coding by the origina. author four weeks later.

The total number of agreements and disagreements was noted using all the categories coded and percentage agreement calculated as 96 percent. This suggests a high degree of stability of coding behaviour over the four week period between which the original and second coding was carried out.

6.3.5.2.2. Reliability of contextual coding

A five percent sample (31) of coded events was subjected to a second coding in an attempt to calculate the consistency of the author's original classification over a one-month period. Reliabilities were not established for each of the three main categories separately (activity, materials, social code). Instead the number of agreements out of the total of twelve codings per event (372) was expressed as a percentage. The complete agreement was obtained in respect of 331 codings. Thus the percentage agreement was 89 percent.

6.4. The Instruments and Scales

6.4.1.1. The Assessment of Empathy

Several procedures (verbal or non-verbal, facial or vocal expressions in response to emotional states of others) have been used by researchers to assess empathy. In summary the main types and limitations of the empathy measures are:

a) Self-report ratings. The subjects are asked to observe a person in distress and then to rate their emotional response on a list with a variety of different adjectives describing emotion. This method is rarely used with young children as it requires that the subjects not only know what they are feeling but that they also have the necessary language skills to report it accurately.

b) Somatic indices of empathy. The subject's facial, gestural or vocal responses to others'affect are rated. However such measures are not adequate for those who inhibit somatic expressions and it is very vulnerable to situational influences (e.g. Marcus, 1987, points out that spontaneous expressions of tenderness in boys are liable to be inhibited if the experimenter is a male).

c) Physiological indices of empathy. The subjects'heart rate, temperature or skin conductance (factors associated with changes in the subjects'autonomic nervous system) are measured. This method requires a considerable amount of highly specialized, expensive but uncomfortable equipment (especially for children). It has the advantage of being "immune" to bias related to social desirability, but these measures are very sensitive to extraneous external stimuli (e.g. an unexpected sound) or to the movement or speech which the researcher may not be able to control (especially in the case of the last mentioned factors, when testing small children).

d) Picture story indices of empathy. The subjects are told a story about different pictures and asked to report their own feelings and the feelings of the character in the story. This method is consistent with the definition of empathy as 'shared affect'. However, the result depends on the subjects'verbal and introspective skills and is sensitive to social desirability effects (the subjects may either not report emotion -

underestimate empathy, or overestimate it, if they are attuned to what they think the experimenters want to hear).

The Feshbach and Roe (1968) test of empathy has been a central instrument in many researches on empathy in young children. Children are shown slide sequences of happy, sad, fearful and angry situations and are asked how these events make them feel. If their reported feelings match those of the story character, they are credited with an empathic response. The authors concluded that happy sequences elicit most empathy in young children. These differences may be due to less discriminating responses for other affects (or reluctance - mainly by boys - to describe themselves as afraid or experiencing other negative affects) or to the existence of more empathy with happy situations than with other affects, since experience of happiness is probably rewarding while other affective responses are unpleasant and more generally avoided. Strain (1970) also found that all groups of children showed preference for the happy stimuli.

The Feshbach and Roe (1968) test of empathy also includes a simple cognitive test concerned with the ability to discriminate and label others' emotions. The child is asked to identify the emotions of a story character. The report of the feelings of the central figure constituted the social comprehension index. The authors consider that although social comprehension may be a prerequisite for empathy the variations in empathy cannot accounted solely by the ability to recognize the affective experiences of others.

Most children by age three can differentiate accurately between happy and unhappy expressions while fear and anger are identified a little later. Farber and Moely (1980) provided evidence that very young children show "sad"-"mad" confusion with both facial and situational cues, while four and six to seven year-

olds show this confusion only with situational cues. The identification of the emotion "happy" is easier with facial and situational cues, while identification of the emotions "sad" and "mad" is easier with vocal recognition cues.

This very widely used process of still pictures and short narratives in the research of children's empathy has been questioned and some authors have responding to the insistences of some researchers and critics to make stimuli for empathy tests more involving and more realistic using scenes from a televised movie (Wilson and Cantor, 1985). Strayer (1980) also stressed the importance of the presence of veridical (real-life) social-emotional cues provided by peers (naturalistic observation of empathy) in order to better evaluate the extent to which young children can and do respond empathically to a peer's display of categories of affects.

In the current study it was not possible to apply either televised pictures or the naturalistic observation of empathic reactions used by Strayer (1980) which would demand additional observers. These procedures seemed to place further constraints on the nursery personnel and the organization of activities. Thus, the choice of procedures to assess empathy in very young children was based on the work of different authors (Borke, 1973; Buck,1975; Feshbach,1977; Feshbach and Roe,1968; Iannoti,1978 and Rothenberg,1970) taking into account two main considerations:

1. A multiple perspective of empathy as an affective response and cognitive phenomenon which are reflected in some "instrumental responses" (the "motivational component" of empathy mentioned by Strayer, 1980).

2. The age of the subjects and difficulties of verbal expression (mainly in the case of foreign children), which had restricted the direct application of any of the main procedures above described.

Point one entails the use of three different tests of empathy; point two the inclusion of (a) measures requiring the differentiation of two basic emotions (happy and unhappy) instead of the four usually employed when testing children using picture story procedures, (b) the use of the five point rating scale reported by Buck (1975) and shown in appendix 3, p. 487, which would remove the influence of children's verbal skills on the scoring procedure, and (c) finally, specific precautions pointed out by Strayer (1987) when testing young children, such as the need to repeat the choice of alternatives and to ensure that the children are relaxed with fatigue kept to a minimum, would have been taken into account.

In order to practise the instructions and check the suitability of the materials (a sample of the pictures used is presented in appendix 3, pp.488-493) a pilot study was conducted in the playgroups mentioned in 6.2., before the tests were applied in the nursery in which the supervisor and personnel had willingly agreed to collaborate. The fact that the pilot study playgroups were organized by local churches might have an important but unexpected effect as far as the differences between the results obtained by the groups of children in the donating test are concerned (to be commented on the next section). Thus in order to assess empathy in situations which emphasise the affective, cognitive and motivational aspects, the following procedure was adopted:

a) Each child was taken individually into a familiar room free from the distractions presented by other children. Before entering the room the children were told that they were going to look at some pictures of children, as follows: "I have got a few pictures of children for you to see. Would you like to come with me and have a look at them?

b) The experimenter explained to the child about the rating scale he/she would use. The rating scale consists of drawings of five faces on cards

whose expressions range from very happy,on the left, to very unhappy,on the right. The child was then asked: "What can you see here? Faces aren't they? This (pointing to the first one on the left) is a very happy face, but this one (the last on the right) is a very unhappy face...What sort of face do you think this is?" (pointing to the second on the left. Pause. After waiting for the child's answer)..."It's a happy face, isn't it? Not quite so happy as this is (pointing to the first) but it's a happy face... What about this one (pointing to the fourth)? Is this one happy or unhappy? (Pause) It's a sad, an unhappy face. Not quite so unhappy as this is (pointing to the fifth one) but it's an unhappy face... What about this one (pointing to the third) in the middle? (Pause) It's not happy but it's not unhappy, it's in between, isn't it? Very good! This is very happy (pointing to the first), this one is happy (pointing to the second one) this one is in between (pointing to the third one) this one is unhappy (pointing to the fourth) and this one (pointing to the fifth) is very unhappy. Now I am going to show you a picture of a child. Look carefully at it and tell me how it makes YOU feel. Point to one of these faces which is most like the way YOU feel"

c) The experimenter then presented the first and second trial. A trial proceeded as follows: the experimenter presented a picture and asked (if the child had not yet reacted after five seconds) "How does that picture make you feel? Does looking at the picture make you feel (pointing to the faces successively) very happy like this one? Happy like that? Ordinary? Unhappy or very unhappy?" After the child's answer the experimenter checked it saying "So, it makes you feel..."

d) Using the procedure described above, the experimenter then showed the child eight pictures (two happy and two unhappy girls, two happy and unhappy boys) and recorded the answers. Throughout the trial the

experimenter kept looking at the picture and not the child. This helped the child's attention to remain centred on the pictures.

The test ended with the sequence assessing the child's affective response. The total score was the sum of points obtained in the rating scale (ranging from zero -in case of the answers "very unhappy" or "very happy" when the picture shown was a of an happy or unhappy child respectively- to four, in the opposed case, i.e. when the children's answers matched the affect displayed by the picture of the child).

Testing the child's cognitive ability to discriminate affective states proceeded as follows:

The experimenter presented a picture of a cut out model of a child with a blank face (appendix 3, p. 487) and asked the children to complete the pictures by selecting the face (the same faces as in the rating scale mentioned above (in b) but amplified and presented in pieces) which best shows how the child in the picture felt. The instructions were: "I am going to ask you to look at some more pictures. When you have looked at the child in the picture, choose one of these faces which is most like how the child in the picture is feeling. When you have chosen the face put it here (pointing to the blank face in the cut out model of a child)". After the experimenter presented the first and the second trial, eight different pictures (of two happy and two unhappy girls and of two happy and two unhappy boys) were shown and the answers recorded.

The process of scoring followed the same procedure as mentioned above in the assessment of the child's affective responses.

Testing the motivational aspect was carried out as follows:

a) The child was told a story (accompanied by a picture) about a very poor child. The experimenter gave each child some of his/her most preferred items (smarties, or grapes in the case of three children) and told the child that he/she might eat them all or put some or all of them in a box for the poor child. They were reminded that they did not have to give anything if they did not want to. In this context, the following instructions were used:"This is a very poor child, who comes from a very poor family. He/she has no money and can never buy sweets/grapes.Here are some sweets/grapes for you to eat now. But you can give some to this poor child or all of them or none if you wish. If you want to give any, put them in this box but you can eat them all if you like".

b) The child was left alone to donate in private or eat whatever was left. Afterwards the experimenter approached the child again and recorded the number of items donated (the score for each child was the number of items donated).

6.4.1.2. Reliability of Empathy Measures

In order to estimate the reliability of empathy tests two coefficients (Cronbach's alpha) were calculated, one for each of the affective and cognitive components. It was not possible to estimate the reliability of the donating test since it consists of a single item administered on only one occasion.

Alpha for the affective test was .54 and for the cognitive test considerably lower at .33. The reliabilities of this test are low. The total cognitive test variance was low and item variances differed considerably. Sources of variance in this test should be examined in further research; the implication for the study is caution when interpreting correlations between empathy measures and other variables.

4.2.1. Self-Control Behaviour Inventory

It was not possible to integrate self-control in the general observational system adjusted for the main behavioural categories nor feasible to test it experimentally as was attempted by Mischel,1958 (because of some parental objections to experimental settings). Self-control was measured through the application of the Self-Control Behaviour Inventory (appendix 4, p. 500).

This scale - a behavioural questionnaire for completion by the nursery nurses - was shown by Fagen et al. (1975) to be an efficient screening device for the particular abilities regarded as components of self-control. It consists of eight statements concerning the child's behaviour which the nursery nurse has to check to indicate the extent to which each child displays the kind of behaviour mentioned in each statement using a rating scale of four points (ranging from "rarely does" - scale value = 0, to "almost always does" - scale value = 3). This produced a total score with the potential range of 0-24 resulting from the summation of the scores of eight items.

The administration of this scale by the nursery nurses involved in this study was as follows:

Explanations or elucidations about the method of completing this scale were made in a meeting with the nursery nurses who took part in the research. There the aims were more clearly defined (without specifying the hypotheses of this work). The raters were then presented with sheets containing the names of the 17 children in alphabetical order. The instructions were read and statement one was presented as well as the behavioural examples and the four point scale shown. This was repeated until all the items were presented and explained. The importance of accurate and as far as possible objective completion of this scale was pointed out and the nursery nurses asked to give their responses in the light

of their knowledge of the child in a variety of situations.The session finished with a discussion and evaluation of the different forms of manifestation and classification of "self-control" in children of that age.

The period agreed for the completion of this questionnaire was one week: there was, nevertheless, a need to extend it so that one of the nursery nurses could complete the ratings.

6.4.2.2. Reliability of nursery nurses'ratings of self-control

Two types of reliability were estimated: inter-rater reliability and Cronbach's alpha for the mean rating on the eight items. The inter-rater correlation was .62 and the Cronbach's alpha was .89. These results show a satisfactory reliability for the mean of the nursery nurses'ratings of self-control.

6.4.3.1. Ratings of empathy, assertiveness, prosocial and aggressive behaviours by the nursery nurses

The nursery nurses were asked to sort some cards each giving the name of a child in the group into five piles - pile one for those who are among the most...(followed by the adjective - "empathic", "assertive", "prosocial" or aggressive - corresponding to the variable measured)...child I have ever known" and pile five for those "who are among the least...(followed by the adjective corresponding to each of the variables measured)...child I have ever known" . Pile three for the names of children "who seem about average" for those characteristics considered neither high nor low in their behaviour. In all sortings, the relevant operational definition for the variable measured was provided with the additional definition for empathy as a "vicarious emotional response by a child to the emotional experience of another child"

6.4.3.2. Reliability of the nursery nurses'ratings

This was considered by studying the inter-rater reliability, that is the correlations between the two sets of ratings. These were as follows:

(i) Empathy: r = .46

(ii) Assertiveness: r = .88

(iii) Prosocial behaviour: r = .29

(iv) Aggression: r = .70

These results show a high reliability for assertiveness and aggression, a moderate reliability for empathy and a low reliability for prosocial behaviour.

CHAPTER SEVEN

RESULTS

> I have steadily endeavoured to keep my mind free so as to give up any hypothesis, however much beloved (and I cannot resist forming one on every subject), as soon as facts are shown to be opposed to it....
>
> Charles Darwin (1892)

7.1. Construct validity

The study of validity is included here because it entails an examination of the data used to test some of the main predictions.

7.1.1. Naturalistic variables

Conceptually, the observations were assumed to indicate aspects of assertiveness, aggression and prosocial behaviour. In order to examine the validity of these three constructs it would have been desirable to carry out a factor analysis of the matrix of correlations within and between these three main variables as in a study of convergent and discriminant validity (Anastasi, 1982).

As a necessary condition of construct validity, convergent correlations (that is, those within each of the three main constructs) would be significantly higher than divergent correlations (those between main constructs) thus indicating that variables belonging to a single construct (for example, assertiveness) share greater amounts of variance than variables across the main constructs considered. Empirically, using larger numbers, one would expect to

identify principal factors corresponding with each of the three constructs theoretically employed.

Because of the small number of cases (N = 17) a full factorial study was invalid and was replaced by a tentative examination of the intercorrelations within and between the main constructs. Tables 26 to 31 (appendix 2) show that over 30 variables had been recorded, many of which contained small values, a number of zero entries and whose distributions were clearly non-normal. It was necessary, therefore, to select those variables which most nearly approximated a normal distribution to represent the constructs. This entailed considering "non-roleplaying" and "roleplaying" conjointly and employing only those variables whose psychometric properties seemed most suited to this analysis. However, this loss of information is less serious than processing a correlation which is an artefact of the presence of few cases with non-zero values in the column. Inspection of the variables led to the selection of the following sub-sets of each main construct (total scores in all cases).

Assertiveness:
CD - Commands/Directions
D - Disagreeing
NC - Non-Compliance
R - Requests
PL - Physical Leading

Aggression:
AO - Appropriation of Objects
PA - Physical Aggression

Prosocial behaviour:
HS - Helping Spontaneous
HA - Helping Asked-for
SS - Sharing Spontaneous
SA - Sharing Asked-for

The matrix of relevant correlations is presented as table 1 below. Convergent correlations are shown in triangles, divergent in rectangles.

Table 1: Convergent and discriminant correlations: correlations among key variables in each construct

	CD	D	NC	R	PL	AO	PA	HS	HA	SS
CD										
D	.22									
NC	.25	.51								
R	.66	.26	.57							
PL	.50	-.22	.12	.33						
AO	.15	.29	.24	-.11	-.05					
PA	.61	.21	.27	.30	.18	.75				
HS	.14	.37	.78	.44	.47	.01	.01			
HA	.45	.10	.23	.31	.55	-.13	.13	.30		
SS	.46	.40	.67	.34	.42	.48	.50	.75	.27	
SA	-.26	.16	.45	.36	-.19	-.20	-.28	.32	.05	.08

Since averaging correlations within and between the constructs was undertaken, it was first necessary to transform correlations to Fisher's Z-values (Ferguson and Takane, 1989, p.555)

Table 2: Transformation to Fisher's Z-values

	CD	D	NC	R	PL	AO	PA	HS	HA	SS
CD										
D	.22									
NC	.25	.56								
R	.79	.27	.65							
PL	.55.	-.22	.12	.34						
AO	.15	.30	.25	-.11	-.05					
PA	.71	.21	.28	.31	.18	.97				
HS	.14	.39	1.05	.47	.51	.01	.01			
HA	.49	.10	.23	.32	.62	-.13	.13	.31		
SS	.50	.42	.81	.35	.45	.52	.55	.97	.28	
SA	-.27	.16	.49	.38	-.19	-.20	-.29	.33	.05	.08

Study of table 1 shows that though most of the negative correlations obtained occur between constructs, the highest correlation (r=.78) is between an

aspect of assertiveness (non-compliance) with a prosocial behaviour (spontaneous helping). Non-compliance also correlates more highly (and so shares more variance) with spontaneous sharing than it does with disagreeing (the assertiveness category with which has a significant positive correlation of r = .51). The picture is further complicated by the presence of a negative (though non-significant) correlation (between disagreeing and physical leading within the assertiveness category r = -.22) and some very low positive correlations in both prosocial and assertiveness categories. This pattern of correlations obtained among a much larger sample of children might show a factorial structure of the observations different from the conceptual grouping chosen. From these results we may conclude that assertiveness and prosocial categories do not represent homogeneous behaviours. The clearest implication is for the use of aggregated scores for assertion and prosocial behaviour which, whilst correctly understood as the total number observed of minutes in which assertive or prosocial acts occurred, must not be interpreted as unidimensional. It is clear from the table 6 (p. 243) that most of assertion (44 percent) is expressed in commands/directions but the data also show that the children who employ physical leading are less likely to need to assert themselves in disagreement. The negative correlation between them does not invalidate their interpretation as assertion, even if their psychometric properties are not entirely satisfactory. The two variables defining the aggression category do, however, correlate highly (r=.75).

In order to determine whether the matrix provided any evidence for the convergent and discriminant validity of the variables correlations were transformed and averaged using Fisher's Z-transformation. Mean correlations (after back transformation) are as shown in the following table.

Table 3: Mean correlations (after averaging by Fisher's Z transformation)

	Assertiveness	Aggression	Prosocial behaviour
Assertiveness	.39		
Aggression	.22	.75	
Prosocial behaviour	.23	.42	.33

The table shows that the mean convergent coefficients (on the diagonal) are higher than the divergent in spite of the fact that only the correlation between the two aggression categories attains significance. Discussion of the relationships must be carried out in the light of these findings.

7.1.2. Empathy measures

In order to study the convergent validity of the empathy measures employed, product moment correlations, shown below, were calculated between the aggregated scores for the affective, cognitive (tables 49 to 51, appendix 3, pp. 496-498) and motivational components and the nursery nurses'ratings of empathy (table 53, appendix 4, p. 504).

Table 4: Convergent and discriminant correlations among empathy measures

	Aff.	Cog.	Don.
Affective test (Aff.)			
Cognitive test (Cog.)	.17		
Donating test (Don.)	.20	-.47	
Nursery Nurses' ratings	.07	.24	.07

Of six correlations calculated five are positive but none reached statistical significance at the .05 level. One negative but marginally significant correlation (-.47) was found between cognitive and motivational aspects of empathy. However, any interpretation of this correlation and of all the

relationships between the donating test and other variables has to take into account two main factors:

(1) Though in the pretesting situation the number of smarties or grapes chosen allowed most of the children in the playgroups to donate or keep some items for themselves, in the university nursery only four children made donations: child 4 (three grapes); 9 (two smarties); 11 (six smarties) and 12 (six grapes). All other children ate their smarties or grapes or tried to keep them in order to offer them to their friends. One of the implications for the difference found in children's behaviour among different institutions may perhaps be due to the fact that the pretesting situation was carried out in playgroups organized by local churches where some religious values (e.g. charity) might be stressed in children's current teaching. This also warns against the selection of settings for pilot studies based on the single reason of their willingness to collaborate.

(2) After the presentation of the donating test, child 12 kept looking at the grapes for a very long time without making any movement either to grasp them for herself or to put them in the box for the poor child. The instructions were repeated, but the child maintained this behaviour. Meanwhile her mother came into the room and after her collaboration was requested (repeating the instructions), the child had donated all her grapes. This donation was considered in the total of the motivational test, but its validity may be questioned as the procedure followed differs in this way from that one adopted with other children.

Besides these reservations about the children's scores obtained in the donating test, on the whole these measures share little common variance. Each seems to be measuring distinct individual differences. The chief implication to be drawn from these results is that any discussion of empathy should stipulate the measure used. Global empathy scores do not represent the sum of

unidimensional measures. The test seems to be of low conventional reliability and validity (as mentioned in 6.4.1.2.).

7.1.3. Nursery nurses'ratings

7.1.3.1. Assertiveness, aggression, prosocial behaviour

In order to examine this question the correlation between the mean nursery nurses'ratings (table 53, appendix 4, p.504) and a representative drawn for each of the three main constructs Assertiveness/Aggression/Prosocial behaviour was calculated. In order to represent the assertiveness cluster the variable having the highest sum of correlations (and thus sharing the largest amount of common variance) was chosen as representative. Request (average r= .46) was selected. So far as aggression is concerned either AO or PA would be sufficient since the correlation between them is .75. In the prosocial cluster, helping spontaneous was selected.

The correlation between the nursery nurses's ratings of assertiveness and requests is .54. The nursery nurses'ratings of aggression and PA is .67. The correlation between the nursery nurses'ratings of prosocial and spontaneous helping is -.09. The nursery nurses'ratings share approximately 75 percent of their variance with aggression and are to this extent valid measures of that construct. The validity of their ratings of assertiveness is somewhat lower (only 21 percent of shared variance). However, the nursery nurses'ratings of prosocial behaviour have little in common with the naturalistic observations of prosocial behaviour. To conclude this section one may say the nursery nurses'ratings of aggression have higher validity than is the case of the measurement of the other two main constructs.

7.1.3.2. Self-control

The only measures of self-control were the nursery nurses'ratings (table 52, appendix 4, p. 503). In the absence of any other criteria the construct validity cannot be investigated. Questionnaires are known to be contaminated by halo effect which reduces their validity.

7.1.4. Summary of the main results:

The results obtained from the examination of the intercorrelations within and between the main constructs indicate that assertiveness and prosocial categories do not represent homogeneous behaviours. Also, the nursery nurses'ratings of aggression have higher validity than the measurement of assertiveness and prosocial constructs.

Empathy tests share little common variance: each seems to be measuring distinct individual differences. Global scores do not, thus, represent unidimensional measures.

7.2. Relationships among the variables

Seven children were observed for less than the full period of 120 minutes. Therefore, in order to investigate the relationships among the variables and to compile cross tabulations it was considered advisable to "equalize" the length of observations by weighting the scores of the seven children by a factor W, where W= 120/length of observations in minutes. The assumption of this technique is that the target behaviours were emitted regularly throughout each period and is supported by the high correlations between scores for 60 and 120 minutes for most variables among the ten children (see tables 26 to 31, pp.460-465) for whom complete data were available. However, results for 60 and 120 minutes will be reported separately whenever they are significant and applicable

to the relationship in question. In the sections which follow the following subscripts are used:

u = statistics involving scores for unequal lengths of time

1 = statistics involving one hour of observation

2 = statistics involving "equalized" two hours of observation

In the text the presence of I and II signify non-roleplaying and roleplaying conditions in which the children's behaviours were recorded. Because most of the frequencies and significant relationships involved condition I this will be normally omitted but II will always be specified.

7.2.1. Pearson product-moment correlations

The major hypotheses which are tested in this study are concerned with predicted relationships between the major variables derived from the naturalistic observations and certain individual characteristics of young children, especially their capacity for empathy and self-control. In total, over 200 variables have been derived, several of which are within each of the major constructs (assertiveness, aggression, prosocial behaviour, empathy, self-control). The purpose of this chapter is to report the correlations of major theoretical interest selected from among the more than twenty thousand which could have been calculated! Considerable caution must be exercised when reporting the correlations since very many would be expected to have P values of .05 purely by chance from a total of this magnitude. Additionally, many of the variables ranged over a small number of values such that the distributions departed too far from normality for simple interpretation. Thus some correlations - as is typical of developmental data obtained from young children - could provide a spurious impression of the strength of a relationship between two variables. If, for example, 16 children in the sample of 17 failed to exhibit either behaviour X or behaviour Y whereas the

17th exhibited both X and Y the correlation r_{xy} would be 1.0 suggesting a perfect linear relationship between them. Despite the arithmetical correctness of this conclusion it would clearly be misleading (if 16 of the children, for developmental or whatever reasons were unable to score on X and Y) for the researcher to conclude a functional relation etween the variables.

The correlations reported in this chapter do not involve categories whose frequencies are very rare (see percentages in 7.2.3.1., pp. 243-246) nor those which are not implicit in the formal hypotheses except in the cases where they must be examined in order to explain other relationships which are demonstrated. A correlation between two variables can often arise not because of a direct relationship but because both are correlated with a third variable. This must be borne in mind when the correlations are interpreted since a factor analysis could not be carried out because of the small sample size in this study.

The variables to be discussed were considered to be on an interval scale and were intercorrelated using the product-moment correlation. One-tail tests were employed where the relationship had been predicted, two-tail tests in all other cases. Because the sample is small, values of P <.10 (in two-tail tests) are of interest. Accordingly values of P <.10 >.05 are described as 'marginally significant'. Values for P of <.05 and <.01 are regarded as 'significant' and 'highly significant' respectively.

7.2.1.1. Among naturalistic variables

Tables with the significant or marginally significant correlations among naturalistic variables are shown in tables 32 to 37, appendix 2, pp. 467-472.

Principal results were as follows:

7.2.1.1.1. Correlations among variables in each construct (assertiveness, aggression and prosocial behaviour)

A matrix of correlations among the variables within each of the main constructs has already been presented in the study of the validity of the naturalistic variables. However, a summary of the main significant (or marginally significant) results of the "r_u" correlations is presented as follows:

(1) Commands/directions category and:
- (a) Requests ..... r_u =.68 P=.003
- (b) Physical leading ..... r_u =.49 P=.048

(2) Disagreeing and:
- (a) Non-compliance ..... r_u =.59 P=.013

(3) Non-compliance and:
- (a) Requests ..... r_u =.49 P=.048

(4) Appropriation of objects and
- (a) Physical aggression..... r_u =.83 P=.000
- (b) Verbal aggression..... r_u =.62 P=.008

(5) Damage of objects and:
- (a) Physical aggression..... r_u =.47 P=.056
- (b) Threat (ii)..... r_u =.62 P=.008

(6) Physical aggression and:
- (a) Verbal aggression..... r_u =.74 P=.001

(7) Spontaneous comforting and:
- (a) Spontaneous sharing..... r_u =.59 P=.014

(8) Spontaneous helping and:
- (a) Asked-for helping..... r_u =.45 P=.072
- (b) Spontaneous sharing..... r_u =.72 P=.001

The main conclusions from an analysis of these correlations within each main construct are:

(1) All assertiveness categories (in condition I) correlate positively at a level of significance $P<.05$ with at least one of the other assertiveness categories.

(2) This is also true of the aggression categories except that damage of objects correlates positively but at a marginal level of significance (P=.056) with physical aggression and non-roleplaying threat does not correlate (either significantly or marginally) with any of the aggression categories. However the frequencies of these behaviours are too small for any conclusive comment.

(3) There are more significant correlations at a level of significance $P < .05$ between spontaneous than between asked-for prosocial categories.

7.2.1.1.2. Correlations **among assertiveness and prosocial categories**

The significant and marginally significant correlations between assertiveness categories and prosocial categories are:

(1) Commands/directions category and:
- (a) Spontaneous comforting ..... r_u =.43 P=.088
- ..... r_1 =.52 P=.035
- ..... r_2 =.52 P=.035
- (b) Spontaneous sharing ..... r_u =.51 P=.038
- ..... r_2 =.43 P=.088

(2) Disagreeing and:
- (a) Asked-for comforting ..... r_2 =.42 P=.091

(3) Non-compliance and:
- (a) Spontaneous comforting ..... r_u =.46 P=.066
- ..... r_1 =.55 P=.022
- ..... r_2 =.43 P=.088
- (b) Spontaneous helping ..... r_u =.77 P=.000
- ..... r_1 =.65 P=.005
- ..... r_2 =.70 P=.002
- (c) Spontaneous sharing ..... r_u =.64 P=.006
- ..... r_2 =.46 P=.066
- (d) Asked-for sharing ..... r_u =.50 P=.043
- ..... r_2 =.41 P=.097

(4) Non-compliance (II) and:
(a) Asked-for sharing ..... r_2 = -.42 P=.095

(5) Requests and:
(a) Asked-for comforting ..... r_1 =.42 P=.095
..... r_2 =.50 P=.043
(b) Spontaneous helping ..... r_u =.42 P=.095

(6) Physical leading and:
(a) Asked-for helping ..... r_u =.48 P=.049
(b) Spontaneous sharing ..... r_u =.47 P=.056
..... r_2 =.44 P=.077

(7) Physical leading (II) and
(a)Spontaneous helping ..... r_u =.52 P=.035
..... r_2 =.46 P=.066
(c) Asked-for helping ..... r_u =.64 P=.006
..... r_2 =.45 P=.072
(d) Spontaneous sharing ..... r_u =.47 P=.056
..... r_2 =.42 P=.095

These results show that all assertiveness categories in I, correlate significantly - or at a marginal level of significance - with one or another of the categories of prosocial behaviour, thus leading to the main result reported in table 36 (appendix 2, p. 471) of a positive and significant correlation between assertiveness and prosocial behaviour. This correlation is of r_u=.58, P=.005 (one-tail), in non-roleplaying conditions. There is a higher positive correlation between assertiveness and the global scores of prosocial behaviour, both roleplaying and non-roleplaying conditions (r_u=.61, P=.011,two tail). Three non-roleplaying assertiveness categories - commands/directions, requests and physical leading - have significant positive correlations at the level of probability of P<.05 (two tail) with some of the prosocial categories (spontaneous sharing and asked-for comforting and helping, respectively) where the correlations were obtained from the scores each child obtained during the total amount of the time he was observed.

The negative and significant relationship between "asked-for" prosocial behaviours and assertiveness mentioned in some studies was not supported by

the results. Only non-compliance correlates negatively with helping asked-for in roleplaying (r_2 = -.44, P=.077, two tail), and non-compliance in roleplaying with sharing asked-for (r_2 = -.42,P=.095). These frequencies are too small for more than tentative interpretation. Roleplaying assertiveness is positively correlated with roleplaying prosocial behaviour but this is also of marginal significance (r_u = .44, P=.080, two tail).

7.2.1.1.3. **Relationship between assertiveness and aggression categories**

(1) Commands/Directions and:
- (a) Physical aggression ..... r_u =.56 P=.021
- ..... r_2 =.57 P=.019
- (b) Physical aggression (II) ..... r_u =.42 P=.095
- (c) Threat ..... r_u =.43 P=.088
- (d) Threat II ..... r_u =.43 P=.088

(2) Commands/directions (II) and:
- (a) Physical aggression (II): ..... r_u =.59 P=.014
- ..... r_1 =.76 P=.000
- ..... r_2 =.69 P=.002
- (b) Threat(II) ..... r_u =.62 P=.008
- ..... r_1 =.44 P=.077
- ..... r_2 =.50 P=.043

(3) Disagreeing (II) and:
- (a) Threat ..... r_1 =.45 P=.072
- (b) Verbal aggression ..... r_u =.56 P=.021
- ..... r_2 =.56 P=.021

(4) Non-compliance (II) and:
- (a) Threat ..... r_1 =.62 P=.008
- (b) Verbal aggression ..... r_u =.51 P=.038
- ..... r_2 =.51 P=.038

(5) Requests and:
- (a) Threat ..... r_u =.72 P=.001
- ..... r_2 =.58 P=.015

(6) Physical leading and:
- (a) Damage of objects ..... r_u =.69 P=.002
- ..... r_1 =.75 P=.000
- ..... r_2 =.65 P=.005
- (b) Threat II ..... r_1 =.68 P=.003
- (c) Physical aggression II ..... r_u =.49 P=.048
- ..... r_2 =.45 P=.072

(7) Physical leading (II) and:
- (a) Damage of objects ..... r_u =.62 P=.008
- ..... r_2 =.51 P=.038
- (b) Threat ..... r_1 =.45 P=.072
- (c) Threat II ..... r_u =.52 P=.035
- ..... r_2 =.52 P=.035

From the correlations between assertiveness and aggression categories we can conclude that only three non-roleplaying assertiveness categories (commands/directions, requests and physical leading) correlate significantly with non-roleplaying aggression categories (physical aggression, threat and damage of objects, respectively). On the other hand four roleplaying assertiveness categories (commands/directions, disagreeing, non-compliance and physical leading) correlate significantly with either roleplaying or non-roleplaying aggression categories. None of them correlate significantly with appropriation of objects. Only the global scores of roleplaying aggression correlate positively with other roleplaying or non-roleplaying assertiveness ($r_u = .68$, $P = .001$ and $r_u = .59$, $P = .005$ one tail, respectively).

2.1.1.4. Correlations between aggression and prosocial categories

(1) Appropriation of objects and:			
(a) Spontaneous comforting	r_u	=.59	P=.014
	r_2	=.46	P=.066
(b) Asked-for comforting	r_u	=.73	P=.001
	r_1	=.85	P=.000
	r_2	=.62	P=.008
(c) Spontaneous sharing	r_u	=.51	P=.035
	r_1	=.58	P=.015
(2) Physical aggression and:			
(a) Spontaneous comforting	r_u	=.57	P=.019
	r_2	=.53	P=.030
(b) Asked-for comforting	r_u	=.54	P=.026
	r_1	=.59	P=.014
(d) Spontaneous sharing	r_u	=.51	P=.038
	r_1	=.71	P=.001
	r_2	=.50	P=.043
(e) Asked-for sharing	r_1	=-.49	P=.048
	r_2	=-.54	P=.026
(3) Threat and:			
(a) Spontaneous helping	r_u	=.53	P=.030
	r_2	=.42	P=.095
(b) Asked-for helping	r_u	=.43	P=.088
(4) Threat (II) and:			
(a) Asked-for helping	r_u	=.52	P=.035
(5) Verbal aggression and:			
(a) Spontaneous comforting	r_u	=.60	P=.011
	r_1	=.49	P=.048
	r_2	=.47	P=.056
(b) Asked-for comforting	r_u	=.55	P=.021
	r_1	=.71	P=.001
	r_2	=.44	P=.077
(c) Spontaneous sharing	r_1	=.71	P=.001
(d) Asked-for sharing	r_2	=-.42	P=.095

The chief conclusion to emerge from these results is that there are positive and significant correlations between three categories of aggression (appropriation of objects; physical aggression; verbal aggression) and two prosocial categories (spontaneous and asked-for comforting; spontaneous sharing). The correlations of appropriation of objects, physical aggression and verbal aggression with sharing asked-for are negative. Threat correlates positively with the helping category. The global scores show a moderate but

positive and significant relationship between aggression (I and II) and "spontaneous" prosocial behaviours (r_u =.43,P=.04; one-tail).

The significant correlations between naturalistic and other variables will be presented under the next sub-headings.

7.2.1.2. Empathy measures

7.2.1.2.1. Correlations among empathy variables

As was stated in 7.1.2. Pearson product-moment correlations show no significant linear relationships between the global scores obtained for each of the empathy measures employed. Excluding a few significant correlations between the children's responses in the affective with the cognitive and the donating test to some individual pictures, the only significant correlations involving global scores were obtained between the donating test and the children's affective responses to pictures of unhappy girls (r= .51, P=.038) and the cognitive responses to pictures of happy boys (r= -.82, P=.000).

In the affective test of empathy, children seem to respond in similar ways to pictures of happy and unhappy boys or girls. The correlations obtained were as follows:

(i) Between happy boys, r=.73, P=.001

(ii) Between happy girls, r=.55, P=.021

(iii) Between unhappy boys, r=.77, P=.000

(iv) Between unhappy girls, r= .66, P=.004

However, when responses to happy boys are correlated with those to happy girls, or the correlation is calculated between unhappy boys and unhappy

girls all coefficients are non-significant with the single exception of one unhappy girl and boy (r=.55, P=.021).

This differentiation in the children's responses is not so clearly observed in the scores obtained for the cognitive aspect of empathy. The few additional significant correlations between responses to the cognitive test are, namely

(i) One picture of a happy boy with a happy girl (r=.68, P=.003

(ii) One picture of a happy with a unhappy boy (r= .51, P= .038)

(iii) One picture of an unhappy boy with an unhappy girl (r=.62, P=.008.)

and where totals for affective and cognitive tests are concerned there are two positive significant correlations between unhappy boys and girls (r=.51, P=.038 and r=.53. P=.030 respectively) .

7.2.1.2.2. **Empathy with other variables:**

The most significant relationships between empathy measures, naturalistic variables, and the nursery nurses'ratings can be summarized as follows:

(1) The aggregation of scores obtained in the three tests of empathy correlate significantly or marginally significantly as follows:

(a) Positively with helping spontaneous (r_1=.49, P=.048 and r_2=.45, P=.072 in I; r_1=. 53, P=.030 and r_2=.46, P=.066 in I and II) and with spontaneous and asked-for helping (r_2=.51, P=.038 and r_1=.45, P=.067 in I). A marginally significant positive relationship between empathy and spontaneous prosocial behaviour (r_2=.42, P=.05, one tail in I and II) was obtained.

(b) Negatively with appropriation of objects, one of the aggression categories (r_2 = -.50, P=.043 and r_1 = -.48, P=.048),

(c) Positively and significantly with command/direction (r_2=.53, P=.030 in I) and the aggregation of assertiveness scores (r_2=.63, P=.007 in I and r_2=.57, P=.019 in II)

(2) For each empathy test the following can be pointed out :

(a) The donating test correlates significantly and negatively with requests (r_2 = -.55, P=.021 and r_1 = -. 57, P=.019 in I; r_2 = -.54, P=.026 and r_1 = -.59, P=.014 in I and II) and also negatively with the mean of the nursery nurses'assertiveness ratings (r = -.51, P=.038)

(b) The cognitive test of empathy correlates positively and significantly with requests (r_1=.55, P=021) and marginally significantly with the aggregation of aggression scores in roleplaying (r_2=.46, P=.066). It also correlates positively and significantly with the mean of the nursery nurses'prosocial ratings (r=.54 P=.026).

Most of the scores for the children's responses to the different sets of pictures in this test correlate significantly with minor (in terms of frequencies) representative categories (mainly in II) of the main constructs of the naturalistic observations; however, the children's responses to the pictures of unhappy girls and happy boys correlate positively and significantly with the mean of the nursery nurses'prosocial ratings (r=.58, P=.015 and r=.42, P=.095, respectively). The mean of the nursery nurses's ratings of assertiveness also correlates positively and significantly with the response to pictures of happy boys (r=.53, P=.030).

(c) The scores in the affective test of empathy correlate at a marginal level of significance and positively with the mean of the nursery nurses'prosocial

ratings (r=.42, P=.095). Affective scores also correlate significantly or marginally with many categories of naturalistic observations, including:

(i) Appropriation of others'objects (r_1= -.50, P=.043; r_2= -.46, P=.066). When this relationship is examined it can be seen that affective response to happy boys is correlated with appropriation of objects (r_1= -.68, P=.003 and r2= -.50, P=.043)

(ii) Verbal aggression. Here the relationship is not with total affective score but only with responses to pictures of happy boys (r_1= -.53, P=.030 and r_2= -.50, P=.043).

(iii) Physical aggression (II), but only between pictures of happy girls or unhappy boys (r_1= -.50, P=.042 and r_2= -.42, P=.095, respectively).

(iv) Command/direction. Here total affective score correlates at r_1=.52, P=.035), but negatively in the case of pictures of happy girls (r_1= -.65, P=.005; r_2= -.57, P=.019) and positively with pictures of unhappy girls (r_1=.43, P=.088)

(v) Request (r_1=.45, P=.072)

(vi) Physical leading (r_1=.42, P=.095) and with unhappy girls (r_1=.51, P=.038 and r_2=.58, P=.015) .

(vii) Disagreement (r_2=.46, P=.066) only for pictures of happy girls

(viii) Non-compliance (r_2=.54, P=.026) only for happy girls

(ix) Helping spontaneous (r_1=.59, P=.014 and r_2=.63, P=.007) This relationship is clear with pictures of unhappy boys and girls (r_1=.45, P=.072 and r_2=.43, P=.088 and r_1=.71, P=.001 and r_2=.64, P=.006 respectively)

(x) Helping asked-for. There is no relationship with total affective score but response to unhappy boys is correlated with this category (r_2=.42, P.095)

(xi) Sharing spontaneous. Like most of the other relationships this is only of moderate strength (r_2=.41, P=.097 for total scores through the relation between it and pictures of unhappy girls is stronger (r_2=.52, P=.035)

Thus several positive relationships have been found between the empathy affective test and prosocial behaviour. The correlations between aggregated prosocial behaviour and total empathy affective score in both spontaneous and asked-for conditions are positive and significant or marginally so (r_1=.44, P=.077; r_2=.56, P=.021 and r_2=.42, P=.095 respectively).

7.2.1.3. Nursery nurses'ratings

7.2.1.3.1. Self-Control

A tendency for each child to be rated similarly on most of the self-control items by the nursery nurses is shown by the significant correlations obtained among most of the items. At least six of the eight items (item 2: remembers directions or instructions; 3: organizes self to perform assignments; 4: anticipates the consequences of own behaviour; 5: manages external frustration while working on an assignment; 6: can delay actions even when excited and 8: thinks positively about self) correlate positively and highly or at marginal significance with five or all other items. Only item 1 (pays attention to directions or instructions) and 7 (expresses feelings through acceptable words and behaviour) correlate positively and significantly with only three other items (3, 5, 6 and 2, 3, 4 respectively) of the Self-control Inventory. Thus there is a clear trend for children rated highly on one 'desirable' aspect of self-control to receive a higher than average rating on the others.

Self-control and other variables:

A positive and significant correlation between self-control and asked-for helping behaviour was obtained (r_1=.47, P=.028 and r_2=.44, P=.039, one-tail tests). Also all the assertiveness categories in II as well as roleplaying threat correlate significantly or marginally significantly and positively with the self-control average ratings. Four items (1, 3, 5, and 6) and three items (1, 5 and 6) of the eight items correlate negatively (significantly or marginally) with appropriation of-others'objects and spontaneous sharing or comforting categories, respectively. However, six items (1, 2, 4, 6, 7 and 8) of the 8 correlate significantly or marginally significantly and positively with helping asked-for prosocial behaviour.

The means of the nursery nurses'self-control ratings also have a highly significant and positive relationship with their mean ratings of empathy (r=.78, P=.000). All self-control average scores of items from the nursery nurses' ratings correlate positively with their mean ratings of empathy (correlations ranging from .54 to .68 for the eight items). The nursery nurses'ratings of assertiveness correlate significantly with five of the self-control items (1, 2, 4, 7 and 8 ranging from .44 to .58) but their mean ratings of aggression and prosocial behaviour correlate only with one item in each case (r= -.68, P=.003 with item 1 and r=.42, P=.095 with item 8, respectively)

7.2.1.3.2. Assertiveness, aggression, prosocial behaviour and empathy

There is a positive and significant relationship between ratings of empathy and prosocial behaviour (r=.57, P=.019) and between assertiveness and aggression (r=.85, P=.000) using the mean of the nursery nurses'ratings for these constructs. No significant correlations were obtained between the mean scores of prosocial behaviour and empathy ratings with assertiveness and

aggression. This appears to be attributable to: (1) a lack of a significant relationship between the two raters about the former construct and (2) to the marginally positive relationship (r=.46, P=.066) on the empathy construct between the raters. Thus, while in the case of rater one significant positive relationships between prosocial behaviour were observed only with assertiveness (r=.66, P=.004) and aggression (r=.53, P=.030), negative significant relationships were obtained between aggression with prosocial behaviour (r= -.58 P=.015) and empathy (r= -.67, P=.003) for rater two.

Nursery nurses'ratings with other variables

The mean empathy rating correlates positively with asked-for helping (r_1=.52, P=.035 and r_2=.45, P=.72) and with assertiveness categories in roleplaying at a level of significance P<.05

The mean assertiveness rating correlates positively with four of the assertiveness categories (disagreement being the exception) at a level of significance P<.05, and also with threat, physical and verbal aggression and spontaneous sharing (P<.05 in all cases).

The mean aggression rating correlates positively with all aggression categories, significantly (with appropriation of others'objects, physical aggression, verbal aggression and threat) and at a marginal level of significance (damage of objects) and also with spontaneous comforting and sharing at P<.05.

The mean prosocial rating correlates at a marginally significant level with spontaneous helping in II (r_1=.43, P=.088; r_2=.43, P=.088), request in I plus II (r_1=.42, P=.095) and command/direction (r_1=.46, P=.066; r_2=.56, P=.021)

7.2.1.4. Family and individual characteristics with other variables

Age is positively and significantly correlated with physical leading (r_1 =.68, P=.003 and r_2=.69, P=.002), damage of objects (r_1=.61, P=.011 and r_2=.50, P=.043), spontaneous and asked-for helping (r_2=.51, P=.038), affective and cognitive response to pictures of unhappy girls (r=.72,P=.001 and r=.69 P=.002) and the global empathy scores (r=.56,P=.021).

The number of older male siblings is significantly and positively correlated with spontaneous comforting (r_2=.65, P=.005) and spontaneous sharing in I (r_2=.45, P=.072) and in I plus II (r_1=.46, P=.066; r_2=.49, P=.048). The number of older female siblings correlates negatively and significantly with physical aggression (r_1= -.42, P=.095; r_2= -.49, P=.048). The total number of older siblings is positively and significantly correlated with affective responding to pictures of unhappy boys (r=.61, P=.011) and marginally but negatively correlated with the nursery nurses'mean ratings on item number 8 of the Self-control Inventory ("thinks positively about self" r= -.41, P=.097)

The number of younger siblings who are girls is positively and significantly correlated with the nursery nurses' mean scores of item 5 of Self-control Inventory ("manages external frustration..." r=.52, P=.035).

Finally, birth order, as in the case of the number of the older siblings, is positively and significantly correlated with affective response to pictures of unhappy boys (r=.61, P=.011).

7.2.1.5. Summary of the main results:

The hypotheses tested were concerned with predicted relationships between major variables derived from the naturalistic observations and certain

individual characteristic of young children, especially their capacity for empathy and self-control. The results show that:

(i) All assertiveness categories in condition I (non-roleplaying) correlate significantly - or at a marginal level of significance - with one or another of the categories of prosocial behaviour, thus leading to the main result of a positive and significant correlation between assertiveness and prosocial behaviour. On the other hand, only three categories of assertiveness in condition I (command/direction, request and physical leading) correlate positively and significantly with aggression categories in condition I (physical aggression, threat and damage of objects, respectively). The global scores show a moderate but positive and significant relationship between aggression (I and II) and spontaneous prosocial behaviour. Positive correlations between threat and helping and appropriation of objects and physical and verbal aggression with spontaneous and asked-for comforting and spontaneous sharing were obtained respectively; but correlations between appropriation of objects and physical and verbal aggression with asked-for sharing are negative.

There is a positive and significant relationship between ratings of assertiveness and aggression using the mean of the nursery nurses'ratings for these constructs. The mean of the nursery nurses'assertiveness ratings correlates with four of the five assertiveness categories, the mean of the nursery nurses'aggression ratings, with threat, physical and verbal aggression and spontaneous sharing. The mean of the nursery nurses'aggression ratings correlates with all aggression categories and spontaneous comforting and sharing.

(ii) The aggregation of scores obtained in the three tests of empathy correlate positively and significantly with command/direction the aggregation of

assertiveness scores and spontaneous helping and negatively with appropriation of objects. The cognitive test of empathy correlates positively and significantly with requests and the mean of the nursery nurses'prosocial ratings scores. The affective test of empathy correlate significantly or at a marginal level of significance but negatively with appropriation of objects and positively with request, physical leading, the mean of the nursery nurses'prosocial ratings and (chiefly the pictures of unhappy children) with helping and sharing (mainly the spontaneous subcategories) and the aggregated prosocial scores in both spontaneous and asked-for conditions.

The mean of the nursery nurses'empathy ratings correlates positively with asked-for helping behaviour and the mean of the nursery nurses'prosocial behaviour.

(iii) A positive and significant correlation between the mean of the nursery nurses'self-control ratings and asked-for helping behaviour was obtained. The means of the nursery nurses'self-control ratings also have a highly significant and positive relationship with their mean ratings of empathy.

(iv) Age is positively correlated with physical leading, damage of objects, helping and the aggregated scores of empathy. Birth order or the number of older siblings is positively and significantly correlated with the affective response to pictures of unhappy boys.

7.2.2. Relationships with sex:

Somer's D and Kendall's tau b were chosen to measure the strength of the association between sex and other variables of interest, because sex must be treated as a dichotomous variable. For this purpose males were coded '1' and females '2'. Thus a positive and significant tau/delta indicates females higher in

the other variable than boys, a negative value the converse. Values for P of <.05 and <.01 are regarded as significant or highly significant respectively. Because the sample is small values of P <.10 are of interest. Accordingly values of P <.10 >.05 are described as "marginally significant" as before.

7.2.2.1. Naturalistic variables

Table 5: Significant values of Somer's D and Tau b for the relationship between sex (boys = 1, girls = 2) and stated variables

sig.values	Somer's D		Tau b	
Variables	1 hour	2 hours	1 hour	2 hours
R I	--	-.49	--	-.36 P=.047
PL II	--	-.34	--	-.39 P=.057
AO	.47	--	.41 P=.04	--
PA I	-.43	--	-.35 P=.06	--
PA II	-.43	-.71	-.54 P=.01	-.72 P=.001
T I	-.33	-.40	.38 P=.06	-.40 P=.052
T II	-.50	.80	-.51 P=.016	.72 P=.001
CS	.36	--	.37 P=.07	---
HS II	-.29	-.29	.44 P=.04	.44 P=.04

The results show:

(1) Assertiveness

There is no significant relationship between sex and most of the categories of assertiveness. The exceptions are non-roleplaying request (D = -.49 and tau b = -.36, P. = .047) and roleplaying physical leading (D = -.34 and tau b = -.39, P. = .057) for two hours of observation, leading to a D = -.46 and tau b = -.33, p. = .05 for the total assertiveness scores.

(2) Aggression

Boys scored more highly in the sum of aggression global scores both for one (D = -.43 and tau b = -.32, P = .07) and two (D = -.61 and tau b = -.45, P = .017) hours of observation. This is due to higher scores in two categories of aggression, i.e. threat and physical aggression, particularly in the roleplaying condition (see the table above). Girls scored more highly in the category appropriation of others'objects" for the frequencies obtained from one hour of observation (D = .47; tau b = .41, P = .04)

A more detailed analysis shows that a score obtained by a single boy constitutes 50 percent of the total of the roleplaying threat and a score obtained by a single girl makes up 31 percent of the appropriation of others'objects. These may raise the question of whether these values represent differences related to the sex of individuals or are associated with other individual or environmental characteristics or variables.

(3) Prosocial Behaviour

No significant relationships were obtained between sex and the main prosocial categories. Minor differences were found in prosocial behaviours making up less than six percent of the total prosocial behaviour observed. These latter were observed in:

(i) Spontaneous comforting where a marginally significant relationship was obtained (girls higher than boys, for one hour of observation)

(ii) Spontaneous helping in roleplaying where boys were, on average, higher than girls.

7.2.2.2. Empathy variables

The relationship between sex and empathy (aggregated scores) is non-significant. These results are corroborated by the nursery nurses'ratings. However, when the tests are considered independently, boys scored marginally higher in the cognitive aspect of empathy (D= -.41 and tau b= -.30, P= .077) and, generally, in the sum of individual pictures of happy children, owing to their tendency to employ the extremes of the rating scale "very happy" or "happy", when looking at pictures of happy children, particularly boys; thus, a tau b= -.32, P= .083 and a D of -.37 was obtained for the association between sex and the affective answers to pictures of happy boys indicating that male children are 37 percent more likely to say they feel happy when looking at a picture of an happy boy. On the other hand, girls scored higher on the affective aspect of empathy associated with pictures of unhappy boys; a tau b=35, P=.075 and D of .41 was obtained, in this case, showing that girls are 41 percent more likely to say they feel unhappy when looking at a picture of an unhappy boy; however, this relationship is, like the others mentioned above, only marginally significant.

7.2.2.3. Nursery nurses'ratings

7.2.2.3.1. Self-control

Boys were rated higher by the nursery nurses in the Self-Control Behaviour Inventory (D= -.46 and tau b=-.34, P=.058) particularly in items 2 (remembers directions or instructions) 4 (anticipates the consequences of own

behaviour) and 8 (thinks positively about self) in which Kendall tau b is significant at a level of P<.05. The inferences to be drawn from these results will, however, have to take into account the fact that some of the items were difficult to rate by the nursery nurses in the particular case of the children who attended the nursery more rarely and who represent 60 percent (six out of 10) of the girls sample but only 14 percent (one out of in seven) of the boys.

7.2.2.3.2. Assertiveness, aggression, prosocial behaviour and empathy

The relationship between sex and the means of the nursery nurses' ratings of prosocial behaviour and empathy are non-significant. But boys were rated higher in assertiveness (D= -.61 and tau b= -.47, P=.016) and aggression (D= -.54 and tau b= -.43, P=.028) by the nursery nurses. These results were, in part, corroborated in the naturalistic observations, as mentioned in point 7.2.2.1.

7.2.2.4. Family and individual characteristics

All the coefficients which measure the strength of the relationship between sex on the one hand and age, parental nationality, occupation, absence or number of siblings on the other were non-significant. It may be concluded that any relationships between sex and variables in 7.2.2.1. to 7.2.2.3. above are not attributable to age, occupation, nationality or absence of a parent or to the number of siblings (and, hence, opportunity for interaction) in the family of the child. However girls are more likely to have an older brother but not sister than boys (D=.40; tau b=.45, P.03).

7.2.3. Analysis of behaviour

7.2.3.1. Distribution and percentages

The data collected in the naturalistic observations show that the frequency distributions (appendix 2, tables 26 to 31, pp. 460-465) among the behaviours recorded are unequal. Tables 6, 7 and 8 show the percentages of the global frequencies in each of the categories. The main characteristics of the distribution of these percentages can be summarized as follows:

(1) Assertiveness behaviour

Table 6: **Assertiveness behaviour as rounded percentages of total assertiveness and total behaviour categorized [I- non-roleplaying; II roleplaying]**

Cats / %	CD		D		NC		R		PL	
	I	II	I	II	I	II	I	II	I	II
Total Assertiveness (644)	44	2	7	<1	13	<1	16	1	15	1
Total behaviour (1022)	28	2	5	<1	8	<1	10	<1	10	1

The predominant category is non-roleplaying command/direction with 44 percent of the total assertiveness frequency (644) and 28 percent of the total of all assertive, aggressive and prosocial behaviours categorized (1022). Requests and physical leading are frequent assertive behaviours with percentages between 10 and 20 when both the total number of assertiveness behaviour and all behaviours recorded are considered. The least frequent category is disagreeing with seven percent of the total assertiveness frequency and five of the total number of behaviour categorized. Also, though all assertive categories were

observed in roleplaying situations, their percentage is very low (between two and less than one percent)

(2) Aggressive behaviour

Table 7: Aggressive behaviour as rounded percentages of total aggression and total behaviour categorized [I- non-roleplaying; II - roleplaying]

Cats / %	AO		DO		PA		T		VA	
	I	II	I	II	I	II	I	II	I	II
Total Aggression (176)	27	--	11	--	34	5	4	10	10	--
Total behaviour (1022)	5	--	2	--	6	1	1	2	2	--

Aggressive behaviour (176) was observed less frequently than assertiveness (17 percent compared to 63 percent) of total behaviour.

Among aggression categories the most frequent are non-roleplaying physical aggression with 34 percent of the total aggression frequency and six percent of the total score of behaviour categorized and appropriation of others'objects (in non-roleplaying condition) with 27 and five percent for each of the frequencies mentioned, respectively. The least frequent aggression category is non-roleplaying threat with four percent of the total of aggression global frequency and only one percent of the total of all the behaviour categorized. However, in the roleplaying condition threat was the most frequent category observed (with 10 percent of the total aggression frequency and two percent of the total of all behaviour categorized).

The three aggression categories - appropriation of others'objects, damage of objects and verbal aggression - were not observed in the roleplaying condition.

(3) Prosocial behaviour

Prosocial behaviour constitutes 20 percent of the sample of behaviours categorized. A more detailed examination (see table 8, p. 246) shows that most prosocial behaviour frequencies obtained occurred either in the spontaneous or asked-for subcategories of non-roleplaying helping and sharing prosocial categories (30 and 17 percent of the total of all prosocial behaviour recorded for helping spontaneous and asked-for, respectively, and 21 percent for both subcategories of sharing prosocial category). Comforting - either asked-for or spontaneous - was the least frequent behaviour observed (only three to four percent of the total prosocial frequency, respectively, and one percent of the total behaviour categorized). Also, all prosocial behaviour in roleplaying situations was infrequent in the categories in which it was observed (less than one percent in spontaneous and asked-for helping and spontaneous sharing) or non-existent (in asked-for sharing and comforting either spontaneous or asked-for).

Table 8: Prosocial behaviour as rounded percentages of total prosocial and total behaviour categorized [I - non-roleplaying; II roleplaying]

Cats / %	C				H				S			
	S		A		S		A		S		A	
	I	II	I	II	I	II	I	II	I	II	I	II
Total Prosocial (202)	4	-	3	-	30	1	17	1	21	1	21	-
Total Behaviour (1022)	1	-	1	-	6	<1	3	<1	4	<1	4	-

7.2.3.2. Sequences in children's interaction

Following the results of previous research, it was not expected that random sequences of behaviour would be found. Instead, systematic relations between behaviour which preceded and succeeded events were predicted. The identification of non-random dyadic sequences would enable the prediction of antecedent-consequent relations and thus the making of probabilistic statements concerning their link within a given context.

In order to carry out a sequential analysis of the behaviours recorded in the naturalistic observations which would permit conclusions as to which behaviour would be contingent upon known predecessors or, conversely, which would exercise some constraint upon those which followed, the chi-square model was applied. Alternatives for the analysis of behavioural sequences have been undertaken by different authors. These include factor analysis (not meaningful with a sample of 17), information theory models in which reduction of uncertainty of prediction is studied and extrapolations from linguistics of phrase structure grammar.

(1) The factor analytical model:

In this method the ratios of obtained to expected frequencies of preceding and following events could be ranked, then Spearman's rho could be calculated between pairs of columns (items and their precedents) and rows (items and consequences) and factor-analysed.

(2) The informational model:

This is a useful model to deal with behaviours determined by several previous events. It entails the calculation of the average reduction of the uncertainty of prediction yielded by antecedent behavioural sequences of increasing length.

(3) The phrase structure grammar model:

This model derived from psycholinguistics draws analogies between the generation of language and that of non-verbal behaviours. Thus, non-verbal behaviours are considered to include a finite repertoire of elements as language has a finite vocabulary consisting of words; both are seen as a structure: words and behaviour elements are organized hierarchically into groups of increasing or decreasing complexity.

The extrapolation of the phrase structure grammar model to the analysis of non-verbal behaviour has been strongly criticized, as there is no reason why models derived from psycholinguistics should have applicability to any behaviour other than language.

The chi-square model applied in this study:

In the light of the complexities of the methods described and the relatively small number of children in the present study it was decided to use the

simplest and most widely-known chi-square method. Even here, however, certain behaviours are observed so infrequently in the naturalistic method used that observed and expected values are too small for them to be considered. In addition, the overall chi-square value and contingency coefficient can, at best, refute the null hypothesis that behaviours are independent of one another though the contributions of each cell to chi-square can alert the researcher to those dyadic links which would show up as being the most closely correlated using the other methods described.

Thus in order to undertake the analysis of behavioural sequences using the chi-square model, a table was drawn up in which rows indicated antecedent (preceding) and columns consequent (succeeding) behaviours. All the separate behavioural categories of the child's repertoire are listed horizontally; the same elements are again arranged vertically. A diagonal line is drawn across the table from the top left hand cell to the bottom right hand cell. A frequency count is made of the number of times each behavioural event in the left hand column follows each item at the head of the table. These frequencies are entered below the diagonal of the matrix. A frequency count is then made of every occasion that an item at the left of the table precedes an item to its right. These figures are entered above the diagonal of the matrix. The column totals give the number of times a particular act followed all other acts; the row totals give the number of times a particular act precedes all other acts.Thus it can be seen that command/direction preceded other categories on 192 occasions and itself followed 194 other categories of behaviour (proximal dyads).

In order to eliminate small numbers which could be misleading in a chi-square test, only eleven categories having greater than 30 consequents were retained for the sequential analysis of the proximal dyads (that is, those based on the first two minutes of observation). A behavioural category was recorded

before (antecedent) or after (consequent) each in the naturalistic observations. The same categories were selected for the sequential analysis of the behaviours recorded in the third to the fifth minute before (antecedents) or after (consequents) another behaviour/event (these are distal dyads).

Table 9: Table of observed frequencies showing antecedent and consequent behaviours; preceding behaviours are arrayed vertically, succeeding behaviours horizontally.* Proximal dyads follow number 1 and distal dyads number 2.

		CD	D	NC	R	PL	AO	PA	HS	HA	SS	SA	Total
CD	1		10	20	42	51	16	26	6	6	9	6	192
	2		11	18	29	23	14	18	12	3	10	8	146
D	1	16		16	3	2	3	5	2	1	2	2	52
	2	17		3	2	2	2	4	2	2	3	3	40
NC	1	27	8		7	2	3	3	5	2	6	4	67
	2	19	1		3	4	1	3	3	1	2	5	42
R	1	36	5	10		11	7	7	4	4	5	4	93
	2	28	2	13		3	3	7	3	1	4	1	65
PL	1	38	4	6	13		3	9	2	2	3	1	81
	2	31	3	3	18		7	5	3	4	3	2	79
AO	1	13	2	7	5	0		6	3	0	2	1	39
	2	13	1	9	6	3		6	3	0	5	2	48
PA	1	18	1	2	6	2	5		2	1	5	2	44
	2	22	2	4	5	7	3		3	3	5	0	54
HS	1	17	0	4	2	6	3	2		4	4	5	47
	2	15	1	4	5	11	1	1		0	5	2	45
HA	1	7	0	2	5	1	1	2	4		0	1	23
	2	7	0	2	2	2	1	0	6		2	2	24
SS	1	14	0	1	1	3	2	0	2	0		3	26
	2	17	2	2	2	8	3	3	0	0		1	38
SA	1	8	1	2	5	1	0	2	3	3	1		26
	2	3	0	2	2	2	0	2	1	1	1		14
T.	1	194	31	70	89	79	43	62	33	23	37	29	690
T.	2	172	23	60	74	65	35	49	36	15	40	26	595

* For example, in the table disagreeing followed command/direction on 10 occasions whereas command/direction followed disagreeing on 16 occasions.

Following Grant's (1963) technique of calculating the expected frequency (fe) for each cell on the hypothesis that acts follow or precede each other in proportion to their overall frequency of occurrence, the expected value for each cell was obtained as follows:

$$f_e = \frac{\text{row total x column total}}{\text{grand total}}$$

By comparing the expected value with the observed value in each cell it is possible to see how frequently a particular preceding behaviour was followed by every other categorized behaviour, i.e. whether two sequential behaviours occur in association with each other more or less frequently than would be expected by chance. Any major discrepancy between expected and observed values will give indications of affinity or otherwise between behaviours. However, this is a somewhat rough and ready technique as the calculation of a total chi-square leaves the problem of deciding what constitutes a "major discrepancy" between the expected and observed frequencies (Hutt and Hutt, 1970).

In order to make an overall test of significance, that is, to test the null hypothesis that behaviours preliminarily classified as consequences are independent of antecedents, the following values were calculated for a chi-square with 81 degrees of freedom:

Table 10: Expected frequencies and components of X^2 for the proximal (1) and distal (2) dyads (rounded to the nearest whole number)

		CD	D	NC	R	PL	AO	PA	HS	HA	SS	SA
fe	1		9	19	24	22	12	17	9	6	10	8
	2		6	15	18	15	9	12	9	4	9	6
CD $\frac{(fo-fe)^2}{fe}$	1		0	0	12	38	1	4	1	0	0	1
	2		5	1	6	4	3	3	1	0	0	0
fe	1	15		5	7	6	3	5	2	2	3	2
	2	12		4	5	4	2	3	2	1	3	2
D $\frac{(fo-fe)^2}{fe}$	1	0		22	2	3	0	0	0	0	0	0
	2	3		0	2	1	0	0	0	1	0	1
fe	1	19	3		9	8	4	6	3	2	4	3
	2	12	2		5	5	2	3	3	1	3	2
NC $\frac{(fo-fe)^2}{fe}$	1	3	8		0	4	0	2	1	0	2	0
	2	4	0		1	0	1	0	0	0	0	5
fe	1	26	4	9		11	6	8	4	3	5	4
	2	19	3	7		7	4	5	4	2	4	3
R $\frac{(fo-fe)^2}{fe}$	1	4	0	0		0	0	0	0	0	0	0
	2	5	0	6		2	0	1	0	0	0	1
fe	1	23	4	8	10		5	7	4	3	4	3
	2	23	3	8	10		5	7	5	2	5	3
PL $\frac{(fo-fe)^2}{fe}$	1	10	0	1	0		1	0	1	0	0	2
	2	3	0	3	7		1	0	1	2	1	1
fe	1	11	2	4	5	4		4	2	1	2	2
	2	14	2	5	6	5		4	3	1	3	2
AO $\frac{(fo-fe)^2}{fe}$	1	0	0	2	0	4		2	1	1	0	0
	2	0	0	4	0	1		1	0	1	0	0
fe	1	12	2	4	6	5	3		2	1	2	2
	2	16	2	5	7	6	3		3	1	4	2
PA $\frac{(fo-fe)^2}{fe}$	1	3	0	1	0	2	2		0	0	3	0
	2	3	0	0	0	0	0		0	2	1	2
fe	1	13	2	5	6	5	3	4		2	3	2
	2	13	2	5	6	5	3	4		1	3	2
HS $\frac{(fo-fe)^2}{fe}$	1	1	0	0	3	0	0	1		4	1	5
	2	0	0	0	0	8	1	2		1	1	0
fe	1	6	1	2	3	3	1	2	1		1	1
	2	7	1	2	3	3	1	2	1		2	1
HA $\frac{(fo-fe)^2}{fe}$	1	0	1	0	1	0	0	0	8		1	1
	2	0	1	0	0	0	0	2	14		0	1
fe	1	7	1	3	3	3	2	2	1	1		1
	2	11	1	4	5	4	2	3	2	1		2
SS $\frac{(fo-fe)^2}{fe}$	1	6	1	1	2	0	0	2	0	1		3
	2	3	0	1	2	4	0	0	2	1		0
fe	1	7	1	3	3	3	2	2	1	1	1	
	2	4	1	1	2	2	1	1	0	1	1	
SA $\frac{(fo-fe)^2}{fe}$	1	0	0	0	1	1	2	1	2	5	0	
	2	0	1	0	0	0	1	1	1	0	0	

1. Proximal dyads
$X^2_{81} = 203.013$ $P < .001$ $\quad C = \sqrt{\frac{X^2}{N+X^2}} = \sqrt{\frac{203.013}{893.013}} = .476$

2. Distal dyads
$X^2_{81} = 143.983$ $P < .001$ $\quad C = \sqrt{\frac{X^2}{N+X^2}} = \sqrt{\frac{143.983}{738.983}} = .441$

Both chi-squares and the contingency coefficients (C) based on them are highly significant, indicating that antecedents and consequents either for proximal or distal dyads are not randomly distributed (i.e. are not independent of one another), but there is a strong association between them.

Interpretation of a chi-square having so many degrees of freedom is complex, but it is clear from a comparison of observed with expected values that some discrepancies are much larger than others with the majority remaining small. Since one hundred components were calculated for each chi-square, the rule of thumb adopted to identify those discrepancies considered most significant is to choose the five percent of values which are highest. These refer to the following sequences in the proximal and distal dyads:

1.	Proximal dyads	2.	Distal dyads
1.1	CD->R	2.1	CD-> R
1.2	CD->PL	2.2	R -> NC
1.3	D ->NC	2.3	PL -> R
1.4	NC->D	2.4	HS-> PL
1.5	PL->CD	2.5	HA-> HS

where -> indicates "precedes"

From the results obtained it is quite clear that in 1 (proximal dyads) commands/directions precedes request (CD -> R) and physical leading (CD -> PL) far more frequently than one would expect by chance as does disagreeing and non-compliance (D -> NC). When we come to the reverse directions of sequences (R -> CD; PL -> CD and NC -> D) we can see that CD -> R, PL ->

CD and D -> NC are more likely than R -> CD, CD -> PL and NC -> D, respectively, as the differences between observed and expected frequencies are greater in the first sequences than in the second.

Among these sequences only CD -> R is also included in the five percent of values whose discrepancies are the highest in 2 (distal dyads). However, some discrepancies are still observed between expected and observed distal values see table 9 and 10) in the sequences CD -> PL and PL -> CD but not in the sequence D -> NC or NC -> D; in 2 (distal dyads) NC (non-compliance) is preceded by request (R -> NC), the opposite being observed with physical leading which is likely to be followed by request (PL -> R) but preceded by this category less often than would be expected by chance. In the sequences D -> R, D -> PL and NC -> PL in 1 (proximal dyads), and PL -> NC in two (distal dyads), the observed values of the preceding categories are also smaller than would be expected (table 9 and 10) if there was a random distribution.

Taking into account the overall values one can conclude that assertive categories such as commands/directions, requests and physical leading initiate most of the behavioural acts as their marginal totals are the largest (192, 93 and 81 respectively in 1 and 146, 65 and 79 respectively in 2 as shown in table 9). Commands/directions mark the beginning of sequences of other behaviours including mainly requests (CD -> R) and physical leading (CD -> PL) and to a smaller extent, physical aggression (CD -> PA) and both disagreeing (CD -> D) and appropriation of others'objects (CD -> AO) in the distal analysis. Physical leading also initiates many of the commands/directions (PL -> CD) observed in 1 (proximal dyads) and requests PL -> R) in 2(distal dyads); on the other hand requests may also precede commands/directions in 1 and 2 and non-compliant behaviours in 2 (distal analysis). Disagreement is another assertiveness category which initiates many non-compliant behaviours in the proximal analysis, though

some of these may also precede the former. Non-compliance is also likely - but to a relatively small extent - to be the (both proximal and distal) antecedent of commands/directions and of asked-for sharing (distal).

Significant discrepancies between observed and expected values were also obtained between one prosocial and assertiveness sequence (HS -> P .) and two prosocial ones (HA -> HS) in the distal analysis. The latter sequence (HA -> HS) relating asked-for with spontaneous helping (with the former preceding the latter more frequently than the reverse) is also observed though to a lesser extent in the proximal analysis, as well as the sequences in which spontaneous sharing and helping seem to precede more asked-for sharing than the reverse (SS -> SA and HS -> SA). The opposite is observed between asked-for sharing and asked-for helping (SA -> HA, with asked-for sharing leading more to asked-for helping than the reverse). Of course, some of the discrepancies between observed and expected values obtained for some of these categories are very small (when compared with most of assertiveness categories in which the frequencies are much greater) but even if their statistical significance is questionable it may be important and interesting to report them as they can be explored in further studies. Among these are also some sequences of aggressive and prosocial behaviours preceding assertive or aggressive behaviours. Thus commands/directions may be - up to a point - a proximal and distal consequent of physical aggression since non-compliance (another assertive category) is also a consequent of appropriation of others'objects (AO -> NC). However the zero observed value obtained in the sequence AO -> PL is considerably smaller than would be expected, thus showing the lack of affinity between appropriation of objects and the assertive category physical leading (which does not appear to be associated with any aggression category). In fact, physical leading is likely to be a distal consequent of prosocial behaviours such as spontaneous helping (while

other assertive categories such as disagreeing and requests follow it in the proximal analysis less frequently than expected) and to a smaller extent of spontaneous sharing. On the other hand the latter prosocial category is more likely to be a proximal and distal antecedent of commands-directions (SS -> CD).

Spontaneous sharing behaviour seems to be more strongly associated (as antecedent) with the command/direction assertiveness category than with any other prosocial category. In spite of the very small values it is interesting to point out that in the proximal analysis spontaneous sharing is also the only prosocial category which seems to follow physical aggression, more than any other category (while asked-for sharing follows physical aggression less frequently than is expected in the distal analysis) and never preceded it. This association between spontaneous sharing and physical aggression) may be related to that observed between comforting and some of the aggression categories but this could not be included here for statistical treatment because the numbers were too small: only 14 comforting behaviours (divided into "asked-for" and "spontaneous" subcategories) were observed in a total of 1022 recorded behaviours. In fact, comforting was observed most often following appropriation of others'objects or physical aggression. This relationship, or more generally, the study of the mechanisms which activate the comforting behaviours in a particular set of environmental variables related to children's relationships, would perhaps be better investigated in a different type of research, i.e. an experimental one, which could elicit it more often. The same could be said about some of the infrequent categories of aggression (such as damage of objects, threat or verbal aggression) which although they seem to be associated with the appropriation of other's objects or physical aggression would be misleading if subject to quantitative analysis because of the very small frequencies involved. In fact,

aggression behaviours were less common among the children observed than any other kind of behaviour. It would, perhaps, be interesting, to note that physical aggression is more likely to be a proximal consequent than antecedent of other behaviours.

7.2.3.3. Antecedents and consequents

As stated in the previous chapter, all aggressive and prosocial behaviour was analyzed but only about one-third of incidents of assertiveness were subject to qualitative analysis. All sequences referred to in the discussion which follows are presented in appendix 2 (section, 2.1., pp. 404-458).

7.2.3.3.1. Assertiveness

7.2.3.3.1.1. Antecedents

A) Command/direction

The activities which most commonly precede command/direction are those coded in 1 and 2 and the materials "real or scale-version toys or material" or small/moveable or large apparatus". Situations in which either the target children or the recipients of command/direction or both were not using any materials before this behaviour appeared were also frequent. The social code most often recorded was playing in association.

Command/direction was preceded most often by the following situations:

(1) At the beginning or change of an activity or place when the target child attempts to gain another child's company or cooperation:

Examples: child 8 enters the playhouse where she sees child 6. She begins to remove the plates on the table and says "Get ready, put your picture here"; then they both begin to paint their drawings

In sequence 60.2, child 9 is standing and then moves from one window to another with child 14. She says "Come on, let's hide" and begins to run with child 14 in the direction of the playhouse...

In a different (yet common) situation child 13, after crawling with child 10 asks child 3 (standing nearby) if he wants to play. He answers "Yes" and child 13 tells him he will be the "little boy".

(2) When the target child is directing the development of an activity, co-ordinating or controlling other children's roles or movements.

Examples: child 8 tells child 16 to lean against a post and child 9 to "Shoot". She then says he has to be dead, helps him to lie down and asks child 9 to "Get some lilies from the shop".

In sequence 23.1, a group of children surrounds child 1 who moves his arm, on which he has a ladybird, which he peruses. As some children look closely, one gives him a leaf (for the animal to eat) and others attempt to touch the insect, he starts repeating "Don't kill him, don't squash him".

(3) Any situation in which the child sees objects/materials or space another children may be using or that he (or the playmates) may need to begin, develop or change an activity

Example: child 15 makes a meccano-type construction, adds some wheels and tries to place it on the wheels, straight, but is unsuccessful. He leaves

it and goes in the direction of the playhouse. Finding the door closed he cries out to the children, playing inside "Open the door! Let me in!..."

(4) In the development or at the end of an activity children may attempt to direct other children's attention to an object they have acquired, something they have made or, less commonly, to another child's activity

Example: child 4 is assembling some pieces of meccano construction materials near a group of children. After a while he turns to them, and says: Look. I have made a bike".

(5) After aggression or any kind of interference in the child's activity

Examples: In sequence 20.3, child 8 is trying to identify drawings and letters appearing on a toy screen after another child pressed some keys. Child 16 approaches the group and hits her head with small bricks. She looks immediately at him and says: "You stop! Would you like me to do the same?"

In a different situation child 1 is lying down with a blanket over him. As child 3 attempts to grasp part of it he cries out "This is my bed, get off".

In sequence 55.1, child 14 fits pieces of lego into a pegboard. Child 17, at her side. stretches out his arm and adds another one. Child 14 removes it and says: "Don't put any on, O.K.? That's my game".

(6) To prevent some children joining in the group activity

Example: Child 6 is sitting and chatting to child 12 in the cabin under the slide. As child 7 approaches them she tells her: "Not you,...! It's only for us..."

(B) Disagreement

The activities which most often precede disagreements are those coded in 2 (associated with manual skills) and the materials "constructional toys/kits, puzzles and pliable materials" and "real or scale-version toys or material"

Most disagreements are associated with statements about possession of objects, often following a child's request or attempt to appropriate the other child's object or material. For example, child 4 is putting one human figure in a hole made with circles. Child 15 who is playing near (at the same table) takes it away. Child 4, while saying "No, I found it" gets it back immediately.

Disagreements in the course of the development of an activity were also frequent. For example, in sequence 24.4 child 4 is putting a block on top of others. Child 1 (who is making "a house" with him), says that they do not need anymore. Child 4 answers they need more there and adds "That's my idea". In the same way, child 16 begins building a second small tower with pieces of lego on a pegboard. Child 5 tries to prevent him, but he says "It has to be like that, those pieces are necessary there, one (pointing the finished small tower) is the mother and the other (he still has to complete) is the father".

Statements of disagreement were also observed, though less frequently, when the recipients were interfering in the target child's activity (e.g. breaking down his sand wall or adding a piece of material to his construction) or were making comments the child could not accept (e.g. the child denies that an arch the other child is pointing to has a "treasure"; that "X" is her friend or that his teddy bear is crying). The target child's own behaviour had also sometimes constituted the focus of disagreement. For example, child 16 goes through the room jumping while half-naked. Child 1 keeps repeating to other children and the nursery nurse that he does not have his vest on. Child 16 answers saying he

cannot use it because it is dirty. In a different situation child 11 is putting small cubes on a lego plank when she hears child 15 (carrying out a similar activity near her) saying loudly "Very naughty". She immediately turns over, approaches that child and says "I said sorry, didn't I?"

The kind of social interaction more often found preceding disagreement was playing in parallel or in association.

(c) Non-compliance

The activities preceding non-compliance most often were in the case of the target child "1" and "2" and recipients "2" and "3". The materials most commonly used were those coded in 3 "real or scale-version toys or material". The recipient was more likely to be observed not to be using materials than the target child. The kind of social interaction in which this behaviour most often arose was playing in association.

Among the most common antecedents were:

(1) Commands/directions or requests from the recipients

Example: In the playhouse an older girl tells child 15 to get out. Child 15 asks why. She answers "Because I tell you what to do". Child 15 laughs, but stays.

(2) Requests, attempts to appropriate or use the child's objects

Example: Child 2 (sequence 49.7) goes through the courtyard pushing a wheelbarrow. She refuses to let a younger child put some wood chippings inside and, as that child insists and even throws some into the wheelbarrow, she turns it upside down until another child calls her to go to the seesaw.

(3) Aggressive (or other) behaviour interfering with the child's activity (in these cases the child either continues his activity or puts things back as they were before.

Example: Child 15 walks through the room making a lot of noise like a donkey". Child 1 hits him but he goes on making the same sounds. Or, in a different situation children pull a box very strongly with child 5 inside while she is ordering them not to do so. Child 5 suddenly gets out, withdraws them from the box, replaces it and occupies it again.

(4) Obstacles (physical or social) making it difficult for the child to use certain objects/materials or space (e.g. playhouse door locked inside by children who do not want others to associate with them; a collection of pencils or a reading machine in another child's hand)

Less frequently observed were non-compliant behaviours following other children pulling the target children's arm, hand or commanding them to follow, go to or stay in a different place.

(D) Request

Request in non-roleplaying condition appears with a similar frequency in most of the categories of activities considered, namely those coded in "1" (involving posture and large movements), "2" (vision and fine movements), "3" (social interaction) and 4 (school subject-related activities).

Considering the small frequency of school subject-related activities during the entire period of free play observations, the amount of requests obtained, though not being much greater than the other categories mentioned, was, however, more significant. The category of materials predominating are those coded in "4" (art and craft/pre-reading) and "3" (real or scale-version toys

or material); the target child is more likely not to be using any materials than the recipients of request. The social interaction prevailing before a request is made, is playing in association, though there is also a significant number of children playing in parallel.

Most of the requests were made in the following situations:

(1) In the development of any activity, when a child needed material, objects, space or the recipient's help (e.g. to add something to the painting he was doing) in order to continue or complete it. The requests for different pencils when the child was drawing or painting constituted, in this area, the majority of requests. For example, in sequence 102.1, 102.3 and 102.6 child 16 is drawing with child 5 who has most of the pencils in her hand. Child 16 asks for the orange pencil, shows the strokes he is making with it and then asks for the black more than once ("Can I have the black now? Can you give it to me...?") as child 5 refuses to yield it saying she will do it.

(2) In the beginning or when changing to another activity the child often not only needed materials, objects, space, but also help (e.g. to open the playhouse door) and other children's company (to "read a story", "hide", "play Superman" etc.). In a typical situation, child 13 is sitting on the carpet manipulating a long stick made with plastic pieces. He hits the floor with it and the stick splits in two. He jumps and afterwards walks up to the playhouse asking the children there "Can you play with me?"

(3) When a child sees other children using a different (sometimes unique in the nursery) object or material or even eating (an apple, biscuit) while the majority is playing.

Example: in sequence 107.2 when child 16 is throwing clothes at a box where child 1 is lying, he sees child 5 walking wearing shoes with big heels. He immediately approaches her and asks "Can I borrow your shoes? I have got no shoes..."

Less frequently requests followed a recipient's request for help, appropriation of the target child's objects or interference in his activity (e.g. a request such as "Can you get off please?" when child 10 was holding child 13 on the floor, preventing him from moving; or a request from child 2 to child 14 to replace a coat which had just fallen from the playhouse when she was calling "Mum" to child 14 and putting a pencil in the teapot).

(E) Physical leading

The predominant activities preceding physical leading are those coded in 1 (posture and large movements), most of them not requiring any materials, and the social code in 3 (playing in association).

In most situations, this behaviour arose when the target child - in association with a group or another child -was changing from an activity done in a confined space (e.g. chatting, singing, manipulating toys or material) to activities requiring active movements (walking, running, flying) through the nursery room or courtyard. A typical example is shown in sequence 80.1 in which child 13, after listening to and laughing at a story child 1 is telling the group in the "reading corner", gives his hand to child 3 and they begin to crawl (with child 10 also joining them) through the nursery room, while hitting the floor with their hands. In a similar situation, child 1 in sequence 87.1 after taking off his T-shirt, singing and dancing, begins to jump through the nursery room with child 17 following and imitating him.

In the development of activities (e.g. roleplaying or others in which some skills had to be shown, such as how to blow down a tube or how to associate - by painting - circles and numbers) or when going through the room, courtyard or from one environment to another (e.g. playhouse to the nursery room) the direction of the movements or activities of some children by others was often observed.

Other less frequent situations preceding physical leading were those in which there was either an attempt to initiate other children (apparently inactive) into an activity or to modify what they were doing (e.g. stop for a while).

Children who usually played in association were most likely to initiate, change or direct others'activities and thus to lead others physically.

7.2.3.3.1.2. **Consequents**

(A) **Command/direction**

There are no clear changes in the predominance of activities, materials of social code after a command/direction was recorded. More specifically, the following consequences were associated with this behaviour in most of the cases.

(1) Different developments (type of characters imitated, trajectories followed, objects used) or changes in activities were observed.

Examples: In sequence 60.2 mentioned on p.418, after child 9 says to child 14 "Come on, let's hide" they run and hide behind a chair close to the playhouse.After they begin moving forwards (in the direction of a group working at a table) and backwards repeatedly while laughing a lot.In another situation, child 9,after telling child 10 "We have to go..." begins to move with the latter and

child 14 from a fixed vehicle and walks through the courtyard holding hands and turning.

Although in most of the situations the recipients followed the target child's orders or directions there were a few cases in which non-compliance, disagreement or even aggressive behaviours were observed. For example, child 1 is distributing roles among a group of children: he will be the father, child 14 the mother, child 3 the brother and child 5 the baby. Child 5 says she wants to be the sister, but as other children answer they do not need a sister she begins to cry saying she doesn't want to be the baby and goes away. In a similar way a child may order another to leave the playhouse so that he can go next, or another one lying on the carpet to sleep, and get a response contrary to what was demanded: the child may ignore the order and stay in the playhouse or stand immediately after being told to sleep. In a few cases, after the recipient's non-compliance the target child took up a solitary activity or condition.

(2) Appreciation, attention and imitation or cooperation by some children

Examples: Child 16 approaches children 9 and 14 and says "Listen to me, look..." walks and lies on the stairs leading to the lavatories while exclaiming: "Sleeper, sleeper". Children 9 and 14 also lie down over two chairs. In a different situation, child 1 tries to learn from child 4 how to make a bike after the latter has turned to the group saying "Look, I have made a bike" or child 5 laughs and claps her hands after child 3 showed her how to open and close his bag.

(3) An extended involvement with same children and/or exclusion of others

On p. 258 a situation was reported in which child 6 ordered (and gained the compliance of) child 7 to stay away from her and child 12. This kind of command/directions, may, however lead to the development of aggressive behaviour in the event of the recipient's non-compliance. For example, child 10 hit the see-saw after being sent away and (as she did not comply with the order) was physically attacked by child 6 who was swinging and pretending to eat small cubes ("chocolate") with child 2.

(4) Continuing one's own activity after other children's interference.

For example, as in many other cases, child 2 was able to continue her activity (making a puzzle) after ordering "Don't get me, get...(child 14)" and sending away child 13, who had tried to grab her.

(5) Getting objects or space to develop or change one's own activity (e.g. a place in the playhouse or in a box after ordering "Open the door..." or "Get off...I want to go in...", respectively, a place on the top of a climbing frame "This is my bed...get off..." or any object "Give me...").

(B) Disagreement

After disagreement a slight increase in social interaction was observed, some of it resulting from the immediate requesting, disagreeing and non-compliance of recipients. By way of summary, the following outcomes can be pointed out: After children's disagreement (1) The activities or interactions proceed either by the recipient's immediate acceptance of or absence of reaction towards the target child's discordant perspective. For example, a group of girls went on sitting with their feet touching each other and began to speak about their houses and birthday parties following child 9's disagreement with child 8 about the way she was singing previously while they were turning and sitting on

the floor. (2) A conflict may develop after the recipient's assertive (non-compliant, disagreeing, requesting) or, more rarely, aggressive behaviour. In this case the target child continues (a) to persist either in performing the activity (behaving assertively and more rarely aggressively) in which he was engaged before the other children had int rfered or/and in his right to own a certain object/material or space (b) he may go away (begin another activity or associate with other children), comply, share with or comfort the recipient.

Examples: (1) In the example reported on p. 259 child 16 continued to finish the building of two small towers (one the "father" and the other the mother") in spite of child 5's initial resistance (throwing away some of the pieces he was placing). Finally, she helps him and even begins a second small construction similar to that of child 16.

(2) In a different situation child 17 goes away to a cabin under the slide after failing to persuade child 14 to return his tricycle. She had insisted that he should share though he "got it first".

(3) In sequence 64.1. child 5 gives a piece of material to child 16 who is whimpering and stretching his hands in its direction after having refused to give it saying she needed it.

(C) Non-compliance

The activities predominating after non-compliant behaviour are those which involve manual skills coded in 2 and the materials and social codes in 3 ("real or scale-version toys or materials" and playing in association, respectively).

After non-compliant behaviour children may:

(1) Continue their activity or secure the objects/materials or space to change or develop it, immediately or after more assertive (rarely aggressive) behaviour (in the case of further obstacles or recipients'requests, commands/directions, non-compliance or any interfering behaviour).

Example: Child 4 continues building a big "sand wall" in spite of child 1's instructions to stop. He points to the extensive surface with almost no sand saying it is the playground.

(2) Yield or share objects or material, stop or change their activity or social interaction after further assertive or, more rarely, aggressive behaviour by the recipient.

Examples: In sequence 36.4, child 14 shares her very big balloon with child 8 after her continual requests or begging "You must let me have that"... In the case reported on p. 261, child 5, after withdrawing and occupying the box other children were pushing against her wishes, leaves it (when other children say they will not play with her anymore) and attempts to associate with child 16 .

(D) Request

There are no clear general changes in the predominance of a particular kind of activity, material or social interaction coded before and after requests were made. However, after this behaviour was performed children often obtained:

(1) Other children's cooperation to associate or develop their own activities

Examples: After asking child 8 if she could say "Halt", child 6 could make child 8 "Stop" and "Go" while walking in the nursery room blowing a tube.

Child 13 runs with child 1 following him, after asking "Can you play with me?" Other children obtain help to stretch a plastic barrel, to colour their drawings, or to be pushed on a tricycle.

(2) Space, objects or materials

(3) Other children's compliance in moving away or stopping interference in their activities. (Examples mentioned on p. 263, in which child 10 holding child 13, lets him go after his request "Can you get off please?", or child 3 leaves the playhouse after child 8 asks "Can you please get out? We don't want people here, we are busy...")

Though not frequent, the giving up of one's own demands or the making of further requests or other assertive or even, in some more rare cases, physically coercive behaviours were observed after the recipients'refusal to comply or accept particular requests. In a few cases a cooperative or associative interaction ended after non-compliance to a request.

(E) Physical leading

After physical leading occurs the predominant activities continue to be those related to "posture and large movements" without the use of materials and the social interaction "playing in association". However more cooperative interactions were observed following this behaviour.

Imitating and following the target child's movements succeeds most of the situations involving physical leading, either when (1) there is a performance of simple movements (e.g. going through the nursery room or courtyard jumping, crawling, flying, dancing or singing); (2) in the coordination of more complex tasks such as (a) in complex pretence (e.g. how to perform the role of a donkey or a baby each with its appropriate behaviour, such as. crawling and hitting the

floor with the hands/feet or pretending to suck milk); (b) how to blow a tube or adopt different positions together on the slide (e.g. holding hands, back against back, feet against feet or on their stomachs). Thus the spontaneous associations between target children and the recipients of their actions are sometimes followed by elaborate cooperative activities involving, in turn, prosocial behaviours, especially helping. In other cases the recipient joins the target child but does not become involved in the task. Examples of this type of behaviour included that of child 5 who, when making a lego construction alone, stands up at the approach of a younger child taking her hand and holding it whilst she continues with her activity. In these and the other few cases in which there was an attempt to restrict interference and disturbances by others, the non-compliance, disagreeing, requesting or ordering by the recipient had sometimes followed physical leading which then led to similar or more coercive behaviours on the part of the target child.

7.2.3.3.2. Aggression

7.2.3.3.2.1. Antecedents

(A) Appropriation of other's objects

In the majority of instances of the appropriation of other's objects recorded (23 out of 47) the relationship between the target child and the recipient is established only as and when the target child, after an activity of manipulating objects or walking or running in the room/courtyard, sees another child playing with an object, approaches him and seizes his object, usually without requesting it. A typical example can be found in sequence 128.1 in which child 17 after running and following other boys approaches a younger child manipulating a big plastic lock and key and seizes those objects making her cry. A child can also attempt to seize another child's object using the argument that

her group needs it. For example, in sequence 90.3 child 14, after putting the shoes on her doll, approaches child 13 who is pushing a wheelbarrow and tries to seize it. As the child resists, she looks at her playmates (two girls who were previously looking and touching her doll) and insists "We need that, don't we?...". In some situations children may encounter great resistance on the part of the recipient and have to try different approaches until finally they succeed in gaining the object they want. In sequence 93.1, child 3 sees child 5 using a plastic telephone: he approaches her, laughs, slips his arm into her arm and then grasps the receiver and puts it to his ear. Child 5 immediately withdraws it. In 93.6 child 3 again approaches children around the telephone now being used by child 14 and tells her he wants to hear from his father. She says she does not know his number while trying to resist his advances in the direction of the receiver, but he insists he wants to show her the number, begins to dial and holding the receiver says "Hello, it's my dad...".

Appropriation of others'objects may also take place in the development of activities and often between children who usually play together. For example, in sequence 226.1 children 13 and 3 are putting small bricks on a board. Child 13 says " I will put on that, that is for me..." and grasps a small brick from child 3's hand.

As in similar situations in which aggressive behaviours were recorded, appropriation of others'objects was also observed in a few cases in which the target child playing in association with another child or group tries to prevent another child from joining the activity. An example that illustrates this situation occurs in sequence 187.1 in which child 17 begins to order child 5 to go away after she approaches him and child 9 and begins answering child 9's questions about the pictures in a book. Child 5 not only does not change her behaviour but

grasps another book from the bookcase. Child 17 immediately pulls it from her hand and continues his attempt to remove her from the group.

Appropriation of others'objects - though less frequently - may be observed after situations in which another child has previously taken the target child's object or in situations in which the target child has previously helped or shared spontaneously with another child. An example of the first is given by sequence 164. in which child 9 does not comply with child 2's request saying she needs her small bricks. She stresses again that she needs them and says "Out with your hands" when child 14 removes some of them from her. Then she takes child 2's small bricks. An example of the second is illustrated by sequence 4.2. in which child 10 appropriates child 14's tricycle (who later tries to take her place on the see-saw) after helping push her together with other children; or in sequence 114.2 child 4 takes child 15's dough after sharing some of his with child 1.

The activity which most often precedes appropriation of others'objects is manipulation and the materials classified in "real or scale-version toys or material". In only nine of the 47 cases observed was the target child not using any object before making an appropriation of another child's objects. The social code most often preceding this behaviour is that associated with playing in parallel and the rarest cooperation. However, appropriation of objects was often observed when children were playing with their usual playmates in association activity. It was also the most common aggressive behaviour observed in the interactions between these and the youngest children in the nursery.

(B) Damage of objects

This kind of behaviour often occurred after disagreement over the development of an activity, a conflict associated with the possession of objects or simply when the child had played for a while with material(s) or object(s),

usually before beginning a new activity. The most common events (and respective examples) preceding this behaviour can be summarized as follows:

- Disagreements over activities children were carrying out together

Examples:

In sequence 30.4 child 1 hits a board on a wall vigorously after an argument with child 4 who had not complied with his order to go to "bed" because he could not "watch television". Also, in 30.1, after child 1 has asked (unsuccessfully) child 4 not to put any more blocks in the construction he moves to one end of it, grasps one block from the floor and throws and kicks it onto the floor.

- Conflicts involving objects

Examples:

In sequence 189.3, child 5 seizes a branch of a plant from a younger child's hand. This child starts crying very loudly, stretching her arm in child 5's direction. Child 5 breaks the small branch with her feet while the younger child goes on crying increasingly loudly.

In sequence 31.3, child 3 approaches and kicks child 17's plastic barrel after he has requested and argued with that child about the possession of another object.

- After the child had played for a while with the object or material and before moving to a different or similar activity.In these cases, damage of objects does not appear in association with any proximal conflict observed.

Examples:

In sequence 151, child 1 grasps and manipulates toys. Later he squeezes a plastic apple with his feet. He falls, seizes more objects, puts a foot on a plastic turtle, takes some objects he has in his arms and throws them onto the floor.

In sequence 217, child 13, after finishing the building of a very big tower with child 2, says "Let's smash it" and throws everything to the floor while child 2 keeps looking and quietly rolling a wooden circle on the table. Also in sequence 226.2 child 13, always directing the development of the (new) activity after giving some directions to child 3 says, "No, that's not a good idea, I'll show you" begins to dismantle the construction while singing. Later he starts making loud noises with his mouth while sweeping away all the small bricks with his hand and finally begins running around the room.

The activity most frequently associated with damage of objects is manipulation and the objects more likely to be destroyed or deformed were those coded in category 3, though all other categories are represented.

In about half the situations, the social codes which describe the interaction between the target child and other children are those associated with playing in parallel, alone or being in an antagonistic interaction.

(c) Physical aggression

Physical aggression may appear in the course of any activity, mainly when the child is not part of another child's or group's activity but is playing alongside or on his own. Thus, a child may begin throwing sand at the nearest child, after approaching the place with sand toys (sequence 128.3); another playing with a ball (sequence 34.1) or a paper tube (sequence 224) may hit another child's head; in the same way a child waiting for her turn in a group's

activity may put her foot over the head of a child lying down on a carpet (sequence 223); another one may tread on another child's foot after riding, stopping and standing on a tricycle (sequence 189.1) or even making another child fall from a chair (sequence 108.1) or just pushing her (sequence 99.9) when going inside the playhouse. The sight of a group or child physically attacking another one may also lead the target child to approach and perform the same aggressive behaviour.

However, physical aggression appears most often in association with situations in which a clear antagonistic interaction arises because of:

- An interference by one child in anothers'activity

Example:

In sequence 89.1 child 17 hits child 5 very hard after she touches his arms throwing onto the floor all pieces of lego he has just picked up and is showing to other children while saying "I got lots".

- Non-compliance with another child's directions

Example:

In sequence 30.5 child 1 pushes child 4 when he is trying to leave the house" made with blocks, refusing to go to "bed".

- Conflicts involving objects or space

Examples:

In sequence 31.6 child 3 makes his wheelbarrow collide with child 17 after a previous argument about the possession of a plastic object; in 137.5 child 4 fights with child 1 in order to regain a plastic shovel after arguing "I got that, I

got it first" and child 13 in sequence 144 fights with child 8 who would not let him go to a space in which he usually lies down.

- In cooperative or associative interactions the child may show antagonism towards another, sometimes trying to prevent him joining own or group activity

Examples:

In sequence 211.2, child 13, playing with child 1, pushes child 3 (his usual playmate) after saying "You are not playing"; in sequence 198.2 child 15, together with child 11, pushes child 5, in order to keep her outside the playhouse. In a similar way child 14 (sequence 95.5), after putting an arm around a younger child's shoulder saying "X...is my friend", pushes child 15 - who has also put an hand on her - saying "She is not your friend..."

An act of physical aggression as a response to previous similar behaviour from the recipient was recorded in few cases; also in very rare cases in which the target child was attacked by his usual playmate, physical aggression displaced towards a different child was observed. The activities most often preceding physical aggression were those involving posture and global movements (codified as 1) and the materials the "small/moveable or large apparatus" coded in "1". On many occasions the child - especially the recipient of aggression - was not using any materials. Most of the children were not interacting or had been having an-antagonistic interaction before physical aggression occurred. The physical aggression recorded for each child shows many individual differences in its distribution, with child 5 performing most both as an agent and as a recipient of physical aggression.

(D) Threat

Threat is chiefly associated with conflicts over objects or the development of activities. Thus, physical aggression, arguments or requests often preceded threat. Among the most common antecedents are:

- Interruption of another's activity sometimes followed by arguments (sequence 95.3) or even the seizure of other's objects (sequence 160.3) giving for example the justification that the child or group should be tidying up.

Example:

In sequence 95.3 child 14 goes near a group of children playing with sand and says they should not be playing because "it's milk time", they should be tidying up. Child 15 argues "Yes, we can" to which child 14 answers "My mother will be cross with you" and goes on also threatening them with her father who has very strong muscles...

- The targeted child was hit after trying to seize another's child object (sequence 73.6) or had tried to withdraw his own construction from another child's sight (sequence 137.3).

Example:

In sequence 137.3, on seeing child 5 approaching, child 4 moves his construction away. Child 5 hits him. He responds and tries to protect his construction with his hands threatening a visit from his father (a "giant").

- Roleplaying situations in which threat or physical aggression was performed, may develop into non-roleplaying threat.

Examples:

In sequence 225.1 a complaint was made to child 5 (the "mother") about child 16's (the "baby") behaviour. Child 5 turns to him saying "Naughty baby" and hits him. Child 16 lifts his hand as if he was going to hit her back until she stops. In sequence 198.4 child 15 also points a threatening finger at child 14 who has just approached (and left arguing) the playhouse, after he has threatened in a similar way a noisy baby- but in the role of the "dad".

As with many aggressive behaviours threat seems to appear after an element of antagonism (arguments, physical aggression) is brought into an interaction between children who are not playing together. In most of the cases one of the elements in the interaction has no materials (or different kind of materials).

No definitive conclusions can be drawn about the activities most frequently involved in this situation from the very few examples of threatening non-roleplaying behaviour observed. However, the most common antecedent pattern which emerged is a child approaching another child or group or simply waiting for a group activity to begin before this kind of behaviour is released.

(E) Verbal aggression

This behaviour was often observed in a situation of conflict involving objects. Disagreement, non-compliance, an attempt to appropriate another child's object, a threat or physical aggression, may lead the other child involved to perform this behaviour.

Most of the situations involving verbal aggression are associated with child 5 (the child who had made most of the attempts to appropriate other children's objects), not only as an aggressor but mainly as a recipient of other

children's verbal aggression. The way in which this behaviour is exhibited suggests that it may not only be associated with specific temporary conflicts but also with the perceptions and kind of relationships children actually have with each other.

Different preceding and conflicting situations can be distinguished as follows:

(1) Situations in which the nontargeted child had clearly first behaved aggressively.

Example:

In sequence 128.4 child 17 (the target child) shouts at child 8 who pushed him in order to go first on the slide.

(2) Situations in which a child is prevented by other children from having access to some objects or activities.

Example:

In sequence 142.1 child 13 is telling a story while seeing pictures on a book. Suddenly, he stops and looking at child 5 says "Not you, X, you are naughty...".

(3) Other situations in which an activity is suddenly interrupted or has a development the child clearly rejects (e.g. in sequence 89.4 child 1 jumps over a carpet which child 17 - the target child - tries to roll up; in sequence 135.1 child 14 leads to the fall of the small figures child 8 had put inside a small scale house)

All different categories of activities and materials mostly available in free play were observed in the antecedents of verbal aggression. Although no

definitive conclusion can be reached because of the small number of verbal aggressive behaviours recorded, there is a slight tendency for the recipient of verbal aggression to be less involved in manipulative tasks and using fewer materials than the target child. Antagonistic interactions most frequently precede verbal aggressive behaviour.

7.2.3.3.2.2. Consequents

A) Appropriation of others'objects

As many attempts to appropriate others'objects were successful most of the appropriators who did not have materials got them and those (the majority) who had, accumulated them or replaced those they were using. Other appropriators prevented children from getting similar materials. The result of this main consequence, for the recipients, after the appropriation, was that the activities involving manipulation decreased and the absence of materials increased accompanied by social interactions of an antagonistic kind. In fact, in at least 29 of the 49 behaviours recorded, the recipients had resisted the attempts of others to appropriate their objects by crying, arguing or requesting, thus leading the target child to return what they had or comfort them.

In some cases the child asked for adult intervention to establish ownership. For example, in sequence 87.3, child 1 - the appropriator - after arguing with child 4 about his rights to have some of the model cars he took, approaches the adult, saying the cars are his; as the adult answers that the cars belong to the nursery, the child, though at first stressing his rights to own them, later shares them with other children.

Other children may also interfere in order to avoid or end the conflict between appropriator and loser. For example, in sequence 90.3, previously

mentioned on p. 270, child 14 puts her hand in the wheelbarrow child 13 is pushing and turns to her playmates saying "We need that, don't we?", when one of the girls (child 12), answers "Come on" and starts moving in the opposite direction, thus ending the conflict.

In some of the cases children did not seem to resist the appropriator (mainly when the appropriator is a usual playmate or is playing in association with them) and later perform the same behaviour towards that child or other children. For example, in sequence 4.2. also mentioned previously in the antecedents of appropriation of others'objects, child 10 runs to help push child 14 on her tricycle. Then she suddenly sits on it when child 14 stands to move the tricycle in another direction. Later on child 14 tries to move her away from her place on the see-saw.

Extreme reactions of resistance (e.g. bellowing) or acceptance (and association or cooperation) were observed mainly when the recipients were younger children. In one case (sequence 131) the young child joined the older appropriator in a long run through the courtyard. The same opposed reactions (or even anticipated reactions of defense, such as hiding an object at the sight of a certain child) were observed mainly when the appropriator was child 5 - who, it will be remembered, was the child with the highest frequency of appropriating others' objects.

All categories of materials were involved in the appropriation of objects; the category predominating before this behaviour was performed (category 3) was, however, the most frequently implicated in the attempts to appropriate other children's objects.

(B) **Damage of objects**

After this behaviour was performed there was often a change in activity and materials (from those coded in the categories "2" to "1"), sometimes followed by a return to the situation of a few seconds or minutes previously. For example, in sequences 30.1 and 226.2 mentioned in the antecedents of the damage of objects (p.272) child 1 and 13, after throwing, kicking or sweeping away their blocks or small bricks, respectively, start running (the former running and shouting in the courtyard, the latter running and then sitting on the carpet in the nursery room). Subsequently they return to the same activities (child 1 adding more big blocks to his construction; child 13 to his and child 3's construction with small bricks while saying "Let's make this, shall we?").

As with other aggressive behaviour, after damage to objects, the number of children who play alone or in parallel was greater than before this behaviour was performed (some children had turned away from the target child, after his damage to objects).

In the few cases in which a clear antagonistic interaction had developed between the target child and other children, some attempts of the former to change his relationship with others were observed (e.g. through comforting, as shown in sequence 189.3); so antagonism on the part of the target children seems to decrease after damage to objects. However the same does not apply to children with whom those antagonistic interactions were developed and noncooperative, or even aggression (e.g. damage of objects following the target child's similar behaviour, as shown in sequence 30.4 or physical aggression) may elicit further aggressive behaviour (including damage of objects) leading to a situation in which children often end by performing their activity alone. For example, in sequence 221.3 after a previous argument with a group of children, child 5 offers child 17 one of her small bricks. Child 17 throws it away and

pushing her says "Get on another end". Child 5 sweeps off her small bricks strongly and as other children move away (talking to each other but ignoring her) she begins to build a shape alone.

(C) Physical aggression

In many cases children continued with their activities, after physical aggression, for instance, had stopped interferences on what they were doing or had intended to do. Thus, there is no clear change in the kind of activities or materials after their aggressive behaviour. However in about a quarter of the sequences, the interaction between aggressors and recipients of aggression does not continue after physical aggression has been recorded. In fact more of the target children continued their activities alone after having physically attacked others. In the other cases in which both recipients and aggressors continue sharing the same physical space the recipients of aggression are either playing in parallel or - in most cases - involved in an antagonistic social interaction with the target child. However, antagonistic interactions seem to decrease (though still predominate immediately after the performance of aggressive behaviour) in the aggressor's case and a few more activities in cooperation were observed, though with the child attacked in the immediately previous period of time in only a single instance (after some attempts at reparation).

Spontaneous comforting of the recipient (sequences 11.2 and 209.4) or sharing either towards the physically attacked child (sequences 68.1 and 188.2) or towards others (sequences 200.3 and 221.1) were the most common prosocial behaviours performed by children after their physically aggressive behaviour. Particularly in the case of child 5, sequences of physical aggression (and isolation) followed by prosocial behaviour, such as helping (and association or cooperation) and then physical aggression again were observed. In some cases

the adult intervention was also required either to comfort or to ask the aggressor to apologize. For example, in sequence 154 child 5 cries loudly and complains to the adult about other children (including the target child - 17) who had thrown sand onto her T-shirt and into her eyes. In sequence 113.1 child 1 is asked by the adult to apologize as child 5 complains - crying - that he pinched her under the table.

The intervention of a playmate (e.g. calling or inviting the aggressor to join in an activity) with the consequence of ending the conflict was also observed. For example, in sequence 130.2, child 16 asks child 5, who is pulling child 4's legs in order to keep him off a slide, to grasp his feet so that they can slide together on their stomachs on another slide.

Cases in which the recipient immediately reciprocated the physical aggression, though not frequent, were also observed. For example, in sequence 223, after child 2 put one foot (standing) on child 5's head, as child 2 lay down on the carpet, child 5 placed all her weight on her legs.

In many cases (mainly with younger children or with the usual playmates when physical aggression was mild) the recipients did not seem to react immediately and both aggressors and children who received the aggression continued their activities independently or in association with other children.

In most of the cases physical aggression seemed to establish the end of an interaction or situation involving conflict.

(D) Threat

In some of the cases threatening behaviour had stopped aggression or had allowed children either to continue their own activity (often with one of the antagonists being ignored or by moving away) or to intervene in others'activity.

For example, in sequence 198.4, previously mentioned child 15 after having threatened child 14 such that she had moved away, continued his roleplaying activity as dad (calling another child "X...your dad is here!...and to the baby": "You are not going anywhere..."). In other cases the conflicts present before the performance of this behaviour developed into similar or other forms of aggressive or assertive behaviours. One change from an antagonistic into an associative interaction was also recorded (sequence 95.3) and some sharing behaviours (one with the recipient of threat - in sequence 160.3, and the other with a different child) were also observed.

Perhaps because of the limited number of threat behaviours observed, no clear change in activities and materials can be proximally related to this behaviour.

(D) Verbal aggression

Different kinds of consequents may follow the performance of this behaviour: (1) the arguments or aggression may stop, mainly when children get what they want (e.g. to touch other children's box - sequence 209.3) without the recipient offering much resistance or because one of the participants moves away whilst continuing the same kind of activity in a different place or closer to different children. For example, in sequence 65, after child 5 told child 4 she would not invite him to go to her birthday party because he was naughty, child 4 shouted at her and moved away continuing to build his two towers near a different group of children; (2) similar or other aggressive behaviours may follow in cases where there is an accentuation of the conflict or of children's antagonistic interaction. Example: in sequence 91.3, after child 5 had attempted to take his iron, child 15 says she is "naughty". Child 5 reacts crushing a plate with her feet while child 15 tries to intervene saying "Don't, the plate will break..." (3)

More rarely, prosocial behaviour may also follow verbal aggression, mainly if the recipient does not respond to other children's verbal aggression in an aggressive way.

In most of the cases there was no clear change in the kind of activity and material observed after verbal aggressive behaviour had been performed.

7.2.3.3.3. **Prosocial behaviour**

7.2.3.3.3.1. **Antecedents**

7.2.3.3.3.1.1. **Spontaneous behaviour**

A) Comforting

Though spontaneous comforting often arose in associative activities among children it may also appear in parallel or even antagonistic interactions. It is more often related to activities and materials coded in 1 (posture and large movements" and "small moveable or large apparatus, respectively). Thus a child moving (walking or riding on a tricycle) around a room or courtyard sees a child (often the child with whom he is/was playing or usually plays with) falling or feeling threatened by another child or a task he does not want to perform. In these cases the child may ask "Are you all right?...", protect or offer some help while putting his hand on the other child's head or kiss him. There were a few cases in which a child was the cause of the other child's distress and after which he initiated some kind of "appeasing behaviour", e.g. laughing and friendly touching and imitating another's child gestures and words.

B) Helping

Spontaneous helping occurs in many different settings, such as:

a) Those in which there is a need to perform some kind of behaviour or skill in order to reach a specific goal which would allow the group or another child to proceed or improve some activity or change it and initiate something different. These appear mostly in cooperative or associative interactions. Thus, one child may help another to take off his T-shirt in order to play "football" (sequence 231.2, p.458) or to put on a cloak in order to play "fireman" (sequence 105.4, p.434). A child may bring a chair to a group of children who are trying to reach a doll hanging from a cupboard (sequence 77.1 p.423), or give another block so that the other can go on building a "house". In these situations activities and materials associated with manipulation, global movements and social interaction are often involved. However helping may be elicited in all kind of activities and in the absence of any materials.

b) A significant amount of spontaneous helping behaviours (about one fifth) was elicited when the child, often alone or parallel to other children, observed a group involved in some kind of activity (e.g. tidying up) or cooperative active play (e.g. carrying a pillow, a carpet or a child in their arms or pulling another child on a tricycle or box). In these cases the child often runs from one activity (e.g. construction with cubes - sequence 4.1. p.404) to the activity the group is performing and, for example, grasps a part of the pillow or the other child's body in order to help their lifting, or another child's box or tricycle in order to pull him together with other children.

Similar helping behaviour antecedents occurred when the child was pulling other children in a barrel alone, in a box or on tricycle and see-saw. Most of these activities involve global movements and/or manipulation. The associated materials were mostly codified either in 1 or 3f (small/moveable or large apparatus and household decor and chores equipment).

c) The following were included in the least frequent cases of spontaneous helping:

1) Situations in which a child offered help (usually to the child's most frequent playmate) after having refused it to another one. For example, in sequence 184 p. 449, child 5 asked child 14 to colour a label with letters for her; child 14 answered "No, I don't want to colour those" but later asked child 9 if she wanted her to colour hers and then helped her with that task.

2) Helping behaviours in which the contact between helpers and recipients arises suddenly and stops as soon as the helping behaviour has been performed.

Examples:

a) Child 5 riding a tricycle (sequence 26, p.410) sees some children falling and being trapped between a table and a wall. She quickly runs to move the table and then joins a group chatting with an adult.

b) Child 16 and 5 (sequence 130.4, p.441) are playing on the slide. A little further away two young children are swinging on the see-saw but their teddy bear falls onto the floor. Child 5 moves quickly, catches their teddy bear, gives it to them, swings them for a little while, caresses one child's head and returns to the slide (now occupied by child 1)

3) Situations in which there was a previous attempt to appropriate another child's object. For example child 5 approaches child 17 (sequence 110.1, p.436)and grasps his dressing-gown. Child 17 says "That's mine". Child 5 answers "I can do it, I will show you" and begins to adjust the dressing gown to child's 17 body, arranging the sleeves and helping him fasten the press-studs.

(C) **Sharing**

Spontaneous sharing is most often elicited in playing in association when children are manipulating materials coded in 2 and 3 (constructional toys/kits, puzzles and pliable materials and real or scale-version toys or material, respectively). The recipients are less likely to be using materials than are the target children. Compared to other prosocial behaviours, spontaneous sharing appears to be more closely associated with aggressive behaviour. Among the situations in which spontaneous sharing may appear are:

- Before the child changes or begins a new activity. For example, child 15 grasps and gives a cloak to child 3 saying "Let's go", before playing "fireman"; child 5 approaches child 1 and gives him some wood chips, pieces of bark and dough saying "Shall we have a barbecue?" or showing a drawing to a younger child before moving near an adult who was drawing numbers for other children; other children gave a doll, bag or teddy bear to others before going to the slide.

- After playing or attracting another child's attention to his possession. For example child 15 gave a hat made of small tubes to child 1 after showing it in many different positions; child 3 shows child 17 how to play a tube and later gives it to child 17 who imitates him. Child 16, playing with sand, makes a big ball and gives it to child 5 saying "Here is a big egg for you"...

- It may appear in association with instructions when the child seems to be organizing a task (e.g. child 8 to 9 pointing pencils "that do not write, get that" or child 1 indicating in sequence 78.4,p. 424 to other children the space in his car park where other children could put theirs) or generally in the development of an activity, e.g. the child may offer pieces of a puzzle or meccano to another child who is watching what he is doing or a piece of dough that the other child can add to his.

- Sometimes the child seems to be returning behaviour previously done by another child to him. For example, repeating child 1's action towards him, child 4 forms some of his blocks outside child 10's barrel saying "This is your house" or gives child 1 some model vehicles saying "You can use these"... In the same way child 9 offers her model car to child 15 after she has received one from child 8 and child 14 begins to offer some cubes to child 17 saying "That can be the roof" following an attempt by that child to add something to her construction.

- Children may also share spontaneously something which was previously denied to him. For example, child 5 invited children to come to a "house" made with chairs ("Come in my friend, come in please"...) after child 14 tried to prevent her using that space.

- Children may offer an object to a child after asking for something from another child which they claim they need (e.g. give another pencil after saying they need the orange, pink or black another child is using...)

- Finally, spontaneous sharing may be elicited after an argument or a fight. For example, child 2 offered child 1 a teddy bear after refusing to follow this child who was pulling his arm; child 5 offered child 17 her lego ("You can have if now") after an argument in which she hit child 14; child 14 offered some cubes to child 17 after refusing the pieces of material he wanted to add to her construction ("Don't, that's my game"...); child 4 and 1 gave their model cars to each other after having refused to do it; child 4 shared his "house" of wooden blocks with child 5 after having previously attacked her physically.

2.3.3.3.1.2. Asked-for behaviour

(A) Comforting

This behaviour arose, principally, after a conflict associated with the child's attempt to possess an object another child was using (usually constructional or real or scale version objects or material). The recipient is more likely to be involved in an antagonistic interaction and does not have materials.

The most common situation involves the target child either running, stopping suddenly and picking something another child (usually solitary) is manipulating or is one in which the child is building something parallel to another child and picks something he thinks he needs to finish his construction. Alternatively it follows the denial of another child's request for a piece of material to complete his construction. The single exception is one in which one child hit another with a ball.

In all cases the recipient gets upset, usually whimpering or crying. The target child either returns, gives what the other child wishes or apologizes after being asked.

Example:

In sequence 64.2 child 17 (recipient) asks child 5 for a piece of material (meccano-type construction) she is using saying he needs it. Child 5 refuses it with the argument that she also needs it. Child 17 stretches his arm and begins to whimper. Child 5 gives him the piece of material he wants.

(B) Helping

Asked-for helping may be elicited when children play in association or cooperation in all kind of activities (though those coded in 2 predominated) and

with all kinds of materials or none. The preceding situations in which this behaviour was most common may be summarized as follows:

(1) When children were preparing the beginning of or trying to develop another activity (e.g. to play "football" after chatting, to run after having seen a book, to create a roleplaying situation)

Example:

In sequence 159 child 3 is hitting a lid with a wooden spoon while singing. Child 4 approaches him with "doctor's equipment" and asks him to keep still while he begins to give him "an injection".

(2) In the development or carrying out of a certain activity there may be a request to help in the removal of obstacles (e.g. a tricycle in the way of children riding on the seesaw) or to vary the activity (e.g. to hold children in order to slide in different positions; to exchange places on the see-saw; to see the pictures in a different book).

(3) When a child attempted to have access to places or objects (e.g. to go inside the locked playhouse; to place small pieces of wood out of the child's reach inside a small version house)

(C) Sharing

Unlike in helping behaviour (in which the child mainly has to perform some kind of skill and materials are not essential for a helping interaction to be developed) it is necessary in sharing for the child to possess something he can yield. Thus the yielding or sharing of an object or space for the other child to continue his activity is characteristic of this behaviour.

Less than half of the asked-for sharing behaviour was elicited in associative or cooperative interactions or activities. However this increases to more than half after the sharing behaviour is performed. The recipients are more likely not to be using any materials before this behaviour occurs.

The objects children are most frequently asked to give up or share (in around 40 percent of the cases) are those associated with the "real or scale-version toys or material" (animals, model vehicles, pieces of playhouse equipment, pillow) though in half of these cases constructional or pliable materials (meccano, lego, puzzle or dough, sand) and in 18 percent small/moveable apparatus (tricycle, tyre on wheels, place on seesaw) were also observed to be more commonly shared or yielded.

Sharing asked-for appears to be related mostly to activities in which active play involving global movements and manipulation are involved. While activity play involving global movements is more frequently associated with the sharing or yielding of space so that the other child can continue his activity, manipulation is more closely related to sharing objects or materials.

7.2.3.3.3.2. Consequences

7.2.3.3.3.2.1. Spontaneous behaviour

A) Comforting

If successful, the appeasement of another child allows the activity or association to continue or to begin in those cases in which it is not yet established.

In most cases children merely continue the activity in which they were engaged before the comforting behaviour was performed (e.g. lying in a box,

walking in a room or riding a tricycle in a courtyard, climbing, following another child, chatting or manipulating some real or small scale version toys or materials).

(ß) Helping

In about half the cases, after helping is performed, the child continues the activity with the same children for a considerable amount of time: arguments or aggressive behaviour are rare with the associates; however, antagonism towards a "third party" or even physical aggression (sometimes appearing accidental", such as throwing a shovel to another child further away) was also observed though rarely.

In about a fifth of the cases a change of activity, materials (e.g. manipulation of cubes to pulling a tricycle) and of interaction (e.g. from playing alone or in parallel to an associative or cooperative interaction) was observed. In some of these cases an element of exchange or reciprocity was present in the situation. e.g. after a child had pulled another one in the barrel, box, tricycle or seesaw and persuaded other children to do the same for him.

More rarely the activity requiring helping was quickly performed (e.g. helping another child open a bag) and the child moved on to a different activity alone (e.g. run) or in association with other children; or they might approach an adult showing or talking about the activity they did with (or for) another child (e.g. in sequence 120.1 after child 1 finishes his dinosaur silhouette, he offers to do and does the same for child 3. Later he shows the adult the "dinosaurs" he has made).

Changes from antagonistic interactions to cooperation after spontaneous helping was offered were also observed, but rarely.

As most of the activities and interactions are extended after helping is offered the activities and materials mostly involved are the same previously mentioned on p. 287 in connection with the antecedents of spontaneous helping. This behaviour is very often associated with changes to activities of cooperation.

(C) Sharing

Among the consequences of spontaneous sharing are:

- The child may find a partner to begin a new activity (example already mentioned in p. 289 where the child offers another child a cloak saying "Let's go" and they begin to play "fireman"

- The child may vary his activity through obtaining something another child had as some kind of exchange (e.g. get a certain pencil they want, after offering another one to the other child, exchanging his position on the seesaw...)

- An associative (in which the children begin to discuss what they can do or about themselves) or cooperative activity or interaction may be developed after spontaneous sharing. The same may happen with antagonistic interactions, in most of the cases, in which a conflict ends after spontaneous sharing and children may play together. However, in some rare cases children may refuse what is offered to them or may approach and play with another child.

- Though very rarely, an attempt to appropriate another's object may follow spontaneous sharing behaviour.

The objects mostly shared were either coded in 2 (dough, lego, sand, cubes, pieces of puzzle), 1 (big blocks) or 3 (model cars, dolls, teddy bears, clothes, cloaks grass or plants), 4 (pencils) or just a particular space (e.g. a place at the window from which the recipient could see what other children were

doing inside the play house). From these the most shared were coded under 3 and 2.

Most recipients and children who share are, in over half of the cases, performing an activity coded in 2 before and after this behaviour is performed and the materials those classified in 2 and 3. Often the recipient of sharing begins to engage in social interaction with the child who has shared. The social code associated with this category is mostly associative interactions or activities, but the number of cooperative activities doubles after this behaviour is performed.

7.2.3.3.3.2.2. Asked-for behaviour

(A) Comforting

The child gains no materials by acts of comforting asked-for behaviour but usually appeases and in most cases stops the conflict with another child (with the exception of one very young child who continued to cry for a very long period of time or another who went on calling the other "naughty"...). Children then either move from a parallel to an associative interaction (talking to each other) or move peacefully to another place or activity. Only in one case did the subject attack a different child after comforting one who had previously taken an object.

No clear differentiation in activities, materials or kinds of social interaction was observed, after this behaviour was performed, probably because of its infrequency.

(B) Helping

Helping asked-for behaviour was elicited in associative or cooperative activities in almost three quarters of cases. After helping asked-for behaviour

was performed, association or cooperation continued in almost all the cases. Antagonistic interactions towards some children may also change into cooperative or associative activities or interactions with the same or other children (sequence 218.3 in which child 8 devalues child 5's construction but later helps her to build a tower at her request; or in sequence 130.3 already reported child 5 tries to pull child 4 from a slide but then grasps child 16's legs at his request so that they can go on sliding together on their abdomens on a different slide).

Helping behaviour usually led to beneficial consequences for both helpers and recipients as follows:

- Children could vary or carry out more complex activities. In most of these instances the recipients of helping behaviour were the children who were "in charge", that is those planning or organizing the activities.

- Interactions in which children were playing together continued for a longer period of time or new interactions were established with another child or group (e.g. in sequence 139.1 child 16 after helping child 5 in her request went on interacting with her, i.e. showing her a painful finger while she was showing him a bruise on her waist).

- Children could successfully avoid antagonizing others and kept a friendly interaction for a considerable amount of time.

- Sometimes there was an "exchange" of helping behaviour so that helpers were also recipients of helping (e.g. in sequence 158.1 child 1 asked child 17 to bring his suitcase after helping him build his construction). On the other hand the helper may condition other children's participation in the task he is doing, by request (e.g. in the sequence 218.3 above mentioned child 8 builds a

construction with wooden parallelepipeds following child 5's request and accepts her offer to give her some parallelepipeds but not to use any in the construction).

There were additional cases in which there were no tangible benefits for the helper, except compliance with another child's request (e.g. in sequence 146 child 14 opened the playhouse door for other children to cor e in but kept watching them playing without joining the activity; in sequence 119.1 after child 4's request child 6 tells child 5 not to hit the box with her feet with no immediate consequences except child 6 repeating the same behaviour later).

After helping asked-for behaviour, the predominant activities observed were those classified in 2 and the materials 3 (or absence of materials) and the social interaction playing in cooperation.

(C) Sharing

There are no global changes in the kind of activities, materials or social interaction after this behaviour has been observed; however, playing in cooperation or association increases, though cases of sporadic contact in the period of sharing between target children and the recipients (and so a continuation of playing in parallel after sharing) were also recorded. Often the child continued the activity with children with whom sharing behaviour was performed. An exchange of sharing behaviour was also observed.

The consequents of sharing behaviour may be differentiated further as follows:

1) For the recipients:

The objects received from other children may lead them to begin, develop or participate in a different activity with other children. The sharing of

space allows them either to continue the same activity (e.g. going up a climbing frame, rolling a barrel or riding a tricycle) or change to another activity (e.g. watching other children playing from the playhouse "window", beginning to play with the water toys in the sink etc.)

2) For the children who share:

The consequences depend on the kind of social interaction established between the child who shares and the recipient and the number of objects available. Thus if children who share are playing alone or in parallel and their activity is interrupted by an asked-for sharing behaviour, children may (1) change to another activity or material, place or company or (2) they may have to recommence the activity in some cases continually (e.g. in sequence 195.1, child 11 gives a piece of puzzle she has taken to an older girl after she asked her to "Leave it". Then she takes another piece of puzzle and as that girl withdraws it from her still has to pick a third one in order to continue her activity, in this case to give "food" to her cat) or (3) continues the activity (e.g. child 3 interrupts his interaction with other children while giving a saucepan to a younger child, but then continues doing what he is doing before the younger's child request was made) or (4) As with other prosocial behaviour children may begin to associate with other children by playing or chatting.

A cooperative activity may develop and continue for a long time if there is only a certain object to share (e.g. in sequence 36.5 after child 8 has finally convinced child 14 to share a very big balloon shaped like a pillow, child 8 is in charge of carrying it by the string while child 14 keeps punching it).

If there is more than one object of a particular kind, playing in parallel or in association may be observed (in the latter case with children chatting and playing but individually with use of similar toys).

7.3.3.4. Assertive, aggressive and prosocial behaviours: summary of the main antecedents and consequents

7.3.3.4.1. Antecedents

Assertive, aggressive (especially physical aggression and damage of objects) and prosocial categories (mainly helping and sharing), were a feature of the course of the development of the target child's activities. Command/direction, physical leading, damage of objects, helping and sharing often arose in the change from one task to another or at the beginning of a different task.

Interruptions or interferences in the target child's activity frequently lead to assertive (all categories, except physical leading) and aggressive (threat, verbal and physical aggression) behaviours. Command/direction, verbal and physical aggression and appropriation of objects were also frequently displayed when one or more children was trying to prevent the recipients from joining their own activity.

Requests or appropriation of objects were elicited in many situations in which children saw others playing or manipulating a different object.

Although many of the assertive, aggressive or prosocial behaviours by the target child had been elicited after the recipient or other children had performed similar behaviours, a few prosocial behaviours (more specifically spontaneous helping and sharing) were observed (sometimes towards a different recipient) after a child had refused to perform those prosocial behaviours on behalf of the target child.

Activities and materials coded as "1" appear to be more clearly associated with physical leading, physical aggression and spontaneous comforting and helping. Activities codified in 2 and materials in 2 and 3 are more likely to precede disagreement, appropriation and damage of objects and spontaneous sharing. Assertiveness and prosocial categories are usually elicited in associative activities: however, asked-for sharing and helping also appear often in association with parallel and cooperative activities, respectively. Aggression was often observed when the target child was involved in an antagonistic interaction (all categories, except appropriation of objects) or in a solitary or parallel activity.

7.2.3.3.4.2. Consequents

After assertive or prosocial categories were recorded, continuation, change, variation or increasing complexity of children's activity (mainly after command/direction, request or helping and spontaneous sharing) was observed. The continuation of children's activity after interference or conflict with the recipients was also a frequent outcome after assertive (i.e. command/direction and request) prosocial (namely comforting, spontaneous sharing or asked-for helping) and some aggression categories (i.e. threat, verbal and physical aggression) were-recorded.

Attention and imitation often followed physical leading and command/direction; the latter and also request, non-compliance and appropriation of objects often lead to acquisition or retention of objects; asked-for helping and sharing to prolonged cooperative or associative activities or interactions.

Although physical aggression often brought a (sometimes prolonged) conflictual interaction to an end , it was also more likely, as in appropriation of objects, to be undertaken to attract adult's interference into children's activities.

Aggression (especially appropriation of objects and physical aggression) and prosocial categories (helping and sharing) by the target child were more likely to be re-enacted in the same way by the recipients. Assertive, some aggressive (damage of objects, threat and verbal aggression) and one prosocial behaviour (spontaneous sharing) were sometimes seen to be followed by more coercive (assertive and aggressive behaviours. However spontaneous sharing and comforting also followed physical aggression and threat.

The context (activity, materials and kind of social interaction) did not change significantly in most of the cases, immediately after the target behaviours were performed.

Activities and materials coded as "1" were often observed after physical leading, damage of objects, physical aggression, helping and comforting were recorded. Activities "2" and materials "2" and "3" after non-compliance, appropriation of objects and sharing. Associative activity was frequently observed after assertive, one aggressive (damage of objects, also followed by the target child's solitary activity) and prosocial behaviours (excluding asked-for helping followed most often by cooperative activity).

Finally, the target child's parallel activity or the recipient's antagonism frequently followed appropriation of objects; also antagonistic interactions or parallel or solitary activity often came after physical aggression.

7.2.3.3.5.Roleplaying behaviour

Roleplaying behaviour was recorded only when the child was clearly performing a role, that is, when pretending to be a person or animal, real or imaginary other than himself. The small amount of roleplaying behaviour observed does not allow a detailed individual analysis for each category of assertive, aggressive or prosocial behaviour to be carried out. However, a tentative global analysis for each of the main constructs will be considered as well as their respective categories whenever they can be discriminated.

7.2.3.3.5.1. Antecedents

Most of the roleplaying behaviour recorded arose in situations in which the predominant child's activity was pretend (activity or task category number 5). However, activities involving posture and large movements (codified in 1) were also observed, frequently preceding aggressive behaviour (more specifically, threat and physical aggression). The categories of materials most involved varied from "1" (in the case of assertive and prosocial behaviour), to "3" (aggressive and prosocial behaviour) or even the absence of materials (in the case of assertive and aggression behaviour). Roleplaying behaviour was most frequently observed in the context of playing in cooperation; however playing in association was also observed to precede many of the roleplaying aggressive behaviours.

Some of the behavioural categories considered seem to be more frequently preceded by particular types of roleplaying by children, such as:

- Assertiveness categories: parental roles or dominant characters (e.g. doctor) appear giving more commands/directions or performing more physical leading. Non-compliance or disagreeing appear more frequently associated with the performance of baby or donkey roles. Requests were made by all types of characters.

Examples:

Child 1 (the dad") puts a plastic cover over child 4 (the baby) who is lying down on the courtyard floor. After a while child 4 gets up. Child 1 immediately approaches him and says "You have just been told you can't watch television: go back to bed..." (sequence 30.3)

Child 8 mounts child 13 (a "donkey"). She orders him "Come on, donkey", but he lies down on the floor. She pulls him but he pretends to sleep. She goes to fetch some "food", but he remains "lifeless" under a chair.

- Aggression categories: dominant parental roles (e.g. father) or warriors are associated with both threat and physical aggression in roleplaying. Threat was commonly related to the "monster" 's role.

Examples:

After a change in roles between child 5 (now the "baby", but who previously as a "mother" had hit child 16) and child 16 (previously the "baby" and now the "father") the latter approaches child 5 (in the cot) and says "If I am the daddy I can smack you". Then he hits child 5 on her face (sequence 225.2)

Child 15 walks through the room with other children. He says "I'm the superboy, I'm strong" and begins shadow boxing. After he repeats "Your pony is dead ...I have killed your pony, ..." (sequence 105.6).

- Prosocial categories: these were observed more frequently in association with the performance of family roles.

Example:

In sequence 155, child 14 (the "sister") takes the teapot and gives some of her "milk" to child 2 (the "baby").

7.2.3.3.5.2. Consequents

There are no significant proximal changes in activities, materials or social interaction after assertive, aggressive or prosocial behaviours have been performed. In most cases, the activities associated with roleplaying continued after those behaviours were observed either with the child performing the same, a different or even an inverse role.

However, some situations of roleplaying threat were followed by simulated fights and an extended physical contact (holding and rolling together) on the floor, between the target child, recipient and other children (who would eventually join the playfighting) followed some of the situations of physical aggression in roleplaying. For example, child 13 and 3 (sequence 82.4) after stabbing each other's stomachs (while saying "Stab", "Stab"), rolled, stopped, turned and rolled together on the floor. Non-roleplaying categories (e.g. non-compliance, command/direction or even physical aggression) were also observed after assertive, aggressive or prosocial behaviours in roleplaying were performed.

7.2.3.3.6. Concluding comment

Although it was not possible in a descriptive study to calculate conditional probabilities and therefore estimate the likelihood with which antecedents, events and consequences were linked, certain categories do seem to be associated with one another in a non-random way. This is consistent with a hypothesis that some of the interactions of young children are not simply responses to the immediate fluctuations in environmental stimuli but represent purposive behaviour designed to realise the child's intentions or to restore the goal directed behaviour which was under way at the time of the observations.

7.2.3.4. Empathy, self-control and the distribution of behaviours among children

Tables 38, 39 and 40 (pp.474-476) were compiled in order to analyse the distribution of the different target behaviours by the children directed towards other children in the nursery or towards groups of children (a group is considered to be two or more other children).These tables show if there is a reciprocal exchange of responses (mutual contingency) or unilateral ones asymmetrical contingency),i.e the study of relationships of dominance or submission coercion in relationships resistance against domination or altruism. Because children exhibited different frequencies of each target behaviour and some children were far more active and reactive than others this analysis required a construction of a matrix of proportions and differences as follows:

7.2.3.4.1. Construction of a proportion matrix (tables 41 to 44, appendix 2, pp. 477-480)

A 17x17 matrix was drawn up in which the rows indicate the agent of the behaviour and the columns the recipient. The elements in the matrix indicate the proportion of the target behaviour exhibited by the individual child in the row directed towards the child in the column. Thus for the prosocial matrix (table 43, appendix 2, p.479) child 1 exhibited 14 spontaneous behaviours. Of these 5 (.357) were directed towards child three and this is the value in the intersection of row 1 column 3. Changing the frequencies to proportions controls for the different levels of activity of the children and for the fact that some children were observed for less than 120 minutes.

7.2.3.4.2. Construction of the difference matrix (tables 45 to 48, appendix 2, pp. 481-484)

The elements in the difference matrix indicate the difference between the proportion of the given behaviour by child A targeted on child B minus the behaviour of child B targeted on child A. Thus positive values occur when A

directs a greater proportion of the target behaviour on B than B on A and negative values when the converse is true. Assuming the differences to be distributed approximately as normal, values equal to or greater than one standard deviation from the mean are taken as significant and thus show an asymmetrical relationship; other values are assumed to indicate a reciprocal relationship.

Results of the proportion and difference matrix for the global scores in prosocial, assertive and aggressive behaviour

Analysis of the global scores obtained in prosocial, assertive or aggressive behaviour shows that most of the differences between proportions of behaviour directed and received are small and non significant (table 11). From these results one can tentatively conclude the existence of a general tendency for an "equitable" treatment in the relationships among young children as far as these kind of behaviours when treated as proportions are concerned. That is, the correlation between the proportions of behaviour given and received are positive and significant. This tendency is also demonstrated by the correlation between the number of children from whom prosocial, assertive and aggressive behaviour is received and the number of children to whom prosocial, assertive or aggressive behaviour is directed ($r = 0.59$, 0.54 and 0.73, respectively; $P < .01$ in all cases). Therefore, the greater the number of children from whom prosocial, assertive or aggressive behaviour are received the greater the number of targets to whom these behaviours are directed. The means and the standard deviations of the number of children from whom or to whom assertive, aggressive and prosocial behaviour are received or directed are shown below.

Table 11: Means and standard deviations of behaviours received and directed

BEHAVIOUR:	Received			Directed		
	Mean	Range	S.D.	Mean	Range	S.D.
Assertiveness	6.82	1-12	3.59	6.88	2-10	2.23
Aggression	3.41	0-10	2.72	3.41	1-10	2.24
Prosocial	4.00	0-7	2.29	4.00	2-8	1.62

Cases in which the differences between proportions of behaviour targeted or received deviate by more than one standard deviation from the mean are more clearly observed in assertive (with eight pairs and ten children involved (numbers 2,7;2,12; 3,11, 3,13; 4,5; 5,16; 7,12; 10,13) and aggressive behaviours (with nine pairs and 11 children involved - 2,9; 2,11; 3,13; 4,5; 5,16; 6,10; 9,10; 10,14; 11,15) but somewhat less for prosocial behaviours (5 pairs of children and seven children involved- 3,13; 6,14; 8,9; 9,13; 14,15). These results show that most of the children who are involved in asymmetrical contingent assertive interactions are those in the aggressive (four pairs and eight children common to both categories behaviour). These results are consistent with the hypothesis of an association (supported by the correlations obtained either in the direct observations or by the nursery ratings) between these different kinds of behaviour or, more specifically, that most aggressive behaviours performed by the children in this sample were conceivably another way to reach dominance or control over other children's behaviour. The same is true of the assertive behaviour. On the other hand children with asymmetrical prosocial interactions are observed to be more involved in asymmetrical aggressive interactions than assertive ones (six out of seven in asymmetrical prosocial interactions are observed in asymmetrical aggressive interactions of which only one pair and another child are also included in asymmetrical assertive interactions).

In order to analyse the relationships between the distribution of prosocial, assertive and aggressive behaviours by the different children and some of the individual characteristics studied, the means and standard deviations of the affective and/or total empathy score were calculated for the following groups of children:

(i) One group of children showing prosocial asymmetry (indexed by the differences between proportions one standard deviation from the mean) and the remaining children. The results can be shown as follows:

Table 12: **Means and standard deviations of the differences in empathy scores.**

Empathy affective score								Empathy total score			
Asymm. pairs Global Prosocial Scores n=5		Recip pairs Global. Prosocial Scores n=12		Asymm. pairs Spont Prosocial Scores n=4		Recip. pairs Spont Prosocial Scores n=13		Asymm pairs in prosoc global scores n=5		Recip. pairs in prosoc global scores n=12	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
4.20	3.49	6.41	4.09	5.50	3.42	6.23	4.69	7.67	4.23	8.14	6.02

All differences between means are non-significant as tested by the t-ratios. Children who exhibit prosocial asymmetry do not differ in (affective and global) empathy scores from children whose prosocial relationships are reciprocal.

(ii) Children whose prosocial behaviour is directed towards more targets among the 17 children than is their aggressive behaviour (group 1) and vice-versa (group 2). Two children were excluded from this analysis because they have the same number of targets for their prosocial as for their aggressive behaviour.

Table 13: **Means and standard deviations of empathy and self-control scores of groups.**

Empathy and Self-control	Group 1 n=11		Group 2 n=4	
	Mean	SD	Mean	SD
Empathy	21.18	5.47	16.25	4.79
Self-control	15.97	3.49	16.88	5.06

The t-test of difference between means of empathy (affective) scores of groups 1 and 2 is significant ($t_{13} = 2.72$; $P < .05$). This is not true for self-control mean scores as measured by the nursery nurses'ratings ($t_{13} = -0.69$).

Correlations between scores in empathy and self-control and the number of targets were as follows:

Table 14:: **Correlations between scores in empathy and self-control and the number of targets**

	Aggression (NR)	Prosocial
Empathy (affective scores)	-.31	.17
Self-control	.05	-.01

None of the above correlations reaches statistical significance at $P < .05$. Only the negative correlation between empathy (affective score) and the number of targets for aggression shows a tendency for the "high empathic" children to have fewer targets for their aggression and vice-versa for children with lower scores in empathy. However, it is necessary to stress that these correlations do not reflect the population value for the association between empathy and self-control scores and the number of targets for aggression and prosocial behaviour. This is because of the unequal lengths of time in the observations or because most of the children also distributed their behaviours towards small groups of children (in which one or another child may differ) or members outside the

group of 17 children who could not be individualized as these were not the children with whom the researcher was allowed to become familiar before the beginning of the observations.

7.2.3.5. Children's interaction styles and individual characteristics

Taking into account the global scores obtained in non-roleplaying condition for the different behaviours analysed (assertive aggressive and prosocial) it was possible to draw some kind of interaction profile for each child as follows:

Table 15: Overall means and standard deviations of proportions for assertive, aggressive and prosocial behaviours were obtained and are shown below:

	Assertive	Aggressive	Prosocial
Mean	.63	.15	.22
SD	.11	.09	.10

Taking the mean value as point of split the profiles of the children's' interaction styles" can be shown as follows (+ above mean; - below mean; N=17)

Table 16: Interaction Profile (boys)

Boys	1	3	4	13	15	16	17
Assert.	+	+	+	+	+	-	-
Aggress.	-	+	-	+	-	-	+
Pr.Beh.	-	-	+	-	-	+	-

Table 17: Interaction Profile (girls)

Girls	2	5	6	7	8	9	10	11	12	14
Assert.	+	-	+	-	+	+	-	-	+	-
Aggress.	-	+	-	+	+	-	-	-	-	+
Pros.Beh.	-	-	-	+	-	-	+	+	+	+

Table 18: Type of profile exhibited by boys/girls

Type of profile	Ass-Agg + + - -	Agg - + -	Ass-Pros + - +	Pros - - +	Ass + -	Agg-Pros - + +
Frequencies: Boys Girls	 2 1	 1 1	 1 1	 1 2	 2 3	 0 2

The numbers are, of course, very small. The most common profiles among boys are the assertive and assertive/aggressive styles (N=2 for each) whereas only one girl exhibited the latter. The most common profile amongst girls is the assertive (N=3).

The global scores including roleplaying condition give similar profiles. However, in this case two boys who obtained a high score in roleplaying threat would not be classified in the assertive but included in what could be considered a rather fictitious assertive/aggressive profile.

In order to see if the interaction style is related to empathy the mean empathy score and mean affective score of each of the six styles shown in the previous table are tabulated below:

Table 19: Relation of style to empathy: mean empathy total (first line) and affective component scores (second line) per style.

Ass-Agg	Agg	Ass-Prosoc	Prosoc	Ass	Agg-Prosoc
46.33	40.50	47.50	47.33	52.20	46.50
17.00	15.00	25.00	21.33	24.20	22.00

No significant trend in the relationship between empathy (total score) and interaction style is suggested by the data. However, the lowest score is observed in the aggressive profile and the highest in the assertive, assertive-prosocial and prosocial profiles. When the affective empathy scores are considered, however, it will be noted that the mean scores for the assertive-aggressive and aggressive styles are lower than the remainder. If this result were to be repeated amongst a larger sample it would be consistent with the hypothesis that where aggression unmodified by prosocial behaviour was the dominant mode of interaction this could be explicable by a low capacity for empathic identification (low affective component scores) on the part of those children.

Table 20: Relation of style to self-control: mean total (first line) and item 5 plus 6 rating (second line).

Ass-Agg	Agg	Ass-Prosoc	Prosoc	Ass	Agg-Prosoc
20.50	13.25	14.50	15.33	16.80	12.25
4.83	2.25	3.50	3.83	3.60	3.00

Table 20 shows the mean self-control ratings for each of the six interaction styles. Again, the small numbers prohibit the use of a significance test. Highest self-control scores are obtained by the assertive-aggressive children, lowest by those classified as aggressive-prosocial and aggressive. The self-control questionnaire incorporates a number of items whose face validity for a single construct is low. Items 5 and 6 (managing frustration and delay/inhibition of

action) are more closely related to the theory of self-control as proposed by Honig (1985), however, and the last line in the table shows the results when these two items have been summed. Lowest self-control scores are obtained by the two children of aggressive style but greatest self-control on these two items is again exhibited by the assertive-aggressive children.

Taking into account all the data about the relationships between the styles of interaction described above, the empathy and self-control scores obtained for each child, and the distribution of the different target behaviours by the children directed towards others, the following conclusions may be drawn:

(i) Five children are included in the assertive interaction profile. All, except one, obtained high (greater or equal to one standard deviation above the mean) or average (between plus and minus one standard deviation) scores in empathy and self-control (greater than 46 and 16 for empathy and self-control, respectively). The child (number 6) with a low score in self-control (less than 15) was considered difficult to rate by the nursery nurses due to her high rate of absence. All these children performed few aggressive or prosocial behaviours towards younger children. Their assertive interaction profile is especially shown by their high level of interaction with small groups of children. Three members of this group received the highest scores (after adjustment for the unequal length of observations) one of whom also obtained the highest score for assertiveness (and the second highest for prosocial behaviour) directed towards small groups of children.

(ii) Children classified as "prosocial" in their interaction with other children also perform their prosocial behaviours towards small groups of children, have low scores for assertiveness towards younger children and do not direct any form of aggression towards these or small groups of children. Two of

these children (10 and 16) were rated low in self-control (< 15) by the nursery nurses. However one (16) obtained a high score in affective empathy (greater than 25) and the other (11) a high score in the donating test (6).

(iii) Children included in the aggressive interaction profile have low empathy (affect e) and self-control scores (less than 17 and 15 respectively). Also they performed more (mainly physically) aggressive behaviours towards younger children. The means and standard deviations of affective empathy scores obtained by children who direct aggression in general or, more specifically, physical aggression towards younger children or make appropriation of their objects and the remaining children are shown in the table below as follows:

Table 21: Means and standard deviations of affective empathy scores

Aggressors towards younger children n=5		Remaining children n=12		Physical Aggressors of younger children n=3		Remaining children n=14		Appropr-iators of younger children's objects n=5		Remaining children n=12	
Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
21.3	6.92	21.1	4.89	15.3	1.15	22.4	5.35	20.4	7.30	21.5	4.87

The t-test for the difference between the mean empathy score of children who physically attack younger children and the other children is significant (t_{15} = -2.23; P < .05). Also the empathy score mean of children who make appropriation of younger children's objects is slightly lower than the mean obtained for the other groups of children. However from this table one cannot conclude that aggression in general towards younger children can be explained by differences in empathy score. On the other hand, aggression directed towards younger children does not preclude the performance of prosocial behaviours by the same children. Table 22 below shows the means and standard deviations of affective empathy scores and the nursery nurses'ratings of empathy, first for

three groups of children. The first group (n=6) consists of children who exhibited spontaneous prosocial behaviour towards younger children, the second (n=5) were those who exhibited only asked-for prosocial behaviour and the third (n=6) those who showed no prosocial behaviour. To the right of table 22 these have been combined to give two groups (n=11 and n=6, respectively). Table 23 compares the means and standard deviations of the two groups in their self-control scores made by the nursery nurses.

Table 22: Means and standard deviations of empathy scores

Emp-athy	Spontaneous, asked-for and absence (others) of prosocial behaviour towards younger children N=17						Prosocial Behaviour towards younger children n=11		Others n=6	
	Spont. n=6		Asked-for n=5		Others n=6					
	Mean.	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Ns'Rt.	3.4	0.97	2.8	1.04	3.0	0.71	3.1	1.00	3.0	0.71
Af.Em.	22.8	4.96	19.6	4.98	20.8	6.74	21.4	5.01	20.8	6.74

Table 23: Means and standard deviations of self-control scores

Prosocial behaviour towards younger children n=11		Others n=6	
Mean	S.D.	Mean	S.D.
16.18	3.65	15.58	3.48

Analysis of variance was carried out to compare the means of the first three groups of table 22 first in the nursery nurses' ratings, second in the affective empathy scores. Both F ratios ($F_{2,14}$ = .668; $F_{2,14}$ =.462 failed to reach

statistical significance and there were thus no differences between the pairs of means. It may be concluded that empathy (as measured by affective scores and nursery nurses'ratings) does not explain differences in "spontaneous", "asked-for" prosocial behaviour or the absence of prosocial behaviour towards younger children. The t-tests of differences between the means of the two groups (one who show prosocial beh viour towards younger children (n=11) and the remaining children) in empathy scores, nursery nurses'ratings of empathy and self-control (table 23) were all non-significant (t_{15}=.30, .18 and .33, respectively).

(iv) Both children classified as having an aggressive/prosocial interaction style obtained a low score in self-control (less than 15) and in the cognitive aspect of empathy (less than 24). However, one who received a high score in the affective aspect of empathy directed prosocial behaviours towards a large number of targets (12 including a small group of children) and both aggressive and prosocial behaviours towards small groups and younger children.

(v) Children classified in the assertive/prosocial profile also directed assertive and prosocial behaviours towards groups and younger children and did not express aggression towards the latter. All obtained a score greater than 25 or average score (between 16-20) in the affective aspect of empathy .However one obtained a low score in the cognitive aspect of empathy (less than 24) and self-control less than 15). This child was also considered difficult to rate by the nursery nurses either because of her absenteeism or difficulties in relating mainly with adults.

(vi) Children classified as having an assertive/aggressive profile directed assertive but not aggressive behaviours towards small groups of children and prosocial behaviours (associated with aggression in two cases) towards younger

children. Two of these children (3 and 8) obtained the highest scores in self-control (greater than 21) and one of them (3) a high score in the cognitive aspect of empathy (greater than 29). Two of these children (3,13) who obtained a low score in the affective aspect of empathy (less than 17) were the only pair always involved in asymmetrical relationships in assertive, prosocial and aggressive behaviours.

CHAPTER EIGHT

DISCUSSION OF RESULTS AND CONCLUSIONS

> The main problem of social life is ... to maintain and sustain coherent courses of action that are related coherently to an interactive context...
>
> (Glick, 1978, p.5)

8.1. Considerations

An attempt was made to carry out research into the characteristics of children's interactions which was as objective as possible and at the same time did not neglect the importance of development of the hypotheses based on concepts drawn from theories about the topic; however, many factors affect or limit the validity of its conclusions. Thus, although the theoretical predictions concerning the main variables have received some support, considerable caution must be exercised when interpreting the main results. There are two reasons for this (1) The study is based in a small sample in a single environment and thus examines a number of types of behaviour which might apply to highly specific interactions. The extent to which these results are replicable in different environments is thus raised, (2) The inconsistency of results produced by many other workers in this problem area gives an indication of the complexity of variables (individual, interactional or socio-cultural) which it has not yet been possible to analyse taking into account more integrative explanatory models. More research involving random samples representative of the population of young children is required in order to confirm the data obtained and generalize

the results to other groups. Another important factor to bear in mind is that none of the correlations obtained should be taken to indicate clear cause-and-effect relations between the variables involved; the direction of the effect cannot be specified from correlations as these only refer to measures of association between concomitant variables. Conceivably, the operation of a third factor inside a cause-effect system is responsible for what might appear to be a direct effect. This problem is, of course, common to all correlational studies. The qualitative analyses reported in sections 7.2.3. provide some indication of the direction of effect though many suggest this is equi-probable, or approximately so.

Additional issues about the principal predictions, questions and conclusions of the study will be condensed in the following sections.

8.2. Main findings

8.2.1. Assertive, aggressive and prosocial behaviour

8.2.1.1. Construct validity

It was mentioned in chapter six that the examination of the intercorrelations within and between the main constructs indicates that assertiveness and prosocial categories do not represent homogeneous behaviours. However, there is a tendency for high positive and significant correlations between spontaneous prosocial categories (helping and sharing) and between positive assertive and negative assertive categories (command/direction, request, physical leading and disagreement, non-compliance, respectively). Appropriation of objects correlates positively and significantly with physical aggression.

The lack of homogeneity of assertive and prosocial behaviour suggests that these constructs include a diversity of independent responses (it is important to take into account that most of the aggression categories were not reported in the construct validity section because of their small frequencies). For example, the negative (though non-significant) correlation between physical leading (associated with positive assertion) and disagreement (associated with negative or counter-assertion) suggest two differentiated assertive responses which may be associated with children's status in the dominant hierarchies as has been observed by some authors among young children. Thus, for example, dominant children who perform many physical leading behaviours would be less likely to need to assert themselves by disagreement since other children would imitate and follow more often than confronting or putting them in a situation of potential conflict.

Rehberg and Richman (1989) considered helping and comforting in relation to family factors and suggested that prosocial behaviour involves separate, unique actions, each of which is developed in a different mode. Helping, as an instrumental act, was found to be associated with the performance of household chores whereas the verbal/emotional acts of comforting and giving emotional support to a parent were found to be related to each other. The authors concluded that altruism is a succession of separately learned situationally dependent responses, rather than a general disposition.

Although recognizing the limited generality of prosocial behaviour and the weak basis for the concept of an "altruistic personality", Iannotti (1981) criticized the view in which behaviour is considered to be related only when sharing similar situation-contextual controls. The author stressed the existence of some evidence of the influence of processes such as empathy, involved in motivational systems which underlie different patterns of prosocial behaviour,

and the need to develop multiple measures which reflect the child's processing of situational and motivational cues.

In the current study, the correlations found between different indices of assertive and prosocial behaviour do not offer strong support either for a trait interpretation of these behaviours or for their being controlled by situational variables alone. Asked-for prosocial categories were observed to have lower correlations between them than spontaneous prosocial categories; thus categories in which the child is not clearly the main actor (e.g. in asked-for prosocial categories) may be more strongly influenced by the details and nuances of the context, i.e. may be more contextually determined.

In sum, assertiveness and prosocial behaviour do not represent unitary constructs, "traits" or dispositional characteristics (conceived as methods of internal organisation) ; nor can they be supposed to be guided only by a context which would explain all the important differences in behaviour observed. In fact, syntheses are needed to show how behaviour results from a variety of interacting factors which reciprocally influence one another.

8.2.1.2. Frequency

In this sample children were mostly assertive (with command/direction constituting 28 percent of the total of behaviours observed) and more frequently prosocial than aggressive. In the non-roleplaying condition the least frequent assertive, aggressive and prosocial categories observed were disagreeing, threat and comforting (either spontaneous or asked-for). Roleplaying assertive, aggressive and prosocial behaviours constitute a very small percentage of all behaviours observed.

Yarrow and Waxler (1976) reported that helping is more frequent than sharing or comforting. These latter appear to be related to each other but unrelated to helping.

In the current study spontaneous helping was also observed more often than any other prosocial category. However, be aviour in the comforting category was very rarely observed, probably because children would often turn towards the adult when distressed. Also, the fact that categories demanding more sophisticated use of language (such as disagreeing) were rare agrees with the observations made by Wilson (1988) that young children often resort to physical strategies when trying to solve their conflicts.

A meaningful comparison of the percentages obtained among different studies could have been made if behaviours were operationalized in the same way; as this is not the case, the relative frequencies differ. For example, Strayer and Strayer (1975) reported about 40 percent of agonistic episodes which involved some form of physical attack; this seems a high percentage if we consider just the non-roleplaying physical aggression (34 percent in total) but it is a very approximate percentage if we consider roleplaying and non-roleplaying situations (39 percent in total). Also Beauvais et al. (1982) reported a similar percentage for asked-for sharing category to this study (22 and 21 respectively) but mentioned that the spontaneous sharing category is rare which is inconsistent with these results and the 28 percent of spontaneous prosocial behaviour obtained by Iannotti (1981).

5.2.1.3. Sequences and context

One of the main assumptions on which this work is based is that of the young child's agency in the sense of operating, changing or construing his social world; young children are assumed to be able to vary their behaviour according

to situational contexts or constraints, to adjust different types of positive or negative behavioural strategies to the social inputs received on their social encounters.

Assertive, aggressive and prosocial behaviours in young children were considered as a means of changing or "recreating" their physical or social environment towards a state which they or others regard as more desirable. These behaviours may be considered fundamental in children's social encounters as they can initiate, maintain, intensify, change, terminate or restore an interaction (Trower, 1979). The sequential analysis shows that assertive categories such as command/direction, request and physical leading initiate most of the behavioural acts observed. Non-random dyadic behavioural sequences will be analysed in more specific sections below.

The most significant results obtained in this research concerning the situational context involving assertive, aggressive and prosocial categories of behaviour, can be summarized as follows:

(a) **Contextual similarities**

The qualitative analysis of episodes shows that assertive, aggressive (physical aggression, damage of objects) and prosocial categories (mainly helping and sharing) were a feature of the course of the development of the target child's activities. Associative activity was also frequently observed after assertive and some aggressive (mainly damage of objects, again followed by the target child's solitary activity) and prosocial categories (excluding asked-for helping which was followed most often by cooperative activity) had been recorded. Thus, assertive, aggressive and prosocial behaviours (considered globally) may be elicited in similar contexts alongside the development (initiation, change or maintenance of activity or interaction) of children's activities; this corroborates the studies which

show that aggression may appear not only in connection with frustrating environments (such as the frustration-aggression hypothesis predicts) but also when children are observed in familiar, non-threatening situational contexts (Jeffers and Lore, 1979). Prosocial behaviours may arise not only in cooperative goal structures but also in threatening environments (Morris et al., 1973).

Although the qualitative analysis of the contextual categories i.e. the analysis of the distribution of behaviours by activities and materials, shows that assertiveness, aggression and prosocial behaviour may be elicited in all contexts, different kinds of assertive, aggressive or prosocial behaviours seem to be differentially associated with specific contextual categories: for example, physical leading, physical aggression, comforting and helping with activities and materials involving global movements - coded as "1" (this was also often observed after damage of objects had been recorded) and disagreeing, non-compliance, appropriation and damage of objects and sharing were observed in closer association with activities coded in 2 and materials in 2 and 3, involving manipulation. The general categories of activities and materials do not seem to change significantly after those behaviours have been performed except in the case of damage of objects (but the small frequencies for these behaviours do not allow any confident inference to be drawn).

The analysis of the consequences of behaviour also showed that assertive, some aggressive (damage of objects, threat and verbal aggression) and one prosocial behaviour (spontaneous sharing) were sometimes observed to be followed by more coercive (assertive and aggressive) behaviour. The fact that not only assertive or aggressive categories but also (though rarely) spontaneous sharing may lead to an escalation of a conflict may be an indicator of the young children's awareness of "gift giving" or sharing behaviour as a controlling, manipulative technique (Marcus, 1977; Worcher, 1984), which (as in assertion

and aggression) may serve the interests of the donor more efficiently than those of the recipients. In addition, prosocial categories such as spontaneous sharing and comforting (and asked-for helping to a lesser extent), like some assertive (i.e. command/direction and request) and aggression categories (i.e. threat, verbal and physical aggression), were also observed to lead to the continuation of children's activity following interference or conflict with the recipients. This seems to establish sharing and comforting (as with other assertive and aggressive categories) as the prosocial behaviours more likely to be elicited in less positive environmental circumstances.

The fact that assertive, aggressive and prosocial behaviour is equally likely in all kind of contexts (but not the specific behaviours which represent those constructs) indicates the need (i) to avoid analyses involving global constructs without specification of types of behaviours (which may differ in the properties or motivational processes involved) as this may lead to incongruous results and conclusions, and, (ii) to develop more discriminative analyses which can further differentiate these behavioural categories. This will be considered in the following sections.

(b) Differences

It was suggested in previous chapters that young children selectively use strategies including assertive, aggressive or prosocial behaviours in order to bring about differential changes in their social and physical environment. Children's social behaviour was not performed randomly, but adapted to the requirements of a specific interaction or activity including materials, goals and social situation. The task to be performed structured, to some extent, children'interactions and behavioural patterns; but children also selectively singled out behaviour within

the context in which they maintained or changed a particular interaction over time, as Vespo (1989) stressed.

Although assertive, aggressive or prosocial behaviour appeared commonly in the development of an activity when playing in association, the categories of behaviour varied according to the physical and social context. Aggressive and prosocial behaviours were also seen to be distinctly associated with different relations between agents and recipients and to lead to the maintenance or termination of particular interactions. Thus, as reported in the results chapter, aggression was often observed when the target child was involved in an antagonistic interaction (all categories, except appropriation of objects) or was in a solitary or parallel activity; in other words, with the exception of appropriation of objects (observed more frequently when the child is playing alone or in parallel), a negative affective engagement with the recipient was associated with most situations eliciting aggressive behaviours. These, in turn, resulted in further antagonism or separation between the participants. By contrast, prosocial behaviour was generally accompanied by a positive, friendlier interaction with others. This was particularly seen in cases of helping which was often elicited in cooperative activities. Also, while the target child's parallel or solitary activity or the recipient's antagonism frequently followed appropriation of objects and physical aggression, asked-for helping and sharing often led to prolonged cooperative or associative activities or interaction. As was observed in the proportion matrices aggressive and prosocial behaviour are also distributed differently: some children received more help (usually when engaged in more extended interactions of a cooperative nature); others received more negative (aggressive) behaviour (normally disliked or unpopular children who have been observed to play more time alone or in parallel, i.e. to engage in significantly less social play than other children - Tschantz, 1985; Black and Hazen, 1983). This

may also be associated with the development of reputations in young children, i.e. the attribution of stable dispositional characteristics to others which would lead, for example, a child to grab an object when expecting lack of cooperation.

Krain (1973) distinguished between de-escalating behaviour of an aggressive kind (e.g. mocking or teasing, pushing or shoving) as impeding, weakening, destroying or disrupting interaction or relationships and resulting in continued conflict or argument and positive behaviours (such as giving help) which facilitate, build, maintain, intensify or strengthen the interactions or relationships leading to solidarity, intimacy and unification of relationships. Authors previously mentioned such as Chapman et al. (1987) stressed the positive affect associated with the act of helping itself which might reflect either children's (positive) affective engagement with the person being helped or the positively rewarding character of the act of helping itself. By contrast, defensive (and not prosocial) behaviours followed more nonpositive facial displays and embedded in a more negative social context than prosocial actions. The display of positive affect may communicate to the other that there is pleasure, desire or interest in sustaining or prolonging cooperative interaction. Lennon and Eisenberg (1987), as mentioned in chapter four, also attributed to affect an important organizing role in children's interactions. According to these authors, affect communicates an invitation to play, initiates, guides the pacing and switches and terminates the exchanges. As affective distress was observed to be relatively rare in children's cooperative interaction the authors concluded that children's empathy for happy feelings were more important in the display of prosocial behaviour than empathy for distressful affect.

In the current study, prosocial categories were also often observed in associative or cooperative play directed to objective ends with a relatively quiet emotional tone or a general display of positive affect (e.g. smiling, laughing) as

contrasted by the negative affect (quarrels, hostility) which often accompanied aggressive behaviour. This differential expression of affect evident throughout the naturalistic observations may, thus, play an important role either in the separation between the interactants or expression of further antagonism (in case of aggression) or in the prolonged cooperative or associative activities or interaction (one of the main consequents of prosocial behaviour). However, as was stated before, prosocial behaviour was also observed in less favourable circumstances, though more rarely.

Worchel (1984) mentioned that prosocial behaviour facilitates social interaction by bringing the participants close together mainly where the gain from aid received is more important than the exchange of power or when the salience of power or a power hierarchy in relationships is not perveived. This would be true in the case of cooperative activities where each party is working towards a similar goal and each contributes to mutual exchange of effort, information or materials. Here the donor is more likely to appear attractive to the recipient leading to the enhancement of interpersonal relationships. On the other hand, the author also considered that prosocial behaviour may have a detrimental effect on interpersonal relationships, especially when it separates donor from recipient through the salience of a power hierarchy: in other words, when the motives underlying that behaviour are associated with the demonstration by the donor of a role of a powerful figure who has greater abilities and resources and thus can influence the behaviour of others. In this case the recipient may be relegated to a position of dependence or powerlessness. This increase in salience of interpersonal distinctions may appear mainly in situations where the recipient's needs are ambiguous, and prosocial behaviour may be seen as being initiated internally by the donor rather than as being caused by environmental constraints. In these cases this behaviour may

elicit more rejection or hostility than gratitude. It may also motivate the recipient to reciprocate or extend it to other recipients as an effective route to reestablish or augment his power. Elster (1990) also stressed that the interests of another person cannot always be objectively open, so it may be sometimes difficult for young children to perceive exactly what the other's interest is. There are also cases in which people's expressed interest differs from what the actors believe to be their real interest. In these cases (of misinterpretation or negligence of the recipient's wishes) negative instead of positive reactions by the recipients could follow the agent's prosocial behaviour.

The discussion about more specific contextual factors and relationships between assertive, aggressive and prosocial behaviour will be considered in the next sections.

8.2.1.4. Distribution of behaviours among children

Positive and negative social behaviour has been found to be governed by a norm of reciprocity (Chiu, 1982; Dangerink and Covey, 1983). The findings suggest that the more social behaviour initiated by children the more social behaviour they receive in return. This tendency suggests the possibility stressed by some authors (Marcus, 1977) of helping in order to create a "debt" which requires payment later. Children as young as three recognize and use reciprocity in interpersonal relationships (Staub and Sherk, 1970; Angoli and Hensley, 1979). A norm of positive reciprocity is expected mainly in friendship relations (Angoli and Hensley, 1979). Mueller and Lucas (1975) mention that preschoolers follow a turn-taking pattern in their social interactions.

Analysis of the distribution of the target behaviours by the children directed towards other individuals or groups of children shows a general tendency for an equitable treatment in the interactions among young children as

far as assertive, aggressive and prosocial behaviour (when measured as proportions of total behaviour) are concerned. For example, the greater the number of children from whom prosocial, assertive or aggressive behaviour are received the greater the number of targets to whom those behaviours tend to be directed. Thus, a sense of reciprocity, vital in children's social activities or interactions (mainly the possibility of taking turns), was observed in this study. This may also be associated with the process of identification or modelling (Patterson, 1974; Patterson and Cobb, 1971) as central in children's interactions. These authors have pointed out the impact of the behaviour of one member of a peer dyad in influencing the level of aggressive behaviour of the other; coercive cycles of aggressive behaviour can be associated with a negative reciprocal control in some peer dyads.

In the qualitative analysis, many of the assertive, aggressive or prosocial behaviours by the target child were seen to be elicited after the recipient had performed similar behaviours; but a few prosocial behaviours (more specifically spontaneous helping and sharing) were also observed (sometimes towards a different recipient) after a child had refused to perform those behaviours on behalf of the target child.

The study by Marcus (1977) found some asymmetry in social interchanges mediated by social status and personal preferences (when the recipient was liked or disliked). Children classified high in sociometric status received more help than they gave; help was also more strongly reciprocated if the recipient was liked.

Although a general tendency for positive and negative reciprocity was observed in the current study, there are some cases in both asymmetrical assertive and aggressive interactions which point to the existence of some stable

relationships of dominance-submission in some of the peer dyads studied. This may highlight not only the importance of the interference of other factors such as those mentioned in Marcus's work, but also the role of complementary behaviours in the synchronization of social interactions which has rarely been studied in children's encounters. It is also interesting to note that the few children observed to be more involved in asymmetrical prosocial interactions were also observed as being more involved in asymmetrical aggressive interactions than assertive ones. Although the numbers are very small for any definitive conclusion, this points to a possible relationship between prosocial and aggressive behaviour which deserves further investigation.

8.2.2. Assertiveness and aggression

The analysis of relationships between assertive and aggressive categories shows that there is a positive and significant relationship between ratings of assertiveness and of aggression using the mean of the nursery nurses'ratings. Considering the scores obtained in the naturalistic observations, three categories of assertiveness in the non-roleplaying condition (command/direction, request and physical leading) correlate positively and significantly with aggression categories in that condition (physical aggression, threat and damage of objects, respectively). Although it does not reach statistical significance owing to the small numbers in the aggression categories, the sequential analysis shows that physical aggression and appropriation of objects followed - more often than expected when compared to other behavioural categories - command/direction. This may suggest that aggression was observed when assertion (command/direction) failed, that is as a probable result of an escalation of a conflict. In this sense, aggressive behaviour in these young children may be interpreted as behaviour related to the motive of struggling "to master anxiety"

(Montagu, 1975) in the process of asserting one's agency, autonomy and social effectiveness.

The qualitative analysis of the naturalistic observations shows that interruption or interference in the target child's activity often led to assertive (all categories, except physical leading) and aggressive behaviour (threat, verbal and physical aggression). Thus, assertive and aggressive behaviours may co-occur in situations in which the individual has to cope with specific environmental or personal stressors. A child's assertiveness or aggression may bring about a change/reduction or an end to interference in ongoing activities. On the other hand, command/direction, verbal and physical aggression and appropriation of objects were also frequently displayed when one or more children were trying to prevent the recipients from joining their own activity. Requests or appropriation of objects were elicited in many situations in which children saw others playing or manipulating a different object. These behaviours arise directly from the fact that others have or want the object; this suggests that possession is not a simple direct reaction to the intrinsic value of objects but emphasizes the social or interpersonal nature of conflicts which authors such as Isaacs (1951) have associated with the motives of power or rivalry. Command/direction, request, non-compliance and appropriation of objects often led to children's acquisition or retention of objects.

These results support the general conclusion that some assertive and aggressive behaviours are performed by young children in order to achieve specific goals, that is possession or control over the social or physical environment as Furby (1980) and Newman (1978) have stressed. Aggression in the sample observed in this study was, thus, mostly instrumental (Hartup, 1974) or specific (Manning et al., 1978). In other words it was performed in order to

acquire some goods or in specific stressful situations in which the child had to defend his own rights (keeping a toy, for example).

Although aggressive behaviour was elicited most often in situations of conflict, it is also necessary in the current study to examine why aggression was also elicited when the child was alone or playing in parallel to other children. This is different from assertiveness which was most often observed during associative interaction. Thus aggression can occur without any proximal conflict or specific antagonistic interaction. To resolve this paradox aggression can be interpreted following Brownlee and Bakeman (1981) as a means of communication conveying among others, the message "Hey I wanna play", that is to initiate an interaction. It must be concluded that aggressive behaviour was not a particularly effective method to achieve that goal, as interactions between the aggressive actor and the recipients often ended (except during roleplaying) in antagonism or separation and parallel or solitary activity. This would appear to support the generalized and contemporary view of aggression as the result of a social skills deficit or lack of social effectiveness. Here children would be attempting to develop interactions employing strategies which usually "weaken" or terminate relationships (Krain, 1973). However, other inferences may also be drawn, such as the child using aggression in an attempt quickly to achieve specific goals which do not include the development of social relationships. Aggression may even be a strategy to increase social distance (Bekoff, 1972).

8.2.3. Assertiveness and prosocial behaviour

All assertiveness categories in condition I (non-roleplaying) correlate significantly - or at a marginal level of significance - with one or other of the categories of prosocial behaviour, thus leading to the main result of a positive and significant relationship between assertiveness and prosocial behaviour. The

analysis of the sequences also shows that spontaneous helping is likely to precede physical leading and spontaneous sharing seems to be more strongly associated (as antecedent) with command/direction than with any other prosocial behaviour analysed. Further qualitative analysis of the episodes shows that assertiveness and prosocial categories are usually elicited in associative activities; command/direction, physical leading, helping and sharing often arose in the change from one task to another or at the beginning of a different task thus leading to the continuation, change, variation or increasing complexity of children's activity (mainly after command/direction, request or helping and spontaneous sharing was observed).

In sum, the positive significant correlations obtained between assertive and prosocial categories support the interpretation that more assertive children may feel more able, powerful or confident in their relationships with other children and "make good", help, share or be protective while simultaneously leading or directing others, as part of their general social role. As Isaacs (1933, 1951) put it, they may feel more able to became "the omnipotent and loving father", to make good by the good of their father's gifts. However, the fact that spontaneous helping and sharing was observed to precede, by more than chance expectation, assertive categories such as physical leading and command/direction, also points out the pertinence of the view of helping and sharing as having the same controlling, self-serving quality as some types of assertive behaviour. Authors such as Dunn and Kendrick (1982) observed children's eagerness to cooperate in play and thus, their readiness either to comply or offer help (which often involved little cost for the actors) in order to be involved in play with others. Differentiated types of requests (Leonard, 1988), resistance, simple refusal or negotiation have been considered interpersonal

strategies which small children may use in order to persuade others or ensure necessary assistance in cooperative play or joint activities.

The qualitative analysis of the results obtained in this work clearly supports a perspective of assertive and prosocial categories as being indispensable in the initiation and maintenance of associative or cooperative interactions necessary to the development of any collective activity.

8.2.4. Prosocial behaviour and aggression

Aggressive and spontaneous prosocial behaviours have been outlined in this work as behavioural strategies employed by younger children in order to produce, change or maintain differentiated environmental conditions or social interactions. The results chapter showed that global scores show a moderate but positive and significant relationship between aggression in both roleplaying and non-roleplaying conditions and spontaneous prosocial behaviour.

Positive correlations between threat and helping and appropriation of objects, physical and verbal aggression with spontaneous and asked-for comforting and spontaneous sharing, were obtained. The positive and significant association between spontaneous sharing and comforting with aggression may indicate the common ground between aggression and children's tendencies to restitution (Isaacs, 1933) or interpersonal guilt (Chapman et al, 1987). According to the former author, young children can obtain some relief from the pressure of their own guilt by restitutive action towards others. Although the statistical significance is questionable in the analysis of the sequences, spontaneous sharing (in the proximal analysis) seems to follow (but never precede) physical aggression. In the qualitative analysis of antecedents and consequents it was also observed that spontaneous sharing and comforting followed physical aggression and threat which, like comforting, was not included in the statistical treatment

because the numbers were too small. This evidence (although weak) indicates that aggression categories may be followed by spontaneous sharing and comforting and may endorse the possibility that the reparative sharing or comforting behaviour following aggression is mediated by a feeling of guilt in young children. On the other hand, the low frequency of threat behaviour does not allow conclusions about any significant relationship between (spontaneous) helping and aggression to be drawn; that is, to support the assumption of Isaacs (1933) that helping and protecting are an indirect or preliminary way for children to satisfy a desire to express an underlying aggression (e.g. by turning others children into weak and helpless children and then exercising forcible control over or bullying them).

Correlations between appropriation of objects and physical and verbal aggression with asked-for sharing were negative. This supports the relevance of Radke-Yarrow and Zahn-Waxler'conclusions (1984) about the different nature of spontaneous (self-initiated) from asked-for (other-initiated) prosocial behaviour and so the importance of distinguishing them in research and theory. In the current study, as stated in chapter five, only spontaneous types of prosocial behaviour were predicted to be positively and significantly correlated with assertive or aggressive behaviour as they clearly reflect the young child's agency.

The qualitative analysis of the episodes also showed that aggression could be elicited, though rarely, in cooperative interactions where children joined together in common group action and showed antagonism to an excluded third child (the "intruder" or "outsider"). This readiness to be hostile towards another can be interpreted, as one would among adults, as a device by children to solicit the favour of some children or with a particular child whom they seek out in order to enjoy the pleasures of companionship in common activities. Prosocial and aggressive behaviour can be observed, very often simultaneously,

towards different recipients probably, as mentioned before, because their contrastive nature may stress the interpersonal differentiation or division separating friends from non-friends. This process may foster and heighten a sense of togetherness within a group. Simultaneous aggression and prosocial behaviours towards different recipients may express alliances within groups and aggression against non-members. This may lead to what some authors called prosocial aggression (Ferguson and Rule, 1983) or selfless cruelty (Holmes, 1990), which might lead to an actor's extreme violent behaviour that is nevertheless judged legitimate and considered acceptable and even non-aggressive.

Aggression (especially appropriation of objects and physical aggression) and prosocial categories (helping and sharing) by the target child were more likely to be re-enacted in the same way by the recipients.

8.2.5. Relationships between assertive, aggressive and prosocial behaviours and other variables

Some of the factors which affect or limit the validity of the conclusions concerning empathy and self-control were suggested in previous chapters. For example, the low reliabilities for the empathy measures were reported on p.209. Other factors may probably be associated with the small size of the sample, such as a low degree of variability of scores in the cases studied (extreme low values are rare or non-existent mainly in the case of the cognitive measures). These factors are a source of difficulty in the validation of the assumptions initially outlined in this work. Methodological problems such as the effects of social desirability on empathy tests (expressed in the tendency of the children to supply answers which were supposed by them to be in line with the enquirer's expectations) and errors of primary distortion (e.g. of "halo effect") on the nursery nurses' ratings or on the completion of the self-control inventory, could

not be avoided but should be considered another possible source of error in the results obtained.

8.2.5.1. Interaction styles

It was reported in the results chapter that the numbers are too small to reach any definitive conclusion. However, the tendency for the aggressive style to obtain lower scores on the empathy (affective) test and on items 5 and 6 (managing frustration and delay/inhibition of action) of self-control inventory if sustained among a larger sample would be of theoretical and practical interest.

In this context, there is some support for further investigation into the relationship between empathy, self-control and children's social behaviour. Authors such as Stockdale et al. (1989) have pointed out the importance of the interactions between situational constraints and individual personal characteristics in the development of, for example, helping behaviour. If it is true that the individual's behaviour may be affected by a diversity of stimulus conditions, then it is also the case that a considerable variability in behaviour is observed in apparently similar situations.

8.2.5.2. Distribution of behaviours

Some of the issues associated with asymmetry or reciprocity in the distribution of the target behaviours by the children were pointed out in the above section 8.1.4.

Sensitivity to affective cues, the child's identification of himself with another, his feeling that what happens to the other is happening to himself would, as has been stated by authors such as Feinberg (1978) and Mehrabian and Epstein (1972), generally lead to more positive and prosocial behaviour and tend to reduce aggressive behaviour in empathic children.

The results obtained show that children who exhibit prosocial asymmetry do not differ in (affect and global) empathy scores from children whose prosocial interactions are reciprocal. On the other hand t-tests for the differences between the mean empathy (affective) score of children who have a greater number of targets for their aggression or physically attack young children and the remaining children were found to be significant. This was not obtained with self-control scores. In other words, "high empathic" children seemed to have fewer targets for their aggression and behave less aggressively towards younger children with the opposite being true for children with lower scores in empathy. Thus, instances of aggression in general, or towards younger children in particular, seemed to occur less frequently in the case of children with higher scores in empathy. Considering the weak advantages to be gained from the affection of the younger children (Isaacs, 1951) and so the probability of their being the recipient of more aggressive behaviour, these results may suggest a stronger mechanism for inhibiting aggression (such as a greater identification with the injured person) in the case of these children, .

The finding in this work that empathy may in fact inhibit aggression either in a general way (by reducing the number of possible targets) or, specifically, towards smaller, weaker children is, however, restricted either by the small numbers of children observed or by the limitations of empathy tests as has already and frequently been mentioned throughout this work.

8.2.6. Empathy

8.2.6.1. Empathy construct

As was mentioned previously, measures which tap children's empathy by asking them how they feel are not free of demand characteristics and thus assess in part social desirability (the subjects may either not report emotion,

underestimate or overestimate empathy, if they are attuned to what they think the experimenters want to hear). However, if children are conscious of desirable norms or tend to supply responses considered as approximate to the expectations of the interviewer, they might have been predicted to obtain even higher scores on empathy measures. On the other hand, if we argue that relationships between children are determined by the representation each one has of himself and of the others and the situations in which they are, there is a considerable possibility that the observed differences in empathy may be reflected in real life in their attitudes and behaviours towards other children. Eisenberg-Berg and Lennon (1980) studied how empathy reflects a need to determine the "correct" behaviour. The child's concern or desire for approval leads him to attempt to please the experimenter by reporting that he feels as the character does. This is associated with a greater tendency to comply with direct requests for assistance from peers (to prevent disapproval) but less with response to the needs of others unless help and sharing are expected by the child to result in social approval.

It was stated in 6.1.2. that the several empathy measures share little common variance which means that they (like most of the behavioural constructs) seem to be evaluating distinct dimensions which may differ in the psychological processes or capacities involved.

The correlations among items in the affective test of empathy showed that children in this study tended to respond consistently to the same set of pictures (happy boys; happy girls; unhappy boys; unhappy girls) but differently among them.

8.2.6.2. Empathy and prosocial behaviour

Helping and sharing (mainly the spontaneous subcategories) and the mean of the nursery nurses'prosocial ratings correlate positively and significantly

or at a marginal level of significance with the affective test of empathy, especially with scores derived from use of the pictures of unhappy children. Spontaneous helping correlates positively and significantly with the aggregation of scores obtained in the three tests of empathy. Asked-for helping behaviour correlates positively with the mean of the nursery nurses'empathy ratings. Helping seems to be the prosocial behaviour most likely to be performed where an agent high in empathy faces a perceived or felt need to change the recipient's state towards a more desired condition.

The following appear to be the main conclusions of these results:

(1) The perception of the affective states of others (cognitive test) does not seem to correlate significantly with any behavioural prosocial category except the mean of the nursery nurses'prosocial rating. This may be due either to problems in the measurements already mentioned, such as the low variability of scores obtained in this test, or because the perception of other's affective states reflects cognitive skills which though necessary may be not sufficient to lead to prosocial behaviour (Rushton, 1980). Although understanding the experiences or the affective states of others may be a necessary condition to behave prosocially this can also facilitate manipulative behaviour rather than motivating the child to establish a positive interaction.

(2) The fact that prosocial categories correlate positively and significantly with the scores derived from the pictures of unhappy children in the affective test of empathy does not support Lennon and Eisenberg's (1987) observation that children's empathy for happy feelings are more important in the display of prosocial behaviour than empathy for distressful affect. On the contrary, these results seem to be more compatible with Hoffman's perspective

(1987) about the importance of empathic arousal which occurs as a reaction to another's need or distress in the mediation of prosocial behaviour.

(3) One explanation for the relative absence of significant relationships between empathy and sharing may be associated with environmental conditions such as a large supply, diversity and availability of resources (toys and materials) for children's manipulation in the nursery which would not often require sharing in order to develop one's own activity.

8.2.6.3. Empathy, assertiveness and aggression

From the review of the literature a significant inverse relationship between empathy and aggression would be expected (Feshbach, 1977). This is because empathy is generally considered to play a role in the regulation or inhibition of aggression. However this relationship has not been consistently found among young children.

In the current study a significant negative relationship between the affective test of empathy and only one aggression category - appropriation of objects - was obtained. On the other hand, a positive and significant relationship between request and the cognitive test of empathy and request and physical leading with the affective test of empathy was observed. Another behavioural category associated with positive assertiveness - command/direction - and the aggregation of assertiveness scores was also found to be positively correlated with the aggregation of scores obtained in the three tests of empathy. In sum, positive assertiveness, mainly the request assertiveness category, seems to be positively and significantly related to the cognitive and affective tests of empathy while appropriation of objects - an aggression category - is, on the contrary, inversely related to the scores on the affective empathy test.

These results suggest that empathy described either as understanding or as an affective response towards another's feelings may be associated with some kind of verbal self-regulation of behaviour as expressed by the request assertive category. The manifestation of this assertive behaviour conjointly with the inhibition of the tendency to appropriate other's objects could, thus give an indication of the greater sensitivity towards the affective states or needs of others generally attributed to higher empathetic children.

8.2.7. Self-control

The limitations attached to the measurement of this variable (namely the problem of sources of error associated with the "halo effect") have already been mentioned. In fact, one might interpret the positive and significant relationship obtained between asked-for helping and the mean of the nursery nurses'self-control ratings as reflecting the children's compliance or behaviour inclined to please or to seek approval in the nursery. This variable has received only limited exploration in research in this area, so there are no studies with which these results could be compared. Thus, the extent to which asked-for helping is mediated by some specific competences underlying the self-control items (such as the capacity of children for suppressing desires for immediate gratification or to delay gratification) remains an open question.

No significant relationship between aggression and self-control mean ratings was observed. However, negative correlations between appropriation of others'objects and the mean of the nursery nurses'ratings in half of the self-control questionnaire items were obtained. A negative and significant correlation was obtained between item 1 and the mean of the nursery nurses'ratings of aggression).

8.2.8. Individual and family characteristics

Some studies have shown that with age significant developments can be observed in capacities associated with the display of positive peer's interactions (Parten, 1932; Rubin and Krasnor, 1979). In the current study age was found to be positively and significantly correlated with few behaviours probably because age differences were attenuated among the children observed (appendix 1, table 24 p.386). Age differences found included one category of assertiveness (physical leading), one aggression category (damage of objects), helping subcategories and the affective and cognitive response to pictures of unhappy girls.

No significant relationships similar to those obtained by Snow et al. (1981) between assertiveness and birth order (briefly mentioned in chapter two) was obtained in the current study. Birth order, and the number of older siblings, were found to be positively and significantly correlated with affective response to pictures of unhappy boys; the number of older male siblings correlated significantly and positively with spontaneous comforting and spontaneous sharing in the non-roleplaying condition and the number of older girl siblings correlates negatively and significantly with physical aggression.

In the current study the relationship between the main variables and sex was also examined but the small number of boys would not allow any conclusive results to be obtained in this area. More specific issues related to the kind of activities chosen by each sex were not taken into consideration. In summary, the main findings were that boys were rated higher than girls in assertiveness and aggression by the nursery nurses. These results are only partially corroborated in the naturalistic observations. Actually, it was pointed out that scores obtained by two single children constitute the greater contribution to the variance obtained in some aggression categories, so the results could be attributed more to individual characteristics than a general sex difference. However, authors such as

Maccoby and Jacklin (1980) and Meadows and Cashdan (1983) concluded that boys acted more aggressively than girls. The analysis of children's interaction styles shows that the most common interaction profiles among boys are the assertive and assertive/aggressive styles and the most common profile amongst girls is the assertive style. This result involves very small numbers of children in each style and should not be taken as offering strong support for the existence of behaviourally or emotionally different processes in boys and girls in spite of the probable unequal socialisation and culture-related practices which might have been expected to have some differential effect even by this young age.

8.3. Final Conclusion: implications of the main issues discussed for further research

Throughout this work, the young child's active role, in interaction with his physical and social world has been stressed. Young children have been considered as causal agents in affecting others' actions or attitudes in their attempts to influence their environment. Although children's social behaviour may reflect the inputs from the social and physical environment, a child's behaviour is not only "moulded" or "shaped", but the actions of the children themselves play a part in directing and changing their social world. Children's selective use of different types of assertive, aggressive and prosocial behaviour have been shown in this work clearly to affect the behaviour of other children and to manipulate or influence the course of environmental events. Children deliberately use these behaviours in order to initiate, structure, produce, change or maintain the course of events, activities or interactions.

Cognitive theorists have argued that the child observes the effects that certain behaviour strategies have on others and by doing so extracts regularities from action (both of himself and others) and discovers general forms of exchanging behaviour. In their social interactions children acquire knowledge

about contextual constraints or associations between behaviour and outcome taking into account different characteristics (e.g. adult, child) and situations. As can be inferred from this study children are aware of functional outcomes as they are able to vary behaviour (employing different behavioural strategies including positive, negative methods of exchange or general forms of interacting) according to specific contextual constraints.

In the current study, young children were observed to adapt different types of assertive, aggressive or prosocial behaviour to the requirements of a specific interaction or kind of activity and materials. These behaviours appeared alongside the development (beginning, continuation, change, maintenance or increasing complexity) of children's activities or social interaction. Assertive and prosocial categories seemed to include essential behaviours for the initiation and maintenance of associative or cooperative interactions or activities. Prosocial and aggressive behaviour were occasionally observed co njointly towards different recipients stressing distinctions (e.g. friends and non-friends) in the relationships between the agent and recipients. These behaviours were sometimes associated with a differential and even contrasting expression of affect and with distinct outcomes. Negative affective engagement and further antagonism or separation occurred between agent and recipient in the case of aggression and positive, friendlier interaction resulting in prolonged cooperative or associative interaction or activities (maintenance or intensification of social interaction) in the case of prosocial behaviour. Assertive and aggressive behaviours were also observed to co-occur in situations in which the child had to cope with environmental or personal "stressors" (e.g. interruption or interference in activity or interaction) or to acquire or keep objects.

Prosocial, assertive and aggressive behaviour have been considered to underlie either other-oriented or self-oriented motivations; in this work,

behaviour designed to benefit others seemed very often intrinsically connected to the self. In this context, Jencks's claim (1990) that the psychological processes that lead the individual to take the welfare of others into account are probably the same as the processes that lead the individual to take into account his own welfare seems to have some relevance. In this sense Gilligan (1976) considered the selfish versus altruistic ch. .ce as an artificial cognitive invention and Sharabany (1984) predicted a reduced potential for altruism in the individual who had borne an intolerable amount of frustration during infancy.

Association between responding to others and feelings about self may inevitably co-exist and often lead to conflict, mainly in non-cooperative contexts. Antagonism in association with a host of conflicts expressing divergent interests between the target child (alone or in association with other children) and recipient have been widely observed in children's social encounters. Assertiveness and aggression were the behavioural strategies children in this study employed in order to defend their own or a friend's rights (keeping a toy, for example). Aggression was sometimes observed when assertion had failed, as the result of an escalation of a conflict. On the other hand, the absence of conflict accompanied by the pleasure displayed by children in cooperative activities (where self and others'interest seem to coexist) has been reported by different authors (Chapman et al, 1987; Lennon and Eisenberg, 1987) and was also observed during the naturalistic observations in this research.

Empathy which has been considered to increase proximity and the likelihood of social interchange (Marcus and Roke, 1980) was, in this study, positively associated with assertiveness and negatively related to one aggression category, appropriation of objects. This may suggest that sensitivity towards another's feelings may lead the child to spontaneously reach a better balance between self and others' interest and thus to reduce the likelihood of conflict

resulting from the interaction between affiliative and power dimensions in one's own or another's motivational system. As already mentioned, aggression (negative, punitive behaviour) was, unlike assertiveness, often followed by the termination of social interactions among children. High empathic children may thus resort less to aggressive strategies (e.g. appropriation of objects) or use them more rarely as a last resort when attempting to defend their own rights (e.g. to acquire objects).

Although aggressive and prosocial behaviour was shown in this research to have either detrimental, facilitative, or strengthening effects in children's social interactions, this must not constitute a basis for straightforward individual intervention programmes in order to reduce the former and increase the latter. The advantage of fostering empathy, prosocial and assertive behaviour seems an obvious inference, from this work, as it may help the individual to keep an adequate balance between his own and others interests or rights. On the other hand, any attempt completely to eliminate behaviours which may be used as a last resort in protection of self or other does not sound plausible without simultaneous interventions which might reduce ecological or societal elicitors of these behaviours.

In this study it was not possible to carry out an analysis which could also integrate factors associated with the individual value system (rules of "good" and "bad", standards, representations of the dēsired states of objects and others). However, it was mentioned that preschool children obey norms and conventions (Bakeman and Brownlee, 1982; Eisenberg-Berg et al., 1981; Newman, 1978) which may be intrinsically related to the ideals or the philosophy of the society in which they live. Children in different cultures have been observed to have a common desire to control or influence their environments; however, their behavioural goals develop as a function of the priorities established by the norms

of their social environments. Thus, one may wonder how efficiently empathic and prosocial dimensions can be fostered and considered important features of adjustment in societies in which the desire for property or objects seems more highly valued (and so quickly learned by children) than having intense or harmonious social interactions with other human beings.

In summary, the current research follows many other enquiries in a domain where considerable ambiguity (and variety of approaches and definitions) prevails. The many limitations associated with the design, the considerable caution needed when analysing its results and the need for their replication among different randomized samples has also been stressed. Among the findings with implications for further research are:

(1) The need for a fine discrimination of responses (and the use of low inference measures) when dealing with psychological constructs in research. The inconsistent results obtained in different correlational studies in this area may, in part, be explained by the multi-dimensionality or heterogeneity of responses drawn from the diversity of behaviour which may represent key constructs. In the current study different aggression categories were correlated either positively (mainly with spontaneous prosocial behaviour categories such as sharing and comforting) negatively (e.g. with asked-for sharing) or were unrelated to one another. On the other hand the positive and significant correlation only between three assertive and three aggressive categories (command/direction, request and physical leading with physical aggression, threat and damage of objects, respectively) may also suggest a need to enquire about the different nature of counter-assertive behaviours (disagreeing, non-compliance). Only behaviours associated with positive assertion are positively related to certain aggression responses thereby suggesting that the latter may be another way in which children assert themselves.

(ii) The low reliability and validity of empathy measures have been repeated throughout this work and require further research involving the empathy concept and related findings. Empathy assessment is sensitive to the effects of social desirability and may reflect, among other sources of error, children's ability to supply answers which were expected to please or match the experimenter's expectations. The reported positive relationship between empathy and certain assertiveness categories and the analysis of the distribution of the target behaviours raise the question as to whether the differences reported reflect or are explained by variables other than empathy, such as group composition or social competence. Thus among the findings involving empathy measures which need to be researched further in order to be validated are: (i) the significant relationship between request and the cognitive and affective tests of empathy and the negative and significant relationship between the latter and appropriation of objects: this relationships suggest that (affective) empathy seems more likely to elicit an assertive (request) than an aggressive response (appropriation of objects) when children see others playing or manipulating a different object; (ii) the tendency for children with an aggressive style of interaction to obtain lower scores on the empathy (affective) test and children with higher scores on empathy to have fewer targets for their aggression and physically attack less younger children.

The nursery nurses' ratings of empathy, self-control, prosocial behaviour, assertiveness and aggression are not free from errors such as the halo effect. Thus the significant positive correlation obtained between the nursery nurses' ratings of empathy, prosocial behaviour and self-control and asked-for helping behaviour scores is also questionable as this effect may have induced in the assessor, a general positive evaluation of children who comply with his requests.

(iii) The analysis of antecedents and consequents of observational behaviours in further research could clarify issues such as other-oriented or self-oriented goals or motivations in social interactions. In this research highly significant chi-squares and contingency coefficients indicated that antecedents and consequents of both proximal and distal dyads of observational categories are not randomly distributed but there is a strong association between them. Among the antecedents and consequents which appear more frequently than would be expected by chance and may deserve further inquiry in this domain are: (i) Spontaneous prosocial categories such as helping and sharing preceding assertive categories (usually associated with dominance), namely physical leading and command/direction. This may reinforce the hypothesis of the relation between positive assertiveness and prosocial behaviour; that is between the need to benefit others and oneself, as observed, for example, in the support or help required for the development, change or variation of a certain activity (ii) The association between spontaneous sharing (following) and physical aggression which seems to support the hypothesis of a link between children's aggression and tendencies to restitution (Isaacs, 1933) or interpersonal guilt (Chapman et al. 1987), (iii) Assertion or aggression were observed in the qualitative analysis to be directed against a third child when the target child was cooperating with other children. This issue should be further examined as it has important implications in the area of children's identification with group goals and rules (which may include legitimatization thus removing the sense of cruelty) and (from) behaviours mentioned by Jencks (1990) as expressing "communitarian unselfishness" or "selfless cruelty" by Holmes (1990).

In conclusion, the development of further research in this area seems an important issue at an educational and societal level, notwithstanding the

complexities and ambiguities of a domain which may require interdisciplinary study of the diverse research areas.

Although an effort was made throughout this research in the use of appropriate methods of recording or assessing the different variables conceptualized according to relevant theoretical models in this domain, various methodological limitations entail caution in the treatment and interpretation of the results. The many potential methodological difficulties include: (i) those related to the collection or elaboration and recording of reliable, valid, relevant and complete information for further analysis. In this context, this subsumes limitations in the use of coding processes and systematic recording of behaviours or events such as the creation and use of category systems with units well discriminated, for the coding and systematic registration of all the events.(ii) difficulties related to the range of measurement instruments (logically) related to the chosen variables, or even (iii) questions related to data collection guided by a logical development of formulated hypotheses drawn from significant theoretical models which justify the selection of certain variables and simultaneously allow the clarification and interpretation of scientific findings and so the systematic construction or refinements of theories supported by objective evidence. In this context and to prevent the data generated from being a simple artefact of one specific method drawn from a particular theoretical approach, the combined use of multiple and contrasting methods and several levels of analysis would be profitable thus enabling educational and behavioural phenomena to be studied as a result of multiple causation. In other words emphasis on establishing the "actual" cause of particular phenomenon would be replaced by the discovery of functional relationships which could be expressed in terms of probability of occurrence. Mischel (1977) stressed the need to develop perspectives towards a multiple determinism or integrative models which recognize that

"complex human behaviour tends to be influenced by many determinants and reflects almost inseparable and continuous interaction of a host of variables both in the person and in the situation" (p. 250).

REFERENCES

Abramovitch, R. and Strayer, F. F. (1978) Preschool social organization: Agonistic, spacing and attentional behaviors. In Pliner, P., Kramer, T. and Alloway, T. (Eds), *Recent advances in the study of communication and affect* (Vol. 6.), New York: Plenum Press.

Abramson, P. R. and Abramson, S. D. (1974) A factorial study of a multidimensional approach to aggressive behavior in black preschool age children, *Journal of Genetic Psychology,* 125, 1, 31-36.

Abroms, K. I. and Gollin, J. B. (1980) Developmental study of gifted preschool children and measures of psychosocial giftedness, *Exceptional Children,* 46, Feb, No. 5, 334-341.

Aldis, O. (1975) *Play fighting,* New York: Academic Press.

Ames, C., Ames, R., and Felker, D. W. (1977) Effects of competitive reward structure and valence of outcome on children's achievement attributions, *Journal of Educational Psychology*, 69, 1-8.

Anastasi, A. (1982) *Psychological testing*. New York: MacMillan, 5th. edition.

Angoli, M. H. and Hensley, W. E. (1979) *A child's space: personal space preferences of preschool children as a function of material and tactile stimuli*. Paper presented at the Annual Meeting of the Central States Speech Association, April 5-7, St. Louis, Missouri.

Aronfreed, J. (1968) Conduct and conscience. New York: Academic Press.

Aronfreed, J. (1976) Moral development from the standpoint of a general psychological theory. In Lickona, T. (Ed.), *Moral development and behavior: Theory, research, and social issues*. New York: Holt, Rinehart & Winston.

Arrington, R. E. (1939) Time sampling in studies of child behaviour. *Psychological Monographs*, 51 (2).

Bakeman, R. and Brownlee, J. R. (1982) Social rules governing object conflicts in toddlers and preschoolers. In Rubin, K. H. and Ross, H. S. (Eds.), *Peer relationships and social skills in childhood*. New York: Springer-Verlag.

Bandura, A. (1973) *Aggression: A social learning analysis*. New York: Holt.

Bandura, A. (1977) *Social learning theory*. Englewood Cliffs, N. J.: Prentice-Hall.

Bandura, A. (1983) Psychological mechanisms of aggression. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues*, vol 1, New York: Academic, Inc.

Bandura, A. and Walters, R. H. (1963) *Social learning and personality development*. New York: Holt, Rinehart & Winston.

Bandura, A., Grusec, J. E., and Menlove, F. L. (1966) Observational learning as a function of symbolization and incentive set. *Child Development*, 37, 499-506.

Bannister, D., and Agnew, J. (1977) The child's construing of self. In Cole, J. (Ed) *Nebraska symposium on motivation*, Lincoln: University of Nebraska Press.

Bar-Tal, D., Raviv, A. and Goldberg, M. (1982) Helping behavior among preschool children: an observational study. *Child-Development*, Apr, 53, No. 2, 396-402.

Barash, D. P. (1977) *Sociobioloby and behavior.* New York: Elsevier.

Barker, R. G., Dembo, T. and Lewin, K. (1941) *Frustration and regression: An experiment with young children*. University of Iowa Studies in Child Welfare, 18, No. 386.

Barnes, G. M. (1981) Solitary play: social immaturity or autonomous achievement striving? *Australian Journal of Early Childhood*, Sep, 6, No.3, 12-15.

Barnett, M. A. (1983) *Similarity of experience and empathy in preschoolers.* Paper presented at the Annual Meeting of the Midwestern Psychological Association, May 5-7, Chicago.

Barnett, M. A. (1987) Empathy and related responses in children. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development*, New York: Cambridge University Press.

Barrett, D. E. and Yarrow, M. R. (1977), Prosocial behavior, social inferential ability, and assertiveness in children. *Child Development*, 48, 475-481.

Batson, C. D., Duncan, B. D., Ackerman, P., Buckley, T. and Birch, K. (1981) Is empathic emotion a source of altruistic motivation?, *Journal of Personality and Social Psychology*, 40, No. 2, 290-302.

Baumrind, D. (1971) Current patterns of parental authority. *Developmental Psychology Monograph*, 4, 1, Pt. 2.

Baumrind, D. (1978) Parental disciplinary patterns and social competence in children. *Youth and Society*, 239-276.

Baumrind, D. (1980) New directions in socialization research. *American Psychologist*, 35, 639-652.

Beauvais, C., Worden, P. E. and Simovich, P. (1982) *Sharing in preschool: A naturalistic observation.* Paper presented at the Annual Meeting of the Western Psychological Association, April 7-11, Sacramento.

Becker, J. A. (1986) Bossy and nice requests: Children's production and interpretation. *Merrill-Palmer Quarterly*, 32, Oct, No. 4, 393-413.

Beeson, B. S. and Williams, R. A. (1979) *A study of sex stereotyping in child-selected play activities of preschool children*. Research Report, US: Indiana University (In Eric).

Bekoff, M. (1972) The development of social interaction, play and metacommunication in mammals: An ethological perspective. *Quarterly Review of Biology*, 47, 412-434.

Berkowitz, L. (1962) *Aggression: A social psychological analysis.* New York: McGraw-Hill.

Berkowitz, L. (1973) The case for bottling up rage. *Psychology Today*, 7, 24-31.

Berkowitz, L. (1974) Some determinants of impulsive aggression: the role of mediated associations with reinforcements for aggression. *Psychological Review*, 81, 165-176.

Berkowitz, L. (1983) The experience of anger as a parallel process in the display of impulsive, "angry" aggression. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues*, 1, New York: Academic, Inc.

Berkowitz, L. and Alioto, J. T. (1973) The meaning of an observed event as a determinant of its aggressive cconsequences. *Journal of Personality and Social Psychology*, 28, 206-217.

Birch, L. L. and Billman, J. (1986) Preschool children's food sharing with friends and acquaintances. *Child-Development*, 57, Apr, No. 2, 387-395.

Black, B. and Hazen, N. (1983) *The relationship between communication patterns and social acceptance in preschool children.* Paper presented at the Annual Meeting of the American Educational Research Association, April 11-14, Montreal, Quebec.

Blakemore, J. E. O. (1979) *Age and sex differences in interaction with a human infant.* Paper presented at the Biennial Meeting of the Society for Research in Child Development, March 15-18, San Francisco, California.

Blasi, A. (1980) Bridging moral cognition and moral action: A critical review of the literature. *Psychological Bulletin*, 88, 1-45.

Block, J. and Block, J. H. (1977) *The developmental continuity of ego control and ego resiliency: Some accomplishments.* Paper presented at the Biennial Meeting of the Society for Research in Child Development, March 17-20, New Orleans, Louisiana.

Blum, L. A. (1980) *Friendship, altruism and morality*. London: Routledge-Kegan Paul.

Blurton-Jones, N. (Ed) (1972) *Ethological studies of child behavior*, Cambridge: Cambridge University Press.

Bond, N. D. and Phillips, B. N. (1971) Personality traits associated with altruistic behavior of children. *Journal of School Psychology*, 9, 24-34.

Borke, H. (1973) The development of empathy in Chinese and American children between 3 and 6 years of age. A cross-culture study, *Developmental Psychology,* 9, 102-108.

Brehm, J. W. (1966) *A theory of psychological reactance*, New York: Academie Press.

Brenner, M. (1976) *The effects of sex, structure, and social interaction on preschoolers' make-believe in a naturalistic setting*. Master's thesis, University of Illinois.

Bronfenbrenner, U. (1977) *The ecology of human development*, Cambridge, MA: Havard University Press.

Brooks-Gunn, J. and Lewis, M. (1981) Infant social perception: responses to pictures of parents and strangers, *Developmental Psychology*, 17, 647-649.

Brownlee, J. R. and Bakeman, R.(1981) Hitting in toddler-peer interaction, *Child-Development*, 52, Sep, No. 3, 1076-1079.

Bryant, B. K. and Crockenberg, S. B. (1980) Correlates and dimensions of prosocial behavior: A study of female siblings with their mothers. *Child Development*, 51, 529-544.

Buck, R. (1975) Non-verbal communication of affect in children, *Journal of Personality and Social Psychology*, 31, 644-653.

Buss, A. H. (1966) Instrumentality of aggression, feedback, and frustration as determinants of physical aggression, *Journal of Personality and Social Psychology*, 3, 153-162.

Buss, A. H. (1986) *Social Behavior and personality*, Hillsdale, N.J: Lawrence Erlbaum.

Camaras, L.A. (1980) Children's understanding of facial expressions used during conflict encounters. *Child Development*, 51, 879-885.

Campbell, D. T. (1965) Ethnocentric and other altruistic motives. In Levine, D. (Ed), *Nebraska Symposium on Motivation* (Vol 13), Lincoln: University of Nebraska Press.

Campbell, J. D., and Yarrow, M. R. (1961) Perceptual and behavioral correlates of social effectiveness, *Sociometry*, 24, 1-20.

Campbell, S. B., and Levine, P. C. (1980) *Peer interactions of young "hyperactive" children in preschool*. Paper presented at the meeting of the American Psychological Association, Montreal, September.

Carpenter, C. J. (1979) *Relation of children's sex-typed behavior to classroom, and activity structure*. Paper presented at the biennial Meeting of the Society for Research in Child Development, March, 15-18, San Francisco.

Chapman, M., Zahn-Waxler, C., Cooperman, G. and Iannotti, R. (1987) Empathy and responsibility in the motivation of children's helping, *Developmental Psychology*, Jan, 23, No. 1, 140-145.

Charlesworth, R. and Hartup, W. W. (1967) Positive social reinforcement in the nursery school peer group, *Child Development*, 38, 993-1002.

Chiu, P. J. (1982) *Reciprocity in preschool peers' social interaction.* Paper presented at the Annual Meeting of the American Educational Research Association, March, 19-23, NewYork.

Clifford, T. (1987) Assertiveness training for parents, *Journal of Counseling and Development,* 65, Jun, No. 10, 552-554.

Coke, J. S., Batson, C. D. and McDavis, K. (1978) Empathic mediation of helping: a two stage model, *Journal of Personality and Social Psychology,* 36, No. 7, 752-766.

Condry, J. C. and Ross, D. F. (1985) Sex and aggression: The influence of gender label on the perception of aggression in children, *Child-Development,* 56, Feb, No. 1, 225-233.

Connolly, J.and Doyle, A. B. (1979) *Social competence in the preschool: A multivariate view.* Paper presented at the biennial Meeting of the Society for Research in Child Development, March, 15-18, San Francisco, California.

Cook-Gumperez, J. and Corsaro W. (1977) Social-ecological constraints on children communicative strategies, *Sociology,* 11, 411-434.

Crockenberg, S. B. and Bryant, B. K. (1978) Socialization: The "implicit curriculum" of learning environment. *Journal of Research and Development in Education,* 12, 69-78.

Cummings, E. M. (1987) Coping with background anger in early childhood, *Child Development,* 58, Aug, No. 4, 976-984.

Dangerink, H. A. and Covey, M. K. (1983) Implications of an escape-avoidance theory of aggressive responses to attack. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues,* vol 1, New York: Academic, Inc.

Davitz, J. R. (1952) The effects of previous training on postfrustation behavior. *Journal of Abnormal and Social Psychology,* 47, 309-315.

Dawe, H. C. (1934) An analysis of two hundred quarrels of preschool children, *Child Development,* 5, 139-157.

De la Mothe, M. (1987) *Empathy revisited,* Unpublished doctoral thesis, Open University.

Denham, S. A. (1987 *Child competence and maternal emotion socialization correlates of attachment q-sort variables.* Paper presented at the Annual Meeting of the American Psychological Association, August 28 - September 1, New York.

Dion, K. K. (1973) Young children's stereotyping of facial attractiveness. *Developmental Psychology,* 9, 183-198.

Dodge, K. A. (1981) *Behavioral antecedents of peer rejection and isolation.* Paper presented at the meeting of the Society for Research in Child Development, April, Boston.

Dodge, K. A. (1982) Social information processing variables in the development of aggression and altruism in children. In Zahn-Waxler, C., Cummings, M. and Radke-Yarrow, M. (Eds.), *The development of altruism and aggression: social and sociobiological origins*. New York: Cambridge University Press.

Dodge, K. A., and Frame, C. L. (1982) Social cognitive biases and deficits in aggressive boys. *Child Development*, 53, 620-635.

Dodge, K. A. and Richard, B. A. (1985) Peer perceptions, aggression, and the development of peer relations. In Pryor, J. B. and Day, J. D. (eds.), *The development of social cognition*, New York: Springer-Verlag.

Dollard, J., Dood, L. W., Miller, N. E., Mowrer, O. H., and Sears, R. R. (1939) *Frustration and aggression*. New Haven: Yale University Press.

Donaldson, M. (1978) *Children's minds*. Fontana, Collins

Dorman, L. and Rebelsky, F. (1969) *The relationship between instrumental assertion and the stanford-binet.* Paper presented at the meetings of the Society for Research in Child Development,March, Headstart Evaluation and Research Center, Boston University, Massachusetts.

Downs, A. C. and Nelson, S. (1983) *Preschool teachers' reactions to attractive and unattractive children: An observational study.* Paper presented at the Annual Meeting of the Southwestern Psychological Association, April 21-23, San Antonio.

Doyle, A. B. and Connolly, J. (1987) Negotiation and enactment in social pretend play: Relations to social acceptance and social cognition. *Early Childhood Research Quarterly*, 4, No. 3, 289-302.

Dunn, J. (1988) *The beginnings of social understanding*, Oxford: Basil Blackwell.

Dunn, J. and Kendrick, C. (1982) *Siblings: Love, envy and understanding*, London: Grant McIntyre.

Dunnington, M. J. (1957) Behavioral differences of sociometric status groups in a nursery school, *Child Development*, 28, 103-111.

Easterbrooks, M. A. and Lamb, M. E. (1979) The relationship between quality of infant-mother attachment and infant peer competence in initial encounters with peers, *Child Development*, 50, 380-387.

Eckerman, C. O., and Whatley, J. L. (1977) Toys and social interaction between infant peers, *Child Development*, 48, 1645-1656.

Eckerman, C. O., Whatley, J. L. and Kutz, S. L. (1975) The growth of social play with peers during the second year of life, *Developmental Psychology*, 11, 42-49.

Eisenberg, N. and Miller, P. (1987) The relation of empathy to prosocial and related behaviours *Psychological Bulletin*, 101, 1, 91-119.

Eisenberg, N. and Strayer, J. (Ed.) (1987) *Empathy and its development*, New York: Cambridge University Press.

Eisenberg, N., Cameron, E. and Tryon, K. (1984a) Prosocial behavior in the preschool years: methodological and conceptual issues. In Staub, E., Bar-Tal D., Karylowski, J. Reykowski, J. (eds.) *Development and maintenance of prosocial behavior. International perspectives on positive morality.* New York: Plenum Press.

Eisenberg, N., Tryon, K. and Cameron, E. (1984 b) The relation of preschoolers' peer interaction to their sex-typed toy choices, *Child Development,* 55, 3, 1044-1050.

Eisenberg-Berg, N. and Hand, M. (1979) The relationship of preschoolers' reasoning about prosocial moral conflicts to prosocial behavior, *Child Development,* 50, Jun, No. 2, 356-363.

Eisenberg-Berg, N. and Lennon, R. (1980) Altruism and the assessment of empathy in the preschool years, *Child Development,* 51, Jun, No. 2, 552-557.

Eisenberg-Berg, N. and Neal, C. (1979) Children's moral reasoning about their own spontaneous prosocial behavior, *Developmental Psychology,* 15, No. 2, Mar, 228-229.

Eisenberg-Berg, N., Haake, R. J. and Bartlett, K. (1981) The effects of possession and ownership on the sharing and proprietary behaviors of preschool children, *Merrill-Palmer Quartely*, 27, 61-68.

Ekstein, R. (1978) Psychoanalysis, sympathy, and altruism. In Wispe, L. G. (Ed.), *Altruism, sympathy, and helping: Psychological and sociological principles*. New York: Academic Press.

Elgas, P. M. , Klein, E., Kantor, R. and Fernie, D. E. (1988) Play and the peer culture: play styles and object use. *Journal of Research in Childhood Education,* 3, , Fall-Win, No. 2, 142-153.

Elster, J. (1990) Selfishness and altruism. In Mansbridge, J. (Ed) *Beyond self-interest*, Chicago: University of Chicago Press.

Erikson, M. F. and Crichton, L. (1981) Antecedents of compliance in two-year-olds from a high-risk sample. Paper presented at the Biennial Meeting of the Society for Research in Child Development. April, Boston, Massachusetts.

Fagen, S. A., Long, N. J., Stevens, D. J. (1975) *Teaching children self-control.* Columbus, Ohio: C.E. Merrill.

Fagot, B. I. (1977) Consequences of moderate cross-gender behavior in preschool children, *Child Development*, 48, 902-907.

Fagot, B. I. (1978) *Sex determined consequences of different play styles in early childhood.* Paper presented at the Annual meeting of the American Psychological Association, and 86th Toronto, Canada, August 28-September 1.

Fagot, B. I. and Hagan, R. (1985) Aggression in toddlers: responses to the assertive acts of boys and girls, *Sex-Roles,* 12, Feb., No. 3-4, 341-351.

Farber, E. A. and Moely, B. E. (1980) *Development of the ability to use facial, situational, and vocal cues to infer others' affective states*. Paper presented at the Biennial Meeting of the Southwestern Society for Research in Human Development, March 27-29, Lawrence.

Fein, G. G. (1981) Pretend play in childhood: An integrative review. *Child Development*, 52, 1095-1118.

Feinberg, H. K. (1978) Anatomy of a helping situation: Some personality and situational determinants of helping in a conflict situation involving another's psychological distress. *Dissertation Abstracts International*, Jul., 39, 1-B, 357-358.

Ferguson, G. A. and Takane, J. (1989) *Statistical analysis in psychology and education*. New York: McGraw Hill.

Ferguson, T. J. and Rule, B. G. (1983) An attributional perspective on anger and aggression. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues*, vol 1, New York: Academic, Inc.

Fernie, D. E. , Kantor, R., Scott, J. A., Shwarz, P., Kesner, J. and Klein, E. (1990) *The honeymooners: Teachers and children. co-construct the school culture of a preschool*. Paper presented at the Annual Conference of the American Educational Research Association, April 16-20, Boston.

Feshbach, N.D. (1977) Studies on the empathic behavior of children, in Maher, B. (ed.), *Progress in Experimental Personality Research*, vol 8, N. York Academic Press.

Feshbach, N. D. (1978) Studies of empathic behavior in children. In B. A. Maher (Ed.), *Progress in experimental personality research* (Vol. 8). New York: Academic Press.

Feshbach, N. D. and Roe, K. (1968) Empathy in six and seven year olds. *Child Development*, 39, 133-145.

Feshbach, S. (1964) The function of aggression and the regulation of aggressive drive. *Psychological Review*, 257-272.

Fling, S. and Manosevitz, M.(1972) Sex typing in nursery school children's play interests, *Developmental Psychology*, 7, 2, 146-152.

Frankel, D. G. and Arbel, T. (1980) Group formation by two-year olds, *International Journal of Behavioral Development*, 3, Sep., No. 3, 287-298.

French, J. R. P. and Raven, B. (1959) The bases of social power. In D. Cartwright (Ed.), *Studies in social power*. Ann Arbor, MI: Research Center for Group Dynamics.

Freud, A. and Dann, S. (1951) An experiment in group upbringing. In Eisler, R. S., Freud, A., Hartmann, H. and Kris, E. (Eds.) *The psychoanalytic study of the child* (Vol. 6). New York: International Universities Press.

Freud, S. (1921) Group psychology and the analysis of the ego. In Strachey, J. (Ed. and trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 18). London: Hogarth Press, 1953. (Originally published, 1921).

Freud, S. (1930) Civilization and its discontents. In Strachey, J. (Ed. and trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 21). London: Hogarth Press, 1953. (Originally published, 1930).

Friedrich, L.; Stein, A. (1973) Aggressive and prosocial television programmes and the natural behavior of preschool children, *Monographs of the Society for Research in Child Development*, 38, 4, Serial No. 151.

Fromm, E. (1973) *The anatomy of human destructiveness*, New York: Holt, Rinehart and Winston.

Furby, L. (1978) Possession in humans: An exploratory study of its meaning and motivation, *Social Behavior and Personality*, 6, 1, 49-65.

Furby, L. (1980) Collective possession and ownership: A study of its judged feasibility and desirability, *Social Behaviour and Personality*, 8, 2, 165-184.

Garvey, C. (1974) Some properties of social play, *Merrill-Palmer Quarterly*, 20, 3, 163-180

Geen, R. G. (1990) *Human aggression*, Milton Keynes: Open University Press

Gelfand, D. M., Hartmann, D. P., Cromer, C. C., Smith, C. L. and Page, B. C. (1975) The effects of instructional prompts and praise on children's donation rates, *Child Development*, 46, 980-983.

Genishi, C. (1981) *Teacher Intervention in Preschoolers' Arguments*. Paper presented at the Annual Meeting of the American Education Research Association, April 13-17, Los Angeles.

Gilligan, J. (1976) Beyond morality: Psychoanalytic reflections on shame, guilt and love. In Lickona, T. (Ed.), *Moral development and behavior: Theory, research, and social issues*. New York: Holt, Rinehart & Winston.

Glick, J. (1978) Cognition and social cognition: an introduction. In Glick, J. and Clarke-Stewart, A. (Ed) *The development of social understanding*. New York: Gardner Press.

Golden, L. B. (1987) Prosocial learning groups with young children, *Elementary School Guidance and Counseling*, 22, Oct.,No. 1, 31-36.

Goodenough, F. L. (1931) *Anger in young children*. Minneapolis: University of Minnesota Press.

Gottman, J. M. (1977) Toward a definition of social isolation in children, *Child Develoment*, 48, 513-517.

Grant, E. C. (1963) Analysis of social behaviour of the male laboratory rat, *Behaviour*, 2: 41-58.

Green, E. H. (1933) Friendships and quarrels among preschool children, *Child Development*, 4, 236-252.

Grusec, J. E. (1982) The socialization of altruism. In Eisenberg-Berg, N. (Ed.), *The development of prosocial behavior*. New York: Academic Press.

Grusec, J. E., Kuczynski, L., Rushton, J. P. and Simutis, Z. N. (1978) Modeling, direct instruction, and attributions: Effects on altruism, *Developmental Psychology*, 14, 51-57.

Gunnar, M. R., Senior, K. and Hartup, W. W. (1984) Peer presence and the exploratory behavior of eighteen and thirty month old children, *Child Development*, 55, 3, 1103-1109.

Hampson, R. B. (1979) *Peers, pathology, and helping: Some kids are more helpful than others.* Paper presented at the meeting of the Society for Research in Child Development, March, San Francisco.

Hargreaves, D. H. (1980) Deviance: the interactionist approach, *in* Gillham, B. (Ed), *Reconstructing Educational Psychology*, London:Croom Helm

Harris, M. B. (1972) The effects of performing one altruistic act on the likelihood of performing another, *Journal of Social Psychology*, 88, 65-73.

Harris, M. B., and Siebel, C. E. (1975) Affect, aggression, and altruism. *Developmental Psychology*, 11, 623-627.

Harris, P. L. and Gross, D. (1988) Children's understanding of real and apparent emotion. In Astington, J. W., Harris, P. L., Olson, D. R. (Eds.) *Developing theories of mind*, Cambridge: Cambridge University Press

Hartmann, H. Kris, E. and Lowenstein, R. (1949) Notes on the theory of aggression. In Freud, A. (Ed.) *The psychoanalytic study of the child*, vol 3, New York: International Universities Press.

Hartup, W. W. (1964) Friendship status and the effectiveness of peers as reinforcing agents. *Journal of Experimental Child Psychology*, 1, 154-162.

Hartup, W. W. (1974) Aggression in childhood: Developmental perspectives. *American Psychologist*, 29, 336-341.

Hartup, W. W. (1983) Peer Relations. In P. H. Mussen (Ed), *Carmichael's manual of child psychology* (Vol. 4). New York: Wiley.

Hartup, W. W. and Coates, B. (1967) Imitation of a peer as a function of reinforcement from the peer group and rewardingness of the model, *Child Development*, 1967, 38, 1003-1016.

Hartup, W. W. and Keller, E. D. (1960) Nurturance in preschool children and its relation to dependency, *Child Development*, 31, 681-689.

Hartup, W. W. and Laursen, B. (1987) *Friendship and conflict: Synergies in child development.* Paper on which poster was based was presented at the Biennial Meeting of the International Society for the Study of Behavioural Development, July 12-16, 9th, Tokyo, Japan.

Hartup, W. W., Glazer, J. A. and Charlesworth, R. (1967) Peer reinforcement and sociometric status, *Child Development*, 38, 1017-1024.

Haswell, K., Hock, E. and Wenar, C. (1981) Oppositional behavior of preschool children: theory and intervention, *Family-Relations*, 30, Jul, No. 3, 440-446.

Hatch, J. A. (1990) *Unsuccessful social adjustment patterns in young children.* Paper presented at the Annual Meeting of the American Educational Research Association, April 16-20, Boston.

Haviland, J. M. and Lelwica M. (1987) The induced affect response: 10-weak old infants'responses to there emotional responses, *Developmental Psychology*, 23, 97-104.

Hay, D. F. and Ross, H. S. (1982) The social nature of early conflict, *Child development*, 53, 105-113.

Hayes, D. S. (1978), Cognitive basis for liking and disliking among preschool children, *Child Development*, 49, 906-909

Hayes, S. D., Gersham, E. and Bolin, J. (1980) Friends and enemies: cognitive bases for preschool children's unilateral and reciprocal relationships. *Child Development*, 51, Dec., 4, 1276-1279.

Heathers, G. (1955) Emotional dependence and independence in nursery school play, *Journal of Genetic Psychology*, 87, 37-57.

Henry, R. M. (1980) A theoretical and empirical analysis of "reasoning" in the socialization of young children, *Human Development*, 23, 105-125.

Hersov, L. A. and Berger, M.(Ed) (1978) *Aggression and anti-social behaviour in childhood and adolescence*, Oxford: Pergamon.

Hinde, R. A. (1972) *Social behaviour and its development in subhuman primates.* Condon lectures, Oregon State System of Highest Education, Eugene, Oregon, USA.

Hinde, R. A. (1974) *Biological bases of social behavior.* New York: McGraw-Hill.

Hoffman, M. L. (1963) Parent discipline and the child's consideration for others, *Child Development*, 34, 573-588.

Hoffman, M. L. (1970) Conscience, personality and socialization techniques, *Human Development*, 13, 90-126.

Hoffman, M. L. (1975a) Developmental synthesis of affect and cognition and its implications for altruistic motivation, *Developmental Psychology*, 11, 607-622.

Hoffman, M. L. (1975b) Altruistic behavior and the parent-child relationship, *Journal of Personality and Social Psychology*, 31, 937-943.

Hoffman, M. L. (1976a) Empathic distress in newborns *Developmental Psychology*, 12, 175-176.

Hoffman, M. L. (1976b) Empathy, role-taking, guilt, and development of altruistic motives. In Lickona, T. (Ed.), *Moral development and behavior: Theory, research, and social issues.* New York: Holt, Rinehart & Winston.

Hoffman, M. L. (1982) Development of prosocial motivation: Empathy and guilt. In N. Eisenberg-Berg (Ed.), *Development of prosocial behavior.* New York: Academic Press.

Hoffman, M. L. (1987) Empathy: Justice and moral judgment. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development,* New York: Cambridge University Press.

Hold-Cavell, B. C. (1985) Showing off and aggression in young children. *Aggressive Behavior,* 11, 303-314.

Holmberg, M. C. (1977) *The development of social interchange patterns from 12-42 months: Cross-sectional and short-term longitudinal analyses.* Paper presented at the Biennial Meeting of the Society for Research in Child Development, March 17-20, New Orleans, Louisiana.

Holmes, S. (1990) The secret history of self-interest. In Mansbridge, J. (Ed) *Beyond self-interest,* Chicago: University of Chicago Press.

Honig, A. S. (1985) Research in review. Compliance, control and discipline, *Young Children,* 40, Jan., 2, 50-58.

Humphreys, A. P. and Smith, P. K. (1979) Rough and tumble, friendship and dominance in schoolchildren: Evidence for continuity and change with age, *Child Development,* 58, 201-212.

Humphreys, A. P. and Smith, P. K. (1984): Rough and tumble in preschool and playground. In Smith, P. K. (Ed.) *Play in animals and humans,* Oxford: Basil Blackwell.

Hutt, C. (1966) Exploration and play in children. *Symposium of the Zoological Society,* London, 18: 61-81.

Hutt, S.J. and Hutt, C. (1970) *Direct observation and measurement of behavior,* Springfield, Ill: Charles C. Thomas.

Iannotti, R. J.(1978) Effect of role-taking experiences on role-taking, empathy, altruism and aggression, *Developmental Psychology,* 14, 119-124.

Iannotti, R. J. (1981) *Prosocial behavior, perspective taking, and empathy in preschool children: An evaluation of naturalistic and structured settings.* Paper presented at the Biennial Meeting of the Society for Research in Child Development. April 2-5, Boston.

Iannotti, R. J. (1985) Naturalistic and structured assessments of prosocial behavior in preschool children: The influence of empathy and perspective taking, *Developmental Psychology,* 21, Jan., No. 1, 46-55.

Ipsa J. (1981) Peer support among soviet day care toddlers, *International Journal of Behavioral Development,* 4, Jun., No. 2, 255-269.

Isaacs, S. (1933) *Social development in young children. A study of beginnings*, London: George Routledge & Sons.

Isaacs, S. (1951) *Social development in young children*, London: Routledge & Kegan Paul.

Izard, C. E. (1977) On the ontogenesis of emotion and emotion-cognition relationships in infancy. In Lewis, M. and Rosenblum L.A. (eds.) *The development of affect*. New York: Plenum Press.

Jacklin, C. N. and Maccoby, E. E. (1978) Social behavior at thirty-three months in same-sex and mixed-sex dyads, *Child Development*, 49, 557-569.

Jacobson, J. L. and Wille, D. E. (1986) The Influence of Attachment Pattern on Developmental Changes in Peer Interaction from the Toddler to the Preschool Period, *Child-Development*, 57, Apr., No. 2, 338-347.

Jeffers, V. W. and Lore, R. K. (1979) Let's play at my house: Effects of the home environment on the social behavior of children. *Child Development*, 50, Sep, 3, 837-841.

Jencks, C. (1990) Varieties of altruism. In Mansbridge, J. (Ed) *Beyond self-interest*, Chicago: the University of Chicago Press.

Jersild, A. T. and Markey, F. U. (1935) Conflicts between preschool children, *Child Development Monographs*, No. 21.

Johnson, M. W. (1935) The effect on behavior of variation in the amount of play equipment, *Child Development*, 6, 56-68.

Kestenbaum, R., Farber, E. A. and Stroufe, L. A. (1989) Individual Differences in Empathy among Preschoolers: Relation to Attachment History, *New Directions for Child Development*, Sum, No. 44, 51-63.

Kitsuse, J. (1980) Coming out all over: deviants and the politics of social problems, *Social Problems*, 28, 1, Oct. 13.

Kohn, M. L. and Schooler, C. (1973) Occupational experience and psychological functioning: An assessment of reciprocal effects, *American Sociological Review*, 38, 97-118.

Kohlberg, L. (1987) Child psychology and childhood education: A developmental view, New York:Longman.

Krain, M. (1973) Communication as a process of dyadic organization and development, *Journal of communication*, 23, 392-408.

Kuczynski, L. and Kochanska, G. (1990a) Development of Children's Noncompliance Strategies from Toddlerhood to Age 5, *Developmental Psychology*, 26, May, No. 3, 398-408.

Kuczynski, L. and Kochanska, G. (1990b) Predicting Children's Problem Behaviors from the Content of Maternal Demands. *Paper presented at the International Conference on Infant Studies*, 7th, April 22, Montreal, Quebec.

Kuczynski, L., Kochanska, G., Radke-Yarrow, M. and Girnius-Brown, O (1987) A developmental interpretation of young children's non-compliance, *Developmental Psychology*, 23, 799-806.

Kurdek, L. A. (1978) Perspective taking as the cognitive basis of children's moral development: A review of the literature, *Merrill-Palmer Quarterly*, 24, 3-28.

La Freniere, P. J. and Charlesworth, W. R. (1987) Effects of friendship and dominance status on preschooler's resource utilization in a cooperative/competitive situation, *International Journal of Behavioral Development*, 10, Sep., No. 3, 345-358.

Ladd, G. W. (1983) Social networks of popular, average and rejected children in school settings, *Merrill Palmer Quarterly*, 29, No. 1, 283-307.

Ladd, G. W., Price, J. M. and Hart, C. H. (1988) Predicting preschoolers' peer status from their playground behaviors, *Child-Development*, 59, Aug, 4, 986-992.

Lamb, M. E., Easterbrooks, M. A. and Holden, G. W. (1980) Reinforcement and punishment among preschoolers: characteristics, effects, and correlates, *Child Development*, 51, Dec., No. 4, 1230-1236.

Langlois, J. H., Gottfried, N. W. and Seay, B. (1973) The influence of sex of peer on the social behavior of preschool children, *Developmental Psychology*, 8, 93-98.

Laursen, B. and Hartup, W. W. (1989) The dynamics of preschool children's conflicts, *Merrill Palmer Quarterly*, 35, Jul., No. 3, 281-297.

Lefebvre-Pinard, M., Bouffard-Bouffard, T. and Feider, H. (1982) Social cognition and verbal requests among preschool children, *Journal of Psychology*, 110, Jan., 1, 133-143.

Lefkowitz, M. M. (1977) *Growing up to be violent: a longitudinal study of the development of aggression.* New York: Pergamon Press.

Leighton, C. J. (1989) *Role-taking, sharing and cooperation in young children.* Unpublished doctoral thesis, University of Cambridge.

Leiman, B. (1978) *Affective empathy and subsequent altruism in kindergatners and first graders.* Paper presented at the meeting of the American Psychological Association, August, Toronto.

Lennon, R. and Eisenberg, N. (1987) Emotional displays associated with preschoolers' prosocial behavior, *Child Development*, Aug, 58, No. 4, 992-1000.

Lenrow, P. B. (1965) Studies of sympathy. In S. S. Tomkins and C. E. Izard (Eds.), *Affect, cognition, and personality: empirical studies*. New York: Springer Publishing.

Leonard, R. (1988) *Exploring the roles of requests, refusals and reasons in preschoolers' negotiations.* Paper presented at the Australian Developmental Conference, August 26-28, 5th, Sydney, Australia.

Lerman, P. (1977) Delinquency and social policy: a historical perspective, *Crime and Delinquency*, Out., 383-393.

Lewin, K. (1931) Environmental forces in child behavior and development. In Murchison, C. (Ed.), *A handbook of child psychology*. Worcester, Mass.: Clark University Press.

Lewis, H. B. (1971) *Shame and guilt in neurosis*, New York: International Universities Press.

Lewis, M. and Brooks-Gunn, J., (1978) *Social cognition and the acquisition of self*. New York: Plenum Press.

Lewis, M. and Rosenblum, L. A. (1975) *Friendship and peer relations*. New York: Wiley, 1975.

Libby, M. N. and Aries, E. (1989) Gender differences in preschool children's narrative fantasy, *Psychology of Women Quarterly*, 13, Sep, 3, 293-306.

Lickona, T. (1976) Research on Piaget's theory of moral development. In Lickona, T. (Ed.), *Moral development and behavior: Theory, research, and social issues*. New York: Holt, Rinehart & Winston.

Lippitt, R. (1941) Popularity among preschool children. *Child Development*, 12, 305-322.

Lorenz, K. (1966) On aggression, *London:* Methuen.

Lubin, L. and Field, T. (1981) Imitation during preschool peer interaction, *International Journal of Behavioral Development*, 4, Dec., No. 4, 443-453.

Lytton, H. and Zwirner, W. (1975) Compliance and its controlling stimuli observed in a natural setting, *Developmental Psychology*, 11, 769-770.

Maccoby, E. E. and Jacklin, C. N. (1974) *The psychology of sex differences*. Stanford, CA: Stanford University Press.

Maccoby, E. E. and Jacklin, C. N. (1980) Sex differences in aggression: A rejoinder and reprise, *Child Development*, 51, 964-980.

MacLean, P. D. (1973) A triune concept of the brain and behavior. In Boag, T. J. and Campbell, D. (Ed), *The Clarence M. Hincks memorial lectures*. Toronto: University of Toronto Press.

Madsen, M. C. (1971) Developmental and cross-cultural differences in the cooperative and competitive behavior of young children, *Journal of Cross Cultural Psychology*, 2, 365-371.

Manning, M., Heron, J. and Marshall, T. (1978) Styles of hostility and social interactions at nursery, at school and at home: An extended study of children. In Hersov, L. A., Berger, M. and Shaffer, D. (Ed.), *Aggression and anti-social behaviour in childhood and adolescence*, Oxford: Pergamon.

Mansbridge, J. (1990) On the relation of altruism and self-interest. In Mansbridge, J. (Ed) *Beyond self-interest*, Chicago: the University of Chicago Press.

Maple, T. and Matheson, D. W. (1973) *Aggression, hostility and violence*, New York: Holt, Rinehart and Winston.

Marcus, R. F. (1977) *A Naturalistic Study of Reciprocity in the Helping Behavior of Young Children.* Paper presented at the Biennial Meeting of the Society for Research in Child Development, March 17-20, New Orleans, Louisiana.

Marcus, R. F. (1987) The Role of Affect in Children's Cooperation, *Child Study Journal*, 17, 2, 153-168.

Marcus, R. F. (1978) *A reinvestigation of the relationship between cooperation and empathy in young children.* Paper presented at the Biennial Southeastern Conference on Human Development, April 27-29, 5th, Atlanta, Georgia.

Marcus, R. F. and Roke, E. J. (1980) *The specificity of empathic responses in young children.* Paper presented at the Biennial Southeastern Conference on Human Development, April, 1980, Maryland University, College Park, Institute for Child Study, 6th, Alexandria.

Martin, W. E. and Dreger, R. M. (1983) *The Early Patterning of Social Behavior: Revisited*, Research report, USA: Indiana.

Martin, P. and Bateson, P. (1986) *Measuring behaviour: An introductory guide*, Cambrige: Cambridge University Press.

Mates, B. (1974) Infants and Toddlers. *Day Care and Early Education*, 2; 1; 28-30.

Maudry, M. and Nekula, M. (1939) Social relations between children of the same age during the first two years of life, *Journal of Genetic Psychology*, 54, 193-215.

McKaughan, L. (1974) Propositional Self-Control in Children, *Journal of Experimental Child Psychology*, 17, 3, 519-538.

McLaughlin B. (1983) Child compliance to parental control techniques, *Developmental Psychology*, 19, 667-673.

Mead, G. H. (1934) *Mind, self, and society*. Chicago: University of Chicago Press, 1974. (Originally published, 1934).

Meadows, S. (1986) *Understanding child development. Psychological perspectives in an interdisciplinary field of inquiry.* London: Hutchinson Education.

Meadows, S. and Cashdan, A. (1983) *Teaching styles in nursery education: final report*, Report of a Social Science Research Council Research Project, Dec., Sheffield: Sheffield City Polytechnic.

Mehrabian, A. and Epstein, N. (1972) A measure of emotional empathy. *Journal of Personality and Social Psychology*, 40 (4), 525-543.

Midlarski, E. and Bryan, J. H. (1972) Affect expressions and children's imitative altruism, *Journal of Experimental Research in Personality*, 6, 195-203.

Miller, P. and Garvey, C. (1984) Mother-baby role play: Its origins in social support. In Bretherton, ed., *Symbolic play: The development of social understanding*. New York: Academic Press.

Mischel, W. (1958) Preference for delayed reinforcement: an experimental study of cultural observation, *Journal of Abnormal and Social Psychology*, 56, 57-61.

Mischel, W. (1977) On the future of personality measurement, *American Psychologist*, 32, 246-254.

Mischel, W. and Ebbesen, E. B. (1970) Attention in delay of gratification, *Journal of Personality and Social Psychology*, 16, 2, 329-337.

Mischel, W. and Paterson, C. J. (1979) Effective plans for self-control in children. In Collins, W.A. (Ed.), *Minnesota Symposia on Child Psychology*, 11, New Jersey: Lawrence Erlbaum, Hillsdale.

Missakian, E. and Hamer, K. (1974) *Aggression and dominance relations in young children*. Research report, Synanon Foundation, Marshall, Calif.

Monighan, P. (1985) *The Development of symbolic expression in preschool play and language*. Paper presented at the Annual Meeting of the American Educational Research Association, March 31-April 4, 69th, Chicago.

Montagu, A. (1975) The direction of human development. In Montagu, A. (Ed) *The practice of Love*, Englewood Cliffs, N.J.: Prentice-Hall.

Morris, W. N., Marshall, H. M. and Miller, R. S. (1973) The effects of vicarious punishment on prosocial behavior in children, *Journal of Experimental Child Psychology*, 15, 222-236.

Mueller, C. W. (1983) Environmental stressors and aggressive behavior. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Issues* in research, vol 2, New York: Academic, Inc.

Mueller, E. and Lucas, T. (1975) A developmental analysis of peer interaction among toddlers. In Lewis, M. and Rosenblum, L. A. (eds.), *Friendship and peer relations*, New York, Wiley, 223-259.

Murphy, L. (1937) *Social behaviour and child personality*, New York: Columbia University Press.

Mussen, P. and Eisenberg-Berg N. (Eds.) (1977) *Roots of caring, sharing and helping: the development of prosocial behavior in children*, San Francisco: W.H.Freeman and Company.

Muste, M. J. and Sharpe, D. F. (1947) Some influential factors in the determination of aggressive behavior in preschool children, *Child Development*, 18, 11-28.

Nagel, T. (1970) *The possibility of altruism*, Oxford: Clarendon Press.

Navon, R. and Ramsey, P. G. (1989) Possession and exchange of materials in chinese and american preschools, *Journal of Research in Childhood Education*, 4, Fall-Win, No. 1, 18-29.

Newman, D. (1978) Ownership and permission among nursery school children. In Glick, J. and Clarke-Stewart, K. A. (Eds.) *Studies in social and cognitive development* (vol. I) New York: Gardner Press.

Noppe, C. I. and Ray, M. (1990) Cross-cultural interactions in an american day care setting, *Research Report*, US: Wisconsin University (In Eric).

O'Connor, M., Dollinger, S., Kenney, S. and Peletier-Smetko, P. (1979) Prosocial behavior and psychopathology in emotionally disturbed boys, *American Journal of Orthopsychiatry*, 49, 301-310.

Ollendick, T., Meador, A. and Villanis, C. (1987) Relationship between the children's assertiveness inventory (CAI) and the revised behavioral assertiveness test for children (BAT-CR), *Child and Family Behavior Therapy*, 8, Fall, 3, 27-36.

Olson, W. C. and Cunningham, M. (1934) Time sampling techniques, *Child Development*, 5, 41-58.

Olweus, D. (1979) Stability of aggressive reaction patterns in males: A review, *Psychological Bulletin*, Jul, 86, 4, 852-875.

Olweus, D. (1980) Familial and temperamental determinants of aggressive behavior: A causal analysis, *Developmental Psychology*, 16, 644-660.

Packer, M. J. and Richardson, E. (1989) *Strategies of social entry among preschool children.* Paper presented at the National Biennial Meeting of the Society for Research in Child Development, April 27-30, Kansas City.

Parke, R. D. and Slaby, R. G. (1983) The development of aggression. In Handbook of child psychology. Vol 4: *Socialization, personality, and social development* (ed. by Hetherington, E. M., series ed. by Mussen, P. H.), New York: Wiley.

Parten, M. B. (1932) Social participation among preschool children, *Journal of Abnormal and Social Psychology*, 27, 243-269.

Pastor, D. L. (1981) The quality of mother-infant attachment and its relationship to toddlers'initial sociability with peers, *Developmental Psychology*, 17, 326-335.

Patterson, G. R. (1974) Interventions for boys with conduct problems: Multiple settings, treatments and criteria, *Journal of Consulting and Clinical Psychology*, 42, 471-481.

Patterson, G. R. (1981) Mothers: The unacknowledged victims. *Monographs of the Society for Research in Child Development*, 45, 5, Serial No. 186.

Patterson, G. R. and Cobb, J. A. (1971) A dyadic analysis of "aggressive" behavior. In J. P. Hill (Ed.), *Minnesota symposia on child psychology* (Vol. 5). Minneapolis: University of Minnesota Press.

Patterson, G. R., Littman, R. A., and Bricker, W. (1967) Assertive behavior in children: A step toward a theory of aggression. *Monographs of the Society for Research in Child Development*, 32, Serial No. 113.

Pearlman, J., Coburn, K. and Jakubowski, P. (1973) *A leader's guide to assertive training women*, Washington, DC: American Personnel and Guidance Association.

Peery, J. C. (1979) Popular, amiable, isolated, rejected: A reconceptualization of sociometric status in preschool children, *Child Development*, 50, 1231-1234.

Pellegrini, A. D. (1982) Development of preschoolers' social-cognitive play behaviors, *Perceptual and Motor Skills*, 55, Dec., 3, pt2, 1109-1110.

Pepler, J. D., Abramovitch, R. and Corter, C. (1981) Sibling interaction in the home: A longitudinal study, *Child Development*, 52, Dec., 4, 1344-1347.

Peterson, L., Hartmann, D. P. and Gelfand, D. M. (1977) Developmental changes in the effects of dependency and reciprocity cues on children's moral judgments and donation rates, *Child Development*, 48, 1331-1339.

Piaget, J. (1932) *The moral judgment of the child*. Glencoe, Ill.: Free Press.

Plutchik, R. (1987) Evolutionary bases of empathy. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development*, New York: Cambridge University Press.

Poorman, P., Donnerstein, E. and Donnerstein, M. (1976) Aggressive behavior as a function of age and sex, *Journal of Genetic Psychology*, 128, 2, 183-187.

Poulin-Dubois, D. and Shultz, T. R. (1988) The development of the understanding of human behaviour: from agency to intentionality. In Astington, J. W., Harris, P. L., Olson, D. R. (Eds.) *Developing theories of mind*, Cambridge: Cambridge University Press.

Pressley, M. (1979) Increasing children's self-control through cognitive interventions. *Review of Educational Research*, 49, n2, 319-370.

Quay, C. and Jarrett, O. S. (1984) Predictors of social acceptance in preschool children, *Developmental Psychology*, 20, Sep., 5, 793-796.

Quay, C. L., Weaver, J. H. and Neel, J. H. (1984) *The effects of play materials on positive and negative social behaviors in preschool boys and girls.* Paper presented at the Annual Convention of the American Psychological Association, 92nd, August 24-28.

Radke-Yarrow, M. and Zahn-Waxler, C. (1984) Roots, motives, and patterns in children's prosocial behavior. In Staub, E.; Bar-tal, D; Karylowski, J; Reykowski, J. (Ed), *Development and maintenance of prosocial behavior*, N.York: Plenum Press

Radke-Yarrow, M. R. and Zahn-Waxler, C.J. and Chapman, M. (1983) Children's prosocial dispositions and behavior. In P. H. Mussen (Ed), *Carmichael's manual of child psychology* (Vol. 4). New York: Wiley.

Rajecki, D. W. (1983) Animal aggression: Implications for human aggression. In Geen, R. G. and Donnerstein, E. I. (Eds) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues*, vol 1, New York: Academic, Inc.

Reed, A. M., Pien, D. L. and Kothbart, M. K. (1984) Inhibitory self-control in preschool children. *Merrill-Palmer Quarterly*, 30, Apr., 2, 131-147.

Reese, H. W. (1961) Relationship between self-acceptance and sociometric choice, *Journal of Abnormal and Social Psychology*. 62, 472-474.

Rehberg, H. R. and Richman, C. L. (1989) Prosocial behaviour in preschool children: A look at the interaction of race, gender, and family composition, *International Journal of Behavioral Development*, 12, Sep., 3, 385-401.

Rheingold, H. L., Hay, D.F., and West, M. J. (1976) Sharing in the second year of life, *Child development*, 47, 1148-1158.

Rocha, R. and Rogers, R. W. (1976) Ares and Babbitt in the classroom: Effects of competition and reward on children's aggression, *Journal of Personality and Social Psychology*, 33, 588-593.

Rodgon, M. M. and Rashman, S. E. (1976) Expression of owner-owned relationships among holophrastic 14- to 32-month old children, *Child Development*, 47, 1219-1222.

Rogers, C. O. (1976) *The relationship between the organization of play space and children's behavior.* Master's Thesis, Oklahoma State University.

Rosekrans, M. A. (1967) Imitation in children as a function of perceived similarity to a social model and vicarious reinforcement, *Journal of Personality and Social Psychology*, 7, 307-315.

Ross, M. B. (1977) *Correlates of attraction among preschool children.* Paper presented at the Annual Meeting of the Eastern Psychological Association, April 13-16, Boston, Massachusetts.

Rotenberg, K. (1980a) Children's use of intentionality in judgements of charater and disposition, *Child Development*, 51, 282-284.

Rotenberg, K. (1980b) Cognitive processes and young children's use of intention and consequence information in moral judgment. *Merrill-Palmer Quarterly*, 26, Oct., 4, 359-370.

Rothenberg, B. (1970) Children's social sensitivity and the relationship to interpersonal competence, intrapersonal comfort, and intellectual level, *Developmental Psychology*, 2, 335-350.

Rubenstein, J. L., and Howes, C. (1976) The effects of peers on toddler interaction with mothers and toys, *Child Development*, 47, 597-605.

Rubin, K. H. (1977) The social and cognitive value of preschool toys and activities, *Canadian Journal of Behavioral Science/Review of Canadian Science*, 9, 382-385.

Rubin, K. H. and Krasnor, L. R. (1979) *Changes in the play behaviors of preschoolers: A short-term longitudinal investigation.* Paper presented at the Annual Meeting of the American Educational Research Association, April 8-12, San Francisco, California.

Rubin, Z. (1980) *Children's friendships.* Cambridge, Mass.: Harvard University Press.

Rule, B. G., Nesdale, A. R. and McAra, M. J. (1974) Children's reactions to information about the intentions underlying and aggressive act, *Child Development*, 45, 794-798.

Rushton, J. P. (1980) *Altruism, socialization, and society*. Englewood Cliffs, N.J.: Prentice-Hall.

Rushton, J. P. (1984) The altruistic personality: Evidence from laboratory, naturalistic, and self-report perspectives. In Staub, E.; Bar-tal, D; Karylowski, J; Reykowski, J. (Ed), *Development and maintenance of prosocial behavior*, N.York: Plenum Press.

Rutherford, E. and Mussen, P. H. (1968) Generosity in nursery boys, *Child Development*, 39, 755-765.

Sagi, A. and Hoffman M. (1976) Empathic distress in newborns, *Developmental psychology*, 12, 175-176.

Sarraute, N. (1963) *The age of suspicion*, New York: Braziller.

Savin-Williams, R. C. (1979) Dominance hierarchies in groups of early adolescents, *Child Development*, 50, 142-151.

Sawin, D. (1979) Assessing empathy in children: A search for an elusive construct. In Sawin, D. B. (Ed.), *Empathy in children: Conceptual and methodological issues in current research*. Symposium presented at the meeting of the Society for Research in Child Development, March, San Francisco.

Sawin, D. and Parke, R. D. (1980) Children's reactions to distress in their peers, *Merrill Palmer Quarterly*, 26, Apr., 2, 123-134.

Schaffer, H. J. (1984) *The child's entry into a social world*, London: Academic Press

Scott, J. P. (1975) *Aggression*, Chicago, The University of Chicago Press.

Sears, R. R., Maccoby, E. E. and Lewin, H. (1957) *Patterns of child rearing*. Evanston, Ill.: Row and Peterson.

Selman, R. L. (1980) The child as a friendship philosopher. In Asher, S. R. and Gottman, J. M. (eds), *The development of children's friendships*. Cambridge: Cambridge University Press.

Shantz, D. W. and Schomer, J. (1978) *Interpersonal conflict in preschoolers: A naturalistic observation study.* Paper presented at the Biennial Southeastern Conference on Human Development, April 27-29, 5th, Atlanta, Georgia.

Sharabany, R. (1984) The development of capacity for altruism as a function of object relations development and vicissitudes. In Staub, E.; Bar-tal, D; Karylowski, J; Reykowski, J. (Ed), *Development and maintenance of prosocial behavior*, N.York: Plenum Press

Sharabany, R. and Hertz-Larowitz, R. (1981) Do friends share and communicate more than nonfriends?, *International Journal of Behavior and Development*, 4, 45-59.

Sharpley, C. F. and Rodd, J. (1985) The effects of real versus hypothetical stimuli upon preschool children's helping behavior, *Early Child Development and Care*, 22, Dec., 4, 303-313.

Shatz, M. and Gelman, R. (1973) The development of communication skills: modifications in the speech of young children as a function of listener. *Monographs of the Society for Research in Child Development*, 38, 5, 1-37.

Simner, L. (1971) Newborn's response to the cry of another infant, *Developmental Psychology*, 5, 136-150.

Skinner, B. F. (1971) *Beyond freedom and dignity*. New York: Knopf.

Sluckin, A. M. and Smith, P. K. (1977) Two approaches to the concept of dominance in preschool children, *Child Development*, 48, 3, 917-923

Smetana, J. G. (1981) Preschool children's conceptions of moral and social rules, *Child Development*, 52, 4, 1333-1336.

Smetana, J. G. and Letourneau, K. J. (1984) Development of gender constancy and children's sex-typed free play behavior, *Developmental Psychology*, 20, 4, 691-696.

Smith, G. J. (1984) *The relationship between attractiveness and social participation in preschool age children*. Paper presented at the Southeastern Conference on Human Development, April, Athens.

Smith, P. K. (1978) A longitudinal study of social participation in preschool children: Solitary and Parallel Play Reexamined, *Developmental Psychology*, 14, Sep., 5, 517-523.

Smith, P. K. and Connolly, K. J. (1977) Social and aggressive behaviour in preschool children as a function of crowding, *Social Science Information*, 16, 601-620.

Smith, P. K. and Green, M. (1975) Aggressive behavior in English nurseries and play groups: Sex differences and response of adults, *Child Development*, 46, 1, 211-214.

Smith, P. K. and Sloboda, J. (1986) Individual constancy in infant-stranger encounters, *British Journal of Developmental Psychology*, 4, 83-91.

Snow, M. E., Jacklin, C. N. and Maccoby, E. E. (1981) Birth-order differences in peer sociability at thirty-three months, *Child Development,* 52, Jun., 2, 589-595.

Spitz, R. A. (1957) *No and yes. On the genesis of human communication*. New York: International Universities Press.

Staub, E. (1971a) A child in distress: The influence of nurturance and modeling on children's attempts to help, *Developmental psychology*, 5, 124-132.

Staub, E. (1971b) Use of role-playing and induction in training for prosocial behaviour, *Child Development,* 42, 805-816.

Staub, E. (1979) *Positive social behavior and morality: Socialization and development* (Vol. 2). New York: Academic Press.

Staub, E. (1987) Commentary. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development,* New York: Cambridge University Press.

Staub, E. and Sherk, L. (1970) Need for approval, children's sharing behavior, and reciprocity in sharing, *Child Development*, 41, 243-252.

Stayton, D. J., Hogan, R. and Ainsworth, M. D. S. (1971) Infant obedience and maternal behavior: The origins of socialization reconsidered. *Child Development*, 42, 1057-1069.

Stith, M. and Connor, R. (1962) Dependency and helpfulness in young children, *Child Development*, 33, 15-20.

Stockdale, D. F., Hegland, S. M. and Chiaromonte, T. (1989) Helping behaviors: An observational study of preschool children, *Early Childhood Research Quarterly,* 4, Dec., 4, 533-543.

Stohl, C. (1981) Perceptions of social attractiveness and communicator style: A developmental study of preschool children, *Communication Education,* 30, Oct., 4, 367-375.

Storr, A. (1968) *Human Aggression*, London: Allen Lane the Penguin Press.

Strain, B. (1970) *Developmental trends in the selective perception of race and affect by young negro and caucasian children*. Demonstration and Research Center for Early Education. DARCEE Papers and Reports (George Peabody College for Teachers), 4, 5. George Peabody Coll. for Teachers, Nashville, Tenn.

Strayer, F. F., Wareing, S. and Rushton, J. P. (1979) Social constraints on naturally occurring preschool altruism, *Ethology and Sociobiology*, 1, 3-11.

Strayer, F. F.; Strayer, J. (1975) *An ethological analysis of dominance relations among young children*. Paper presented at the biennial meeting of the Society for Research in Child Development, April 10-13, Denver, Colorado.

Strayer, J. (1980) A naturalistic study of empathic behaviors and their relation to affective states and perspective-taking skills in preschool children. *Child Development*, 51, Sep., 3, 815-822.

Strayer, J. (1986) Children's attributions regarding the situational determinants of emotion in self and others, *Developmental Psychology*, 22, Sep., 5, 649-654.

Strayer, J. (1987) Affective and cognitive perspectives on empathy. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development*, New York: Cambridge University Press.

Strayer, J. and Christophe, C. (1978) *Empathy and egocentrism in preschoolers*. Paper presented at the meetings of the Canadian Psychological Association, June, Simon Fraser University, Burnaby (British Columbia), Ottawa, Ontario, Canada.

Stroufe, L. A.(1977) Wariness of strangers and the study of infant development, *Child Development*, 48, 731-746.

Stroufe, L. A. (1979) The coherence of individual development, *American Psychologist*, 34, 834-941.

Sullivan, H. (1953) *The interpersonal theory of psychiatry*, New York: Norton; London: Tavistock Publications.

Sullivan, H. S.(1965) *Personal psychopathology*. New York: Norton.

Sylva, K., Roy, C. and Painter, M. (1986) *Childwatching at playgroup and nursery school*, Oxford: Basil Blackwell, Preschool Research Project.

Tedeschi, J. T. (1983) Social influence theory and aggression. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues*, vol 1, New York: Academic, Inc.

Tedeschi, J. T. and Norman, N. (1985) Social power, self-presentation, and the self. In B. R. Schlenker (Ed.), *The self and social life*. New York: McGraw-Hill.

Tedeschi, J. T., Smith, R. B., and Brown, R. C. (1974) *A reinterpretation of research on aggression*, Psychological Bulletin, 81, 540-562.

Thompson, R. A. (1987) Empathy and emotional understanding: Early development of empathy. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development*, New York: Cambridge University Press.

Tomkins, S. S. (1963) *Affect, imagery, consciousness: The negative affects*, vol. 2, New York: Springer Publishing.

Toner, I. J. and Smith, R. A. (1975) *Overt verbalization and delay maintenance behavior in preschool children*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, April 10-13, Denver, Colorado.

Tremblay, A. (1980) The activity context of preschool children's social interactions: a comparison of high and low social interactors. *Psychology in the Schools*, 17, 1, 380-385.

Trivers, R. L. (1971) The evolution of reciprocal altruism, *Quarterly Review of Biology*, 46, 35-57.

Trower, P. (1979) Fundamentals of interpersonal behaviour: A socio-psychological perspective. In Bellack, A. and Hersen, M. (Eds.) *Research and pratice in social skills training*. New York: Plenum Press.

Tschantz, L. L. (1985) *Preschool Play Behaviors and Sociometric Status*. Paper presented at the Annual Meeting of the American Educational Research Association, March 31-April 4, 69th, Chicago.

Ugurel-Semin, R. (1952) Moral behavior and moral judgment of children, *Journal of Abnormal and Social Psychology*, 47, 463-474.

Underwood, B. and Moore, B. S. (1982) The generality of altruism in children. In N. Eisenberg-Berg (Ed.), *The development of prosocial behavior*. New York: Academic Press

Vandell, D. L., and Mueller, E. C. (1980) Peer play and friendships during the first two years. In H. C. Foot, A. J. Chapman, and J. R. Smith (Eds.), *Friendship and social relations in children*. New York: Wiley.

Vandell, D. L., Wilson, K. S. and Buchanan, N. R. (1980) Peer interaction in the first year of life: An examination of its structure, content, and sensitivity to toys, *Child Development*, 51, 481-488.

Vespo, E. J. (1989) *Preschoolers' differential behavior towards best friends, associates, and acquaintances.* Paper presented at the Conference on human development, March, Charleston.

Vygotski, L. S. (1962) *Thought and language*. Massachusetts: M.I.T. press.

Vygotski, L. S. (1967) Play and its role in the mental development of the child, *Soviet Psychology*, 12, 62-76.

Walters, J., Pearce, D., and Dahms, L. (1957) Affectional and aggressive behavior of preschool children. *Child Development*, 28, 15-26.

Walters, R. H., and Parke, R. D. (1964) Social motivation, dependency, and susceptibility to social influence. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, vol 1, New York: Academic Press.

Wellman, H. (1988) First steps in the child's theorizing about the mind. In In Astington, J. W., Harris, P. L., Olson, D. R. (Eds.) *Developing theories of mind*, Cambridge: Cambridge University Press.

Wenar, C. (1982) On negativism. *Human Development*, 25, Jan-Feb., No. 1, 1-23.

Weston, D. and Main, M. (1980) *Infant responses to the crying of an adult actor in the laboratory: Stability and correlates of "concerned attention".* Paper presented at the meeting of the International Conference on Infant Studies, April, New Haven, Conn.

Whiting, B. B. (1980) Culture and social behavior: A model for the development of social behavior, *Ethos* 8, 95-116.

Whiting, B. B. and Edwards, C. (1973) A cross-cultural analysis of sex differences in the behavior of children aged 3 to 11, *Journal of Social Psychology*, 91, 171-188.

Whiting, B. B. and Whiting, J. W. M. (1975) *Children of six cultures*. Cambridge: Harvard University Press.

Wilson, B. J. and Cantor, J. (1985) Developmental differences in empathy with a television protagonist's fear. *Journal of Experimental Child Psychology*, 39, Apr., 2, 284-299.

Wilson, E. O. (1975) *Sociobiology: The new synthesis*, Cambridge: Harvard University Press.

Wilson, K. E. (1988) *Development of conflicts and conflict resolution among preschool children*. Master's Thesis, Pacific Oaks College.

Wispe, L. (1987) History of concept of empathy. In Eisenberg, N. and Strayer, J., (Ed) *Empathy and its development*, New York, Cambridge University Press.

Wolf, D. (1982) Understanding others: A longitudinal case study of the concept of independent agency. In G. E. Forman, ed., *Action and Thought*. New York: Academic Press.

Wolff, J. L. and Levy, J. (1978) *A Study of Sharing*. Paper presented at the Southwestern Society for Research in Human Development Conference, March 17-18, Dallas, Texas.

Wolff, P. H. (1978) The biology of morals from a psychological perspective. In Stent, G. S. (Ed.), *Morality as a biological phenomenon*. Berlin: Dahlem Konferenzen.

Worchel, S. (1984) The darker side of helping: the social dynamics of helping and cooperation. In Staub, E.; Bar-tal, D; Karylowski, J; Reykowski, J. (Ed.), *Development and maintenance of prosocial behavior*, N.York: Plenum Press.

Wright, H. F. (1967) *Recording and analysing child behaviour*. New York: Harper.

Wrong, D. H. (1979) *Power*, New York: Harper & Row.

Wuellner, L. (1969) *The effect on aggression of variation in amount of opportunity for play*. Internal Report. Children's Research Center, Illinois University, Urbana.

Yarrow, M and Waxler, C. (1976) Dimensions and correlates of prosocial behavior in children, *Child Development*, 47, 118-125.

Yarrow, M. R., Scott, P. M. and Waxler, C. J. (1973) Learning concern for others, *Developmental Psychology*, 8, 248-260

Yarrow, M. R., Waxler, C. J. and King, R. A. (1975) *The emergence and functions of prosocial behaviors in young children*. Paper presented at the Biennial Meeting of the Society for Research in Child Development, April 10-13, Denver, Colorado.

Young, G. and Lewis, M. (1979) Effects of familiarity and maternal attention on infant peer relations, *Merrill-Palmer Quarterly*, 25, 105-119.

Zarbatany, L., Hartmann, D. P. and Gelfand, D. M. (1985) Why does children's generosity increase with age: Susceptibility to experimenter influence or altruism?, *Child Development*, 56, 746-756.

Zillman, D. (1983) Arousal and aggression. In Geen, R. G. and Donnerstein, E. I. (Ed) *Aggression: Theoretical and empirical reviews. Theoretical and methodological issues*, vol 1, New York: Academic, Inc.

Zivin, G., (Ed.) (1979) *The development of self-regulation through speech*, Wiley, New York.

APPENDICES

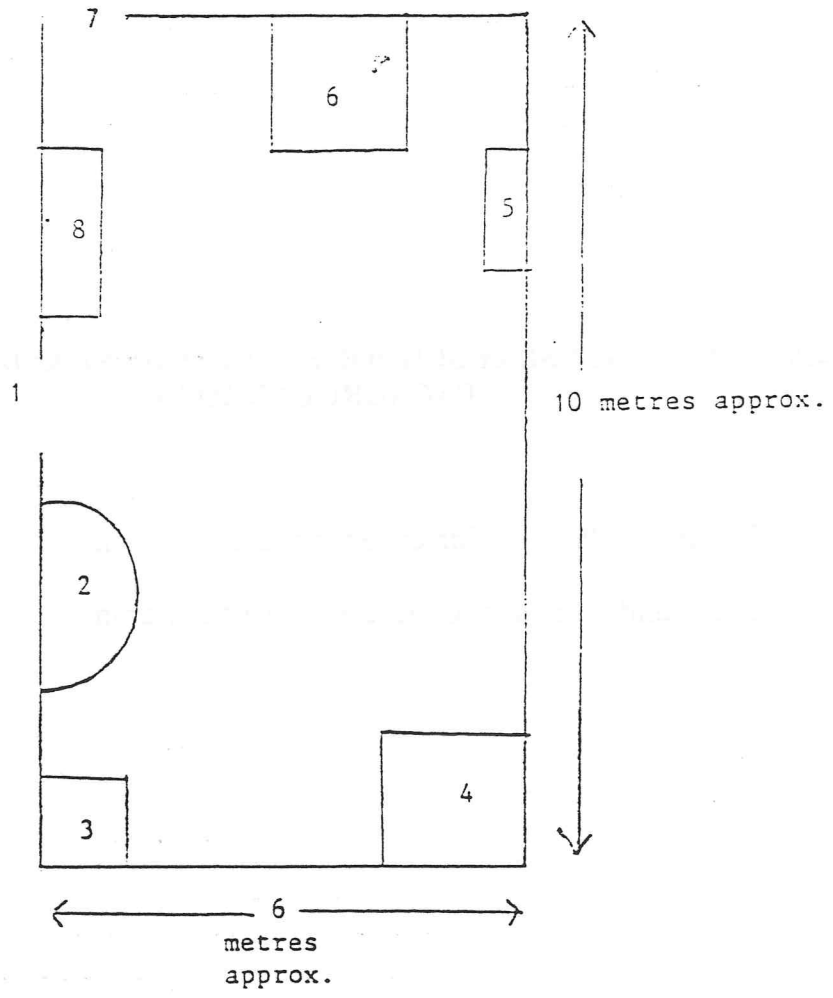
APPENDIX 1: NURSERY SCHOOL ENVIRONMENT AND CHILDREN'S BACKGROUND DATA

1.1. Schematic Plans of Nursery School Environment

1.2. Social and Individual Characteristics of Children

FIGURE 4:

SCHEMATIC PLAN OF NURSERY CLASSROOM
(NOT TO SCALE)

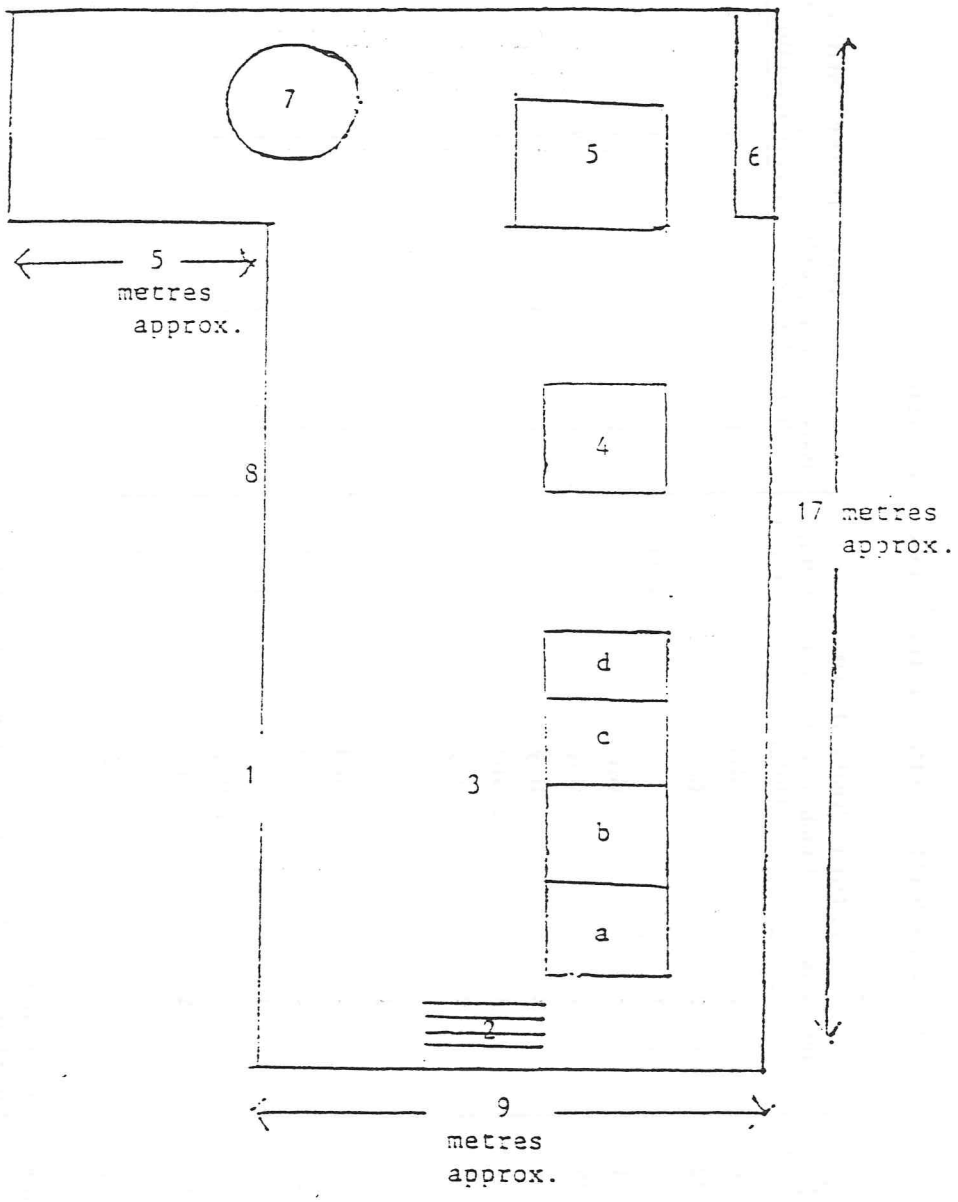


1. Entrance
2. Playhouse
3. Television/tape recorder
4. Reading space/library
5. Water-table
6. Tables
7. Entrance to the toilet
8. Chest of drawers.

FIGURE 5 :

SCHEMATIC PLAN OF PLAYGROUND/COURTYARD

(NOT TO SCALE)



1. Entrance
2. Emergency stairs
3. Wooden structure including:
   a) Cabin
   b) Slope
   c) Platform with steering-wheel above and cabin below
   d) Slide
4. Seesaw
5. Metallic tubular structure with steering wheel
6. Long board
7. Sand inside a plastic structure in the shape of a turtle
8. Kitchen window

TABLE 24: SOCIAL AND INDIVIDUAL CHARACTERISTICS

Children	Sex	Age (Mths.)	FAMILY COMPOSITION			GENERAL DESCRIPTIVE FAMILY DATA				
			Birth Position	Number and Sex of Siblings Older	Younger	Parents' Nationality (a) Father	Mother	Father Present/Absent (b)	Parents' Occupation (c) Father	Mother
1	Boy	56	2	Girl	-	1	2	1	3	4
2	Girl	42	2	Girl	-	1	1	1	3	1
3	Boy	40	1	-	Girl	1	1	1	2	2
4	Boy	51	2	Girl	-	1	1	1	3	1
5	Girl	45	2	Boy	-	1	1	2	3	1
6	Girl	50	2	Boy	-	1	1	1	3	1
7	Girl	39	3	2 Girls	-	2	2	1	1	4
8	Girl	53	2	Boy	Girl	1	1	1	3	3
9	Girl	45	1	-	-	2	1	2	3	3
10	Girl	43	1	-	-	1	1	1	1	3
11	Girl	49	2	Girl	-	1	1	1	1	3
12	Girl	54	2	Girl	Girl	2	2	1	1	4
13	Boy	46	1	-	Boy	1	1	1	2	3
14	Girl	38	3	2 Boys	-	1	1	1	2	3
15	Boy	50	2	Girl	-	2	2	1	2	3
16	Boy	45	1	-	Girl	2	1	1	1	1
17	Boy	52	1	-	-	1	2	1	3	1

Key: a - 1. "British"; 2. "Not British"
b - 1. "Lives with the child"; 2. "Does not live with the child"
c - 1. "Student"; 2. "University Staff"; 3. "Job outside the University"; 4. "Unemployed"

APPENDIX 2: NATURALISTIC OBSERVATIONS

2.1. Behavioural Recording and Coding

(i) Recording sheet

(ii) Behavioural examples of the categories recorded in the naturalistic observations

(iii) Examples of non-assertive, non-aggressive and non-prosocial behaviour recorded

(iv) Context of antecedents and consequences

2.2. Scores Obtained on Naturalistic Observations

2.3. Correlations between Naturalistic Variables

2.4. Frequencies and Proportions of Behaviour

(i) Distribution of behaviour (frequencies)

(ii) Proportion matrices

(iii) Difference matrices

2.1. Behavioural Recording And Coding

(i) Recording sheet

(ii) Behavioural examples of the categories recorded in the naturalistic observations

(iii) Examples of non-assertive, non-aggressive and non-prosocial behaviour recorded

(iv) Context of antecedents and consequences

TABLE 25 - RECORDING SHEET

Child's Identification:			Date and time observed:			
time/ minute	Behaviours					Social code (2)
	Activity	Language	Code Categories			
	Description	Description/ Code (1)	Assertive (CD; D; NC; R; PL)	Aggressive (AO; DO; PA; T; VA)	Prosocial (Csp; Ca; Hsp; Ha; Ssp; Sa)	

(1) TC = Target child
-> = Speaks to
c = other child
a = any adult

(2) sol = solitary
A = with adult
P_A = near (parallel) to adult
C = another child

Pc = near child
Sg = in small group of 3 – 5 children
Lg = 6 or more children

BEHAVIOURAL EXAMPLES OF THE CATEGORIES RECORDED IN THE NATURALISTIC OBSERVATIONS

1.Assertiveness

1.1.Commands/Directions

Among the many different types of behaviour included in this category are:

1.1.1. Indications or instructions about how to build a shape with lego or cubes (" *we can build this* - the child points to the model - *I will put on that... that is for me...we need some more here...we won't have that...we need one in this side...we need some in the middle...you do that side, I do this side*"...), the meaning of a picture (e.g."*I will show you what they are...mouth...two eyes*"...), the colouring of numbers and circles, the arrangement of objects in a box or where the shoes, "sweets" (sand) or cloak must go, about the use of a specific object (e.g. *that is not to give injections but to put in the ear*...), how to play with a cube (e.g. pretending to eat it), being a horse (hands on the floor, jump), a prince, father, "little" boy or baby, the sister, brother, etc...(e.g.*I will be the daddy, she is the baby...I know what...you can be a big horse*!") or about the performance of a specific story (e.g. to stand up and lean against a post while other children shoot and later pretend to be dead... or to close the door and get out because of the "fire engine"), the way to follow riding a tricycle or walking through some wood blocks or simple orders, such as to be careful not to fall, to go to sleep, to take another spade in order to put sand in a mould, to leave the "play" house (*she is not allowed in...you are not playing...you can have the pig*"...) or to go "next turn", or also that a chair belongs to another child or those boxes are their house (e.g."*you live here...you live with us...this is our treasure...this is my bed*...")

1.1.2. Commands to attract other children's attention (*hey look!...watch me...listen...I'll show you something...look at what I have got!...)* to their toys or activities (bike or car built with construction material, cardboard crown, book, shape made with sand, painting, drawing, cat on the slide or rocking horse they are swinging, tube they are blowing, inflatable pillow they are holding, paper they are cutting out or even for their performance in the role of a "sleeper" e.g. lying on chairs or stairs leading to the lavatories...)

1.1.3. Commands/Directions in order to get the other children to join own activity, such as: "*come on...this way...up here...get up here...come with me...quick...come...come on, let's hide...let's go...let's go up here...let's go on the car...you stay here...go and pick your cat...come in...*(inside a car)*...let's go and see the brakes...I'm going to get petrol...I've got to go, I call you, all right? let's go kids...let's get out...this way...let's go to our house...go hide...you got to hide...get down...you got to be asleep...let's have a look...we are going now...everybody, up...let's not play fireman anymore...let's play something else...let's carry the cushion...*"

1.1.4. Orders expressing needs/demands: *open the door, let me in...I want to go in...I want to sit next to...Give me this...I need the pink, put it there for when I need it...get another book I got that...give me that for me, I'll do it...let me do it* (drawing), *I want that* (pencil)*...I have been a good boy, so I can have the*

black (pencil)...*I will show you, I can do it...get off...this is my bed...go and get another blanket...this is my blanket...give me my teddy...give it back to me...you can not have all the cloaks...we need that* (wheelbarrow, pig...)...*let me push it...I'm buying some sweets, get yours...I want to hear my daddy* (while trying to pick up the "telephone" from other children's hands), *I'll show you the number...*

1.1.5. Commands to prevent or stop other children's activities or behaviours - e.g. *don't touch, that's my game...stop, stop, don't put anyone* (cube) *on* (tower)...*you, stop! would you like me to do the same* (to hit one's head with a cube)? *Don't follow, I'm not playing with you...It's only for us* (house)...*not you...we don't want people here, we are busy* (painting, drawing)...*no, I don't want that line there...I'll show you...wait for me...wait a minute...sit down...shut up...no, no, this shouldn't be here... out...out with your hands...stop it, don't do that...go away...you can't come in...I'm not playing...I don't want...don't get me, get...not me...mine* (train) *is coming...is being repaired...don't come yet...not yet...don't break it, don't push it...we don't need pushes...get out of the way...you can't open it* (bag), *don't open it...don't throw sand...it goes into people's eyes...no, don't go to the slide...get down...don't* (approach the spider) *it will hurt you...don't kill him* (ladybird), *don't squash him...*

1.1.6. Simple orders to coordinate children's activity: e.g. *hold me* (so that they can slide together) *on here* (waist)...*stand up, stand on here* (on an "available" space in the rocking horse base)...*sit down...sit on another place...put your feet on the brakes...lift your head...get ready, put your picture here* (on the table), *shut the door...you have to tidy up...drop it* (teddy bear)...*pull him away* (child inside the clothes box)...*stop!...go!...Halt!...do it again...*

In role playing situations some of these commands/directions associated with the performance of fictitious stories were observed such as: "*I'm your brother...brother get on this side...your dad is here...sister go to sleep...you just have been told you can't watch television...go back to bed...stay there...baby...don't...you are not going anywhere...go in...in...sleep in the bed...shut your mouth...we have to carry the baby...all of us have to awake up today...come on, donkey, get in there...stay there...look out!...that's a fire on the roof, so,everyone gets off...I'm going to jump there, everyone jump, because there is a fire...don't walk, quick jump...come, quick...get in the spacecraft...come on here to get the princess...this is the spaceship...let's go to get the princess...come on driver stand up...come on, is coming down...bru...bru...*(imitations of a car engine)"...

1.2.Disagreement

In this category are listed statements of disagreement observed, relating to:

1.2.1. Conflicting claims over the possession of objects (tricycle, cubes, pencils, pieces of construction material etc...) in which children either insist they need what other children are using (to play a game, to colour a drawing, to have a "small" car, etc.) and that those objects do not belong to the user but to the nursery, or they claim to be the owner and do not wish to return them(e.g. *no, you are only joking, I got it first...I found it...*)

1.2.2. Dissent about activities or relationships (how to arrange a group of blocks, make a gift, a shape or to sing) e.g. *no, that's not a good idea...does*

it matter where I am going?...that's my idea...I did say sorry,didn't I?...No, she is not your friend...

1.2.3. Disputes regarding others'/objects'needs (e.g.arguments about what teddy bears like to eat, clothes they can wear or emotions they can have, such as crying)

In role playing situations arguments were observed, mainly in the case of the unsuccessful attempts of other children to convince a "baby" to stop sucking a finger or get out of "bed"

1.3. Non-compliance

1.3.1. Refusals to give way when other children try to withdraw their objects (balloon, pieces of construction material, tricycle, tyre, small car, tractor, iron, teapot, forks), occupy their space on the see-saw or platform of wooden structure, misuse their objects (e.g. put cars on their books, pieces of construction material over a bag, pieces of bark on a wheelbarrow carrying a doll, pressure keys in a machine another child is using) or physically attack (e.g.push in order to put sand in a bucket or have space on a table with some wooden figurative shapes; tweak an ear to try to stop the child asking for a piece of construction material; pulling other children's arms to compel to follow, leaving, for example, their tricycle for the see-saw, hitting to stop a child playing the role of a "monster" and rolling or sitting on a child's head, going over his body and pulling the coat in order to lead the other child to sit or stand but not continue lying on the floor)

1.3.2. Defiance in standing up for one's own rights in order to be able to come in or leave the "play" house, to go on riding a tricycle or stay still inside a box, to add some pieces of construction material or place them in a corner between the chairs and the wall, to follow a certain child or go on without a "dirty" vest on, to be able to "telephone" daddy, etc...

1.3.3. Refusals to give in to other children's continual directions (e.g. answering "*I have finished*" and leave or just laugh but not comply when told by another child "*I tell you what to do*") or even doing the opposite of what was told (e.g. to stand when told to sit, to jump and leave a space when told to stay in that "house" forever, to follow a different direction or go and sit in a different place from that told, to pull - and count and put in a crocodile's mouth -some fruit from the bushes in spite of the warnings against that activity)

In role playing situations some of these behaviours were observed such as: a child leaving the "food" on the dish and the table after being asked to stay and not leave the food; a donkey or a baby going on lying down (or crawling) in spite of others' attempts to get them up...

1.4.Requests

Asking other children to paint, to read/listen to a story, sing/listen to a song, to play with another child (e.g.*can you play with me* or *can I play with you*? or yet, *let's play* or *make this, shall we*?), have a toy or material, such as a plastic apple, pig, teapot (*can I get it*?), cars, another child's hair band, kaleidoscope (*can I have a look*?), small tube (*can you do one for me*?), shoes from the "clothes" box (*can I borrow your shoes, please? I have got no shoes...*), chair, bag (*can I look after*

your suitcase?), an object in the sink (*can I have another bottle, please?*), a tricycle, tyre, game, pieces of construction material, pencils (*can I have the pink now? Can you give it to me...?*) or to be able to go inside the "play" house, a box, to the rocking horse (*shall I go now?*), the courtyard because "*it's a lovely day*", another child's summer house (*can you take me there?*) after a conversation about holidays), to sleep or run with other children, to exchange a scooter for a tricycle or being pushed, to get some help with a drawing or painting (*can you colour some of mine?*), a construction (*can we make a bicycle...car?*) another way to go on the slide (*can you hold my braces*) a place to hang the coat (*can you come here, please? Where can I hang this?*) or yet to ask other children for a cracker (*can I have one?*) or a bit of their apple because they "haven't had the breakfast yet", to go to the middle of the seesaw, to move a leg in order to reach a platform in a wooden structure (*can I get in?*) or to back away ("*can you move a bit please?*" or "*can you get out of the way please?*") or stop lying on another child's body (*can you get off, please?*)

In role playing situations some of these requests were observed in association with the performance of parental roles (*can you give me my chocolate, please? Can you go out and get some food?*) or specific stories (e.g. *can you get some lilies from the shop?* - for a child pretending to be dead or to ask for another blanket in order to "sleep")

1.5.Physical Leading

1.5.1. Any nonverbal indications (pointing, sequence of movements) about how to perform a story (e.g. hands on floor, to drag oneself, make noise with feet in order to be like an horse; arms behind back, to lean against a post, shoot, pretend one's dead), to make a shape with cubes or lego (make two towers on a lego base - one is the father, the other the mother...) to get a quick drawing or painting using objects (e.g. to place a paper over a lego piece and scratch out), or to press a lever in order to see some different shapes/drawings in a machine, to point to the correspondence and colour some circles and numbers, to go in different positions on the slide (on their stomach, back against back or feet against "bottom" or other children's feet, hands together...), to walk over wooden blocks, to go in certain directions by tricycle, to follow a certain sequence of running, jumping, walking, to blow a tube and sing, to fight with a jumper etc...

1.5.2. Pointing to pictures in a book or to another book to be read, to letters and numbers on a machine screen after pressing some keys, to another child's piece of construction material, a "spaceship" over a shelf, in the direction of a wooden construction, to an insect (trying simultaneously to prevent other children from approaching, etc.)

1.5.3. Making gestures for other children to follow, or grasp their hand/arm so that they stay on their side when they play, run through the room, approach a sink, open/close doors, turn, dance, sing, crawl, jump, pretend to "fall" or "dive" onto the floor, to "fly" (arms open, lifted), walk, stand, sit, lie (or try to sit on a chair lying on the floor), stretching or flexing the muscles (in order to show their strength - "*Yeh, yeh, I am a big boy*"), lick a board, rub the board and pegs on the table or run, look and wait in a sequence which lead other children to follow in successive different directions (from the slide to the car, etc.)

1.5.4. Holding/pulling another child's hand/arm or body (sometimes lifting them up) in order to place them into a different situation (e.g. take them

far from the window or inside a house), touch their back to attract their attention to what they are doing or can do together, to crawl over other children's bodies or grasp their feet in order to pull them across the floor

1.5.5. Moving other children's hands or arm away, to make a barrier with own body in order to prevent others from interfering in their own activity (e.g. to prevent them withdrawing wooden pieces of figurative material, to touch an ark with "treasures") or making them get out of the way (e.g. by looking straight and firmly while holding a tricycle) to stretch arms in front of a door to make them stop or put their feet (or arms around other children's body) to prevent others from stretching a plastic tube...

In role playing situations the following behaviours were observed: running, pretending to fly (arms open - *I'm Robin*!...) leading other children doing the same through the room, to make other children turn their body, open or shut their mouth in order to listen with the stethoscope, to place a thermometer, give some injections, "take blood", or test the reflexes with an hammer or lead other children to move their hands and mouth on the floor pretending they were sucking up something (babies drinking milk) or hang from the beams of the playhouse (while saying that "*daddy is trying to mend the roof*")

2.Aggression

2.1.The improper appropriation of others' objects

2.1.1. Any attempts to withdraw or pull from other children's hands their toys (small cars, teddy bear, doll, plastic animals, mug, bag, telephone, flower, ball, rubber tyre or wheelbarrow with other objects, e.g. bark...) and play or school material such as pencils, paper, books, paste, clothes, or small pieces for construction or assembly (legos, tubes, small wheels, cubes...)

2.1.2. Seizing other children's tricycles either by moving them away or by suddenly jumping onto them when the user has stopped standing or was distracted, e.g. by an argument or fight

2.1.3. Occupying other children's space (e.g. a platform in a wooden structure arguing "*this is my bed*") or misusing objects or material other children are using (e.g. filling up or take out sand or water from a tube or mould other children are using in an opposed way and clearly against their wishes)

2.1.4. Preventing other children from using objects placed at their disposal (e.g.keeping all the pencils, cars, animals or small objects to build a village, on a table, for themselves, keeping other children out of the way)

2.2. The destruction of or attempts to damage objects

2.2.1. Hitting objects with their own hands (e.g. books, pieces for construction or puzzles) or other objects or structures (e.g. pencils, dishes, cars, bag, board against a table, chair, other cars, an iron structure or wall, respectively) or throwing them (dishes, tumblers, coffee or teapots, cars, wood blocks...) to the floor

2.2.2. Kicking objects (e.g. cardboard boxes, material for construction) putting the feet or a big heavy object (e.g. a barrel) on others (e.g. plastic apple, turtle) or material (e.g.plastic structure) respectively

2.3.Physical aggression

2.3.1. Fighting, throwing themselves over other children, pinching or hitting them (either by using their own bodies, e.g. knocking, punching others'children heads, chest or back, kicking, treading or with objects such as a ball, teddy bear, dishes, bottles roll or cardboard paper); to "collide" intentionally (usually observed after a conflict), e.g. hit other children with the feet when on the slide or with the wheelbarrow or tricycle

2.3.2. Pulling other children's legs, hands or clothes in order to occupy their place (on the slide, wooden structures, etc.) or push, often to move them away (often associated with *"go away, you are not playing"*!) or to go ahead with own activities (e.g. to push another child's leg in order to move a train along a railway line or to build a tower)

2.3.3. Throwing sand, water or objects (e.g. spade) at children

In role playing situations simulated fights were observed initiated by fighters (e.g. the "superboy" attacking a "nasty boy", "stabbing" and pushing him, making him fall and roll on the carpet while shouting *"you are dead now"*) or slaps in other children's face while explaining *"I am the daddy, I can smack you"*)

2.4.Threat

2.4.1. Threatening with parents (e.g. *"my mother will be cross with you, I'll tell my daddy about you...my daddy is a giant..."*)

2.4.2. Threatening with objects (e.g..board, tubes) by mimicry (grimaces) gestures (pointing a threatening finger or hand, *"you!"*...) or activity (e.g. chasing other children after being hit...)

In role playing situations both verbal and non-verbal threats were observed as follows: (a) monsters advancing towards other children with big steps, arms open, hands like talons or "shadow boxing" and making frightening noises with a deep voice growling, grinding one's teeth, *"we can fight"* (b) fighters (Robin Hood, Superman, Batman, Super-boy...) brandishing objects (sticks, saucepan...) over the children's heads, threatening with punches or "shooting" while making loud noises or saying *"I'm going to kill you", "I'll cut your head!"*...(c) "parents" threatening "crying babies" with hand or finger or a "donkey owner" saying *"get out, I'll kill you...I will trap you here...You can't have your mother back..."*

2.5 Verbal aggression

2.5.1. Bellowing at other childre · or shouting when arguing

2.5.2. Devaluing what other children have (saying they have better or nicer things) or are doing (mentioning they can do better) or criticizing them (saying they are naughty or nasty)

3. Prosocial behaviour

3.1. Comforting

3.1.1. Spontaneous

3.1.1.1. Asking other children if they are all right after seeing them fall over a tricycle or being hurt on the slide

3.1.1.2. Offering a flower, toy or paint other children's drawing after seeing them whimper or crying

3.1.1.3. Laughing and playing (friendly touching and imitating gestures and words) with children in distress, previously (e.g. having been subjected to threats and pushes)

3.1.1.4. Kissing and caressing other children's heads when harassed (either because their possessions were withdrawn or they were physically attacked)

3.1.1.5. Coming physically close to children who have been humiliated by others (e.g. been sent away...)

3.1.2. "Asked-for"

Saying sorry or returning other children's possessions after being asked, either verbally (e.g. *"I need my bag"*...) and/or nonverbally (arms stretched in the object's direction) by an upset, whimpering or crying child

3.2. Helping

3.2.1. Spontaneous

3.2.1.1. Helping to pull other children onto the tricycle, plastic tube, see-saw, clothes box, tyre, pillow, barrel, rocking horse or to carry them in their arms

3.2.1.2. Helping other children to open a bag, put on an item of clothing or take it off, do up the buttons, press studs or fasten shoes, to make a drawing (e.g. dinosaur), sand barrier or paint (following *"do you want me to colour this"*?, to get inside a cupboard or "play" house, to tidy the play material inside a box, to clean the wash-basin or floor, to carry and put a carpet in order to soften the fall from the slide

3.2.1.3. Helping other children find something they lost (e.g. hook), dropped (e.g. (teddy bear in a rabbit cage) or might need e.g. books, a chair to reach a cupboard, clothes such as a cloak, an apron to paint, cubes, material for construction, coloured pencils, etc... (usually associated with verbalizations such as *"do you want this?...here is another block...that doesn't work...get this...they haven't got any cars have they? There are two there...*)

3.2.1.4. Helping in physically threatening circumstances, such as trying to defend a small child from a bigger one, or quickly moving away a table which is squeezing some children against a wall

In role playing situations a few simulations of spontaneous helping behaviours were observed such as trying to help a child (e.g.undoing his buttons) who is pretending to be dying or to put a plastic covering over a "baby" lying in the sun...

3.2.2. "Asked-for"

Among the helping behaviours performed following other children's request, were: reading a book or answering questions (*what* or *who is that? What is a baby kangaroo, elephant, penguin...called*?), making a tower, a shape, a request (e.g. to ask other children not to hit the clothes box with their feet), putting some figurative pieces of wood inside a small house or dishes on a table, opening a door (so that other children can get in the "play house) pushing a table against a wall, moving away a tricycle, taking off a jumper, returning a toy or pieces of construction material (e.g.cubes, puzzle pieces , etc...), accepting a role (mother, father...) or any invitation to play (e.g. *"let's play football? Yes, let's play football..."*), running after children, grasping another child's leg (so that they can slide together on their stomach), exchanging places, running, stoping, hiding, "keeping still" (e.g. to allow other children to give "an injection"...) or "sleeping".

In role playing situations some "asked-for" helping behaviours associated with the performance of parental and animal roles were observed (e.g. a child coming with "black coffee" or "pancakes", the "dad" is asking while saying " *"all right...here you have"* accompanied by gestures and activities evoked in that situation or the "animal" following his "owner's wishes" staying under a chair, out of or between the chair and the bookcase...

3.3. Sharing

3.3.1.Spontaneous

Most of the objects or material previously mentioned were spontaneously shared: teddy bears, dolls, plates, boxes to be another's child "house", cloaks, tubes for other children to blow or sing, pencils, bag, modelling clay (following *"have a cake"*), ball of sand (*"it's a big egg for you"*...), bark, grass, drawing, tooth paste packing, ticket, car parking, lego, puzzle pieces, cubes, shapes (flower, hat) built with plastic tubes or a space on the rubber tyre, "play" house, chairs or invitations to share their own accommodation ("extra" bed) in their parents'house

In role playing situations one could see children giving some of their "milk" (from an empty teapot) or "money" (from an empty hand) to other children

3.3.2. "Asked-for"

Following children's requests (e.g. *"let X have the cat and the flask"* or *"you must let me have that..."*), many sharing behaviours were observed, such as:

3.3.2.1. Sharing a teddy bear, an inflatable pillow which children wished to punch, a cat with flask, small cars, tricycle, a "house" built with big wood blocks

or the "play" house, chairs, saucepan, teapot, plates, paper, a necklace made from plastic tubes, puzzle pieces, balls of sand...

3.3.2.2. Letting other children manipulate their own material, such as adding some wooden human figures in a hole of other children wooden construction, or making holes and insert a ball in other children's clay, adding some pieces to anothers'puzzle, putting a "dinosaur" made with clay together with other children sausages", etc.

3.3.2.3. Leaving room for other children on the seesaw, rocking horse, on the board leading to the slide, on or behind some chairs, in the "windows" of a big wooden structure of the nursery room or in the courtyard for a very small child to go on walking or for other children to be able to go on riding their tricycles or rolling the barrel

EXAMPLES OF NON-ASSERTIVE, NON-AGGRESSIVE AND NON-PROSOCIAL BEHAVIOURS RECORDED

1. Posture and large movements

- Stands, throws him/herself to the floor, stretches him/herself, rolls, sits, stands up, runs (e.g. arms up open, shouting *"I'm Robin"*...), peeps and moves back (laughing), jumps, lays down head on the carpet (or pillow), legs up, jumps with hands on the floor (imitates a "rabbit").

- Runs behind a pillow, jumps over, grasps it, pulls it, jumps, spins round, dances, twists body.

- Jumps holding hands, spins round (singing), sits, feet touches others'feet (or crossed).

- Stretches him/herself on the grass behind bushes, hugs a tree, goes up a stone, chases others.

- Rides a tricycle (or goes on a scooter), moves it away from barriers, goes forwards and backwards, steers it to the left and to the right, goes on circles, pedals moving the wheels on wood chippings, goes on a race with others and in a large cardboard box (where other children are with their toys)

- Pushes a tyre on wheels, goes over it, drags him/herself on it

- Swings on the seesaw (or rocking horse), plays "stop and go".

- Goes inside a fixed vehicle (or a car), sits turns the steering-wheel (and/or toots the car horn), fans his/her legs while making sounds (*brmm...brmm..*).

- Climbs up and gets down from a climbing frame, suspends him/herself, pretends to fall (*"I'm falling in...*), jumps, picks up and carries a door-shaped board.

- Walks on the structure attached to the slide, slides, falls on the carpet.

- Throws a ball at the skittles, runs to grasp it.

- Walks moving a jumper in several positions, rocks it, puts it on his/her shoulder, jumps in order to reach a doll suspended in a cupboard, contracts arms and face (*"I have got strong muscles"*...).

- Stops looking around, approaches a table (e.g. where other children are painting) then near a group playing with trains and railway line, walks around the room kicking the air, approaches the window, looks through it.

- Walks on the blocks, climbs a board, lies down, jumps to the floor, goes singing to the line.

-Crawls, drags him/herself on the floor (carpet, pillow or under the boxes in the pipe), goes inside a box (or a pipe) or lies down on chairs, remains quiet (e.g. pretends to be sleeping, or "tired").

2. Vision and fine movements

- Grasps some lego or small bricks, puts them in line, takes a paper with a picture (*"we got to look at the picture"*) tries to copy the picture with the material.

- Fits pieces of meccano type-construction, makes a human figure (*"I made a person"*), puts it on the window-sill, makes it walk and wave.

- Adds pieces of material (wheels, tower) to the construction of a car with a ladder or tractor, makes a motor bike with a man, rolls them (while imitating the noise of an engine).

- Makes shapes (e.g. flower, gun) fitting in fixo straws or tubes and round plastic pieces of material.

- Fits in plastic pieces of material on knees and a ribbon with plastic ears (or a "hat" made with fixo straws) on head.

- Withdraws from form-boards or separates pieces of puzzle; then fits them in again making shapes (e.g. animals, human figures, circus).

- Stretches a plastic pipe, adds planks to a construction, shakes a watering-can, touches a grill or ventilator on the wall, grabs leaves, puts them on the floor, moves woodchippings under the seesaw, puts a flower on the carpet, rocks and pulls a branch of a bush (*"ding-dong"*).

- Stirs dried leaves, moves and throws them, catches fruit bush, scratches on the floor looking for more ("green peas"), puts them in a hole on the top of a big stone.

- Adds some chippings to dough, cuts out some (dough) to put in the moulds, pats it down.

- Mixes or handles dough/clay, makes balls, "sausages", adds them, cuts out shapes (e.g. penguin), undoes with the roller, makes holes with the fingers, puts some on the table (*"I'm making a pancake"*...).

- Stirs, sprinkles the water with soap, soaks and scrubs arms and hands, looks at the foam on them, moves it towards another child's face.

- Stirs the foam, manipulates and blows tubes, draws in water, fits small into larger tubes, fills one and presses a piston or puts another long tube inside a plastic glass with soap "bubbles" and blows down it.

- Pours water from empty plastic vessels into others or a funnel making a pulley or a wheel move.

- Buries and/or scrubs hands on sand, lets it fall onto the floor (*"It's snowing"*...), puts it on one side or removes, throws off or makes holes with fingers or shovels on the other.

- Digs, makes and smoothes piles of sand with hands or shovel, puts it in a bucket or fills moulds turning (making shapes of moulded sand) or pouring them.

- Puts sand on a wheel, making it move or in a model car, pushing, burying, shaking and filling it again with sand ("food").

- Pushes model cars or trains on the floor/carpark/garage or railway line, respectively; adds some traffic signs on the line.

- Puts some earth, a ball and skittles on a wheelbarrow or a teddy bear (or doll) in a pushchair and pushes.

- Holds, fans, wraps in a cloth, caresses or kisses and puts in a case (locking it), cot or closely to his/her body, a teddy bear, doll, racoon, pig or cat.

- Puts small scale wooden animals inside a "farmhouse", around a "fence" or "cattle-shed" and human models inside a small scale house, at the window or on the roof.

- Puts doll's shoes, dress, turns doll's head, approaches it from other child's face and moves it away...

- Puts on a pair of shoes, chooses an item of clothing, dresses it, doing up the buttons (or studs) or spreads it on the floor (or box) as if it was a sheet; arranges (medical or other) instruments in a bag.

- Moves a mirror, puts above head (image "upside down"), looks (while laughing).

- Opens drawers, looks inside a cupboard, hits a lid with a wooden spoon (as if playing a drum) while singing; takes and puts saucepan on the cooker, pretends to throw food on it and to stir the bottom with a wooden spoon; removes the teapot's lid, puts an elastic band inside it, moves plates, earthenware ("*I'm putting onions...sausages...jelly...*"

- Puts kitchen tools on the table, "pours" the invisible contents of the teapot to a plastic glass and "drinks", takes a spoon (or a piece of lego or puzzle with the picture of an ice-cream) to the teddy bear or cat's mouth or hits the plate with the cutlery (pretending to cut something), moves them to own mouth and pretends to chew.

- Turns up sleeves, puts earthenware in the sink, arranges it, grasps a bucket, pretends to pour water in the sink, to wash (says "*is washing*") and to wipe plates or plastic cutlery, places them on a pile on the drainer and after puts them in order in the cupboard.

- Arranges chairs at the table, pretends to iron, spreads out a coat on the table, puts a doll (or cat/teddy bear) there, and folds it, looks for several objects on the floor (empty plastic vessels, lids) puts them over the cupboard ("*I tidy up now*").

- Lies down on the floor (or on two chairs or under the sink) handling the cat (or teddy bear), pretends to sleep.

3. Social interaction

It includes:

3.1. Observation of other children's activities (e.g.one child kissing another one who is lying on the floor pretending to be sleeping beauty) and

3.2.Questions or statements about:

3.2.1 Activities

What are you (they) *doing* (here)*? We just pretend... She is washing dishes... made a penguin... I did that* (shows silhouette). *I made mine a little differen made mine bigger, mine is colourful. Here is a cat* (piece of puzzle they are fiting with others). *I can see me* (in the mirror), *that's me, that's you. What do you wa to play with me? I'm not speaking to you, you are small. I like this colour. I'll mine. I'm going to colour these faces, this is a green face, this will go yellow. I ma a funny face. Mine* (train) *goes back to the house. I'm making some steps. What is baby penguin called? And a baby tiger...cow...kangaroo... deer? ...I am not having Who can be the baby? I got some porridge* (while smoothing some sand in mould). *I think it's better to get some tomatoes. I'm going to the shop, love. I sh the fire. I'm trying to mend it. I pull it. It's time for me to go...*

Answering questions about the weekend or making descriptions of pictures drawings, puzzle pieces, how the child had made a "bike" or the activities of a adult in the kitchen (stirring the food in the saucepan, what is being cooked what they will eat) were all considered in the contextual categorization i preceding or succeding assertive, aggressive and prosocial behaviours.

3.2.2. Real or person made materials

My birthday present (caressing a pig)... *the cat has spoken to me...is a girl...is crying... I think the ladybird has gone away...It's dead...Eh! It's alive, alive!...Lovely* (plastic) *apple* (pretends to eat it). *These two* (pieces of material) *won't come off. I have got an umbrella...me too...this one got trousers on... Here is a naughty king* (on the top of the construction)*...the pencil is broken...it is already off* (open bag)*...I have found a pea...mine is a brand new car...This tower is quite tall...*

Also, descriptions of the content of a sewing box (the thread to sew, the buttons people lose) or statements about how the paint smells well, the hard material the slide is made of, the ice-cream the boy in the book has got or the milk the cow can give or who is going in the spacecraft, these were - among other examples - observed, in this context.

3.2.3. The family/House

It includes:

Comments or questions about the size of their houses (or those in which their parents work); what they have in them; their birthday parties; holidays (e.g. about going with the parents to a very big house in France or to the seaside); how they got out of bed and had breakfast; how their mother did their hair in a "nice pattern" or came and played with them, hold a paper, etc.; if "X" saw their "baby sister" or still expressing wishes of staying at home with their mother (*mum, where are you mum?*)

3.2.4. The nursery

"The nursery looks big, doesn't it?"..."The wall is tall"...or any comments about decorative elements, such as the pictures on a calendar on the kitchen wall.

3.2.5. Themselves

Do you see, I have got strong muscles...I'm strong, I'm the superboy...I have done it...Yeah!...I done it...I won!...I did it (while clapping hands, opening, stretching and lifting arms)...*These are big shoes, mine is new...I have no knickers on* (while pulling aside her knickers)...

Included here were also statements or questions about their ages, birthday parties, dreams (or more specifically about people in their dreams like grand-mother and grand-father), clothes (handbag, jumper, shoes, etc.), who is the biggest child or wounds and bruises on their bodies.

3.2.6. Others

Includes statements or questions about who are the boys and girls or the babies and big children, who cannot speak, who are their friends or what they have, their houses or about invitations to go to their parties.

3.2.7. General remarks/greetings

"That's hot"..."This is hard work"..."Hello"...etc.

4. School subject-related activities

- Counts dishes, pencils, circles, colours numbers.

- Mentions colours of balls, pictures on a wall...associate small bricks with similar colours.

- Looks through a book, touches papers standing out, listens to comments or explanations about its pictures, tries to identify some of the animals names, tells a story.

- Crosses out a paper over a lego piece, grasps some glue, hangs the drawing in a wall.

- Cuts out paper, cardboard, makes shapes (e.g. flower).

- Scribbles on a piece of paper with many different coloured pencils, folds the paper, paints (e.g. silhouettes) puts pencils in a box.

- Sings, grasps tube, blows it, sings a story about hedgehogs while making paper hedgehogs "walk", "jump" or putting them in a "sleeping position".

CONTEXT OF ANTECEDENTS AND CONSEQUENTS

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
1.1 - 8					
Activity	1ba4c(6)	3/4b	CD.a(G)	CD.b(o)	6/3PA(6)
Social Code	3a/2c	3cd/2c		3cd/2c	2d/3a
Materials	4b	4b		4b	4b
1.2 - 8					
Activity	1ba4c(6)	3/4b	PL(G)	CD.b(o)	6/3PA(6)
Social Code	3a/2c	3cd/2c		3cd/2c	2d/3a
Materials	4b	4b		4b	4b
1.3 - 8					
Activity	6/[illegible](6)	*CD.b(o)	PA(6)	R(o)	3
Social Code	2d/3a	2d		2d/3d	3ad
Materials	4b	4b		4b	4b
2.1 - 5					
Activity	2/1a	1a	PL(y)	SA	1b
Social Code	2c/2a	2a		2c/2a	2c
Materials	2e/1e	1e		1e	1e
2.2 - 5					
Activity	1ab	1a	AO(16)	--	1a/2
Social Code	2a	2a		--	1/2a
Materials	1b/1e	1e		--	1e/2a
3.1 - 9					
Activity	1a	1a	*R(14)	D/1a	1a(D)
Social Code	3b	3b		3b/4a	3b/4a
Materials	1a	1a		1a	1a
3.2 - 9					
Activity	1aR	D/1a	D(14)	--	*1b
Social Code	3b/4a	3b/4a		--	1
Materials	1a	1a		--	--
4.1 - 10					
Activity	2	2	*HS(14)	1a	1a/AO/1a
Social Code	3d/2c	3d/2c		5b	5b/1
Materials	2a	2a		1e	1e/--
4.2 - 10					
Activity	HS/1a	1a	AO(14)	--/AO	1a/(NC)
Social Code	5b	5b		--/4a	5b/4a
Materials	1e	1e		--/1a	1e/1a
4.3 - 10					
Activity	AO/1a	1b/AO	NC(14)	1a	1a
Social Code	3b	4a		4a/3b	4a/3b
Materials	1e/1a	1a		1a	1a
5.1 - 4					
Activity	1c	2/R	NC(1)	1c	2/HS(10)
Social Code	3a	3a		5a	5a
Materials	1g	1g		1g	1g

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
5.2 - 4					
Activity	NC(1)1b	--	HS(10)	1c	2/CD.a
Social Code	2a	--		5a	5a
Materials	1g	--		1g	1g
5.3 - 4					
Activity	HS/2	1c	SS(10)	1c	2/CD.a
Social Code	5a	5a		5a	5a
Materials	1g	1g		1g	1g
5.4 - 4					
Activity	SS/2	1c	CD.a(10)	1c/R	1ba
Social Code	5a	5a		5a	2c
Materials	1g	1g		1g	1g
5.5 - 4					
Activity	1a	--	DO	--	1c/2
Social Code	1	--		--	1
Materials	1g	--		--	1g
6.1 - 17					
Activity	1a	3	PL(G)	1a/4c	1a/4c
Social Code	1	3a		5b	5b
Materials	1a	--		1a	1a
6.2 - 17					
Activity	1a/4c	1a/4c	R(G)	1a/4c	1a/4c
Social Code	5b	5b		5b	5b
Materials	1a	1a		1a	1a
7 - 13					
Activity	2/3	3	SS(3)	3/D	3/1c
Social Code	2d/3a	2d/3a		3a	3a/2d
Materials	3b	3b		3b	3b/--
8 - 3					
Activity	1b	1c/5	HSII(13)	5(G)	1a/5
Social Code	1	1		5b	5b
Materials	--	--		3a	3a
9.1 - 1					
Activity	5	5	TII(4)	1b	CD.b(4)
Social Code	5a	5a		2a	3a
Materials	3a	3a		3a	3a
9.2 - 1					
Activity	2/TII	1b	CD.b(4)	2	5/TII/2
Social Code	3a	2a		2a	2a
Materials	3a	3a		3a	3a
9.3 - 1					
Activity	2/5	1b	TII(2)	1b	2
Social Code	2a	1		1	2a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	3a	--		--	3a
9.4 - 1					
Activity	5	2	CD.a(4)	1b	5/TII
Social Code	2a	2a		2c	4b
Materials	3a	3a		3a	3a
9.5 - 1					
Activity	5/CD	1b	PL (4)	1b	5/TII
Social Code	2a	2a		2c	4b
Materials	3a	3a		--	3a
9.6 - 1					
Activity	5/TII	2/3	TII(G)	3	5/PAII(3)
Social Code	4b	3b		4a	4a
Materials	3a	3b		--	--
9.7 - 1					
Activity	5/TII	3	PAII(3)	D	5
Social Code	4b	3b		4a	4b
Materials	3a	3b		--	3a
10 - 6					
Activity	1c	1c	R(G)	D(13)/1c	1c
Social Code	2c	3b		3b	2c
Materials	--	1g		1g	--
11.1 - 14					
Activity	1c	1c	CD.a(8)	1c	1ca
Social Code	3b	3b		3b	3b
Materials	1g	1g		1g	3f
11.2 - 14					
Activity	1c	1b/1c	PA(10)	NC/1c	1c/CS
Social Code	3b	2c		2a/3a	2a/3a
Materials	1g	--/1g		1g	1g
11.3 - 14					
Activity	1c/PA	NC/1c	CS(10)	1c/3	1c/3
Social Code	4a	2a		3a	3a
Materials	1g	1g		1g	1g
12.1 - 12					
Activity	3/5	3/5	SS(8)	CD.a(2)	NC/2
Social Code	5b	5b		3b	3b/2c
Materials	3a	3a		3a	3a
12.2 - 12					
Activity	5/SS(8)	CD.a(2)	NC(2)	--	2
Social Code	3b	3b		--	2c
Materials	3a	3a		--	3a
13.1 - 7					
Activity	2	2/AO-	NC(12)	CD.a(2)	2/3

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	3b	3b		3b	3b
Materials	3a	3a		3a	3a
13.2 - 7					
Activity	3	CD.a	HA(2)	5	5
Social Code	3b	3b		5b	5b
Materials	3a	3a		3a	3a
14.1 - 12					
Activity	5	CD.a(2)	R(2)	5	5
Social Code	5b	5b		5b	5b
Materials	3a	3a		3a	3a
14.2 - 12					
Activity	5	5/CD.b	NC(2)	--	2/5
Social Code	5b	5b		--	2c
Materials	3a	3a		--	3a
15.1 - 16					
Activity	2/3	6/CD.b	NC(o)	6	CD.a
Social Code	2d	2d		2d	2d
Materials	3f	--		--	3f
15.2 - 16					
Activity	NC	6	CD.a(o)	3/6(5)	*1b/3/6
Social Code	2d	2d		2d/3a	2d/3a
Materials	3f	--		----------	
16.1 - 15					
Activity	4a	4a	HA(14)	4a	4a
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
16.2 - 15					
Activity	4a	4a	HA(14)	4a	4a
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
16.3 - 15					
Activity	4a	4a	HA(14)	4a	4a
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
16.4 - 15					
Activity	4a	4a	HA(14)	4a	4a
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
16.5 - 15					
Activity	4a	4a	HS(14)	D	3
Social Code	5a	5a		3a	3a
Materials	4a	4a		--	4a
17 - 5					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	2	2	PA(16)	2	2
Social Code	2c	2c		2c	2c
Materials	3c	3c		3c	3c
18.1 - 11					
Activity	2	2	PL(14)	1a	1a
Social Code	3a	3a		5b	5b
Materials	3d	3d		--	--
18.2 - 11					
Activity	1ac/2	R(o)	NC(o)	2(14)	2
Social Code	3ba	2d		3a	3a
Materials	3e	--		3d/3e	3d/3e
19.1 - 4					
Activity	3/5	3/2	CD.a(1)	3/2	3/5
Social Code	3a	3a		3a	3a
Materials	3e	3e		3e	3e
19.2 - 4					
Activity	5	3	CD.b(1)	CD.a	1a
Social Code	3a	3a		3a	1
Materials	3e	3e		3e	--
19.3 - 4					
Activity	3	CD.a	NC(1)	--	1a/HS
Social Code	3a	3a		--	1/3b
Materials	3e	3e		--	--
19.4 - 4					
Activity	1a	1a	HS(G)	1a	1a
Social Code	1	5b		5b	5b
Materials	--	--		--	--
20.1 - 8					
Activity	4a	4a/2	R(15)	NC	NC/2
Social Code	3b	3b		3b	3b
Materials	--	4a		4a	--
20.2 - 8					
Activity	4a/R	4a/NC	NC(15)	PA(16)	CD.b
Social Code	3b	3b		2c	4a
Materials	--	4a		2a	--
20.3 - 8					
Activity	4a	PA	CD.b (16)	3	4a
Social Code	3b	2c		3b	4a/3b
Materials	--	2a		2a	--
21.1 - 15					
Activity	2/4a	4a	PL(G)	4a	4a/PA/R
Social Code	3b	3b		3b	3b
Materials	4a	--		--	4a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
21.2 - 15					
Activity	2/4a/PL	4a	R(G)	4a	2/4a/PA
Social Code	3b	3b		3b	3b
Materials	4a	--		--	4a
21.3 - 15					
Activity	2/4a/R	4a	PA(8)	4a	4a/CD.b
Social Code	3b	3b		3b	3.
Materials	4a	--		--	4a
21.4 - 15					
Activity	2/4a/PA	4a	CD.a(8)	4a	4a/2
Social Code	3b	3b		3b	3b
Materials	4a	---		--	4a
22.1 - 14					
Activity	3	3	CD.a(9)	3	1a
Social Code	3a	3a		3b	3b
Materials	----------				
22.2 - 14					
Activity	3	1a	PL(9)	1a	1a
Social Code	3b	3b		3b	3b
Materials	----------				
23.1 - 1					
Activity	2	3	CD.b(G)	3	2/PL
Social Code	3b	3b		3b	3b
Materials	3e	--		--	3e
23.2 - 1					
Activity	2	3	PL(G)	3	2
Social Code	3b	3b		3b	3b
Materials	3e	--		--	3e
24.1 - 4					
Activity	2	2	HS(1)	2	2/SS
Social Code	5a	5a		5a	5a
Materials	1g	1g		1g	1g
24.2 - 4					
Activity	HS(1)2	1a	SSII(15)	2/CD.b(1)	2/NC
Social Code	5a	1		3a	3a
Materials	1g	1e		1g	1g
24.3 - 4					
Activity	2	2/CD.b	NC(1)	2	2/D
Social Code	3a	3a		3a	3a
Materials	1g	1g		1g	1g
24.4 - 4					
Activity	NC/2	*2/CD.b	D(1)	2	2
Social Code	3a	3a		3a	3a
Materials	1g	1g		1g	1g

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
25.1 - 16					
Activity	1a	1a	CD.a(5)	1a	1a
Social Code	3a	3a		3a	3a
Materials	1e/--	1e/--		1e	1e
25.2 - 16					
Activity	3	2	CD.a (o)	2	3
Social Code	3b	3b		3b	3b
Materials	--	5		5	--
26 - 5					
Activity	1a	6	HS(G)	3	3
Social Code	1	2bd		3bd	3bd
Materials	1e	--		--	--
27.1 - 15					
Activity	1a	AO	SA(5)	1a	1a/SA
Social Code	2a	2a		2a	2a
Materials	1ef	1e		1e	1e
27.2 - 15					
Activity	1a	1a	SA(5)	1a	1a/2
Social Code	2a	2a		2a	2c
Materials	1e	1e		1e	1g
28.1 - 17					
Activity	1a	--	CD.a(3)	HA/2	2/1c
Social Code	1	--		5a	5a
Materials	1e	--		1g	1g
28.2 - 17					
Activity	1c/1b	1a	PA(y)	1c(3)	1c
Social Code	3a	1		3a	3a
Materials	1g	1e		1g	1g
28.3 - 17					
Activity	1c	2	R(3)	HA/2	1c
Social Code	5a	5a		3a	3a
Materials	1g	1g		1g	1g
29.1 - 9					
Activity	1a	1a	HS(11)	1a	1a
Social Code	5a	5a		5a	5a
Materials	1g	1g		1g	1g
29.2 - 9					
Activity	1a	1a/R	HA(11)	1a	1a
Social Code	3a	3a		5b	5b
Materials	----------				
30.1 - 1					
Activity	1a	--	DO	--	1a/2/HSII
Social Code	2a	--		--	2a//5a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	1g	--		--	1g/3h
30.2 - 1					
Activity	1a/2	1c/5	HSII(4)	1c/5	CDII.b
Social Code	2a	2a		5a	5a
Materials	1g/3b	--		3b	--
30.3 - 1					
Activity	5	5	CDII.b(4)	D/NC	DO
Social Code	5a	5a		3a	4a
Materials	--	3b		--	1g
30.4 - 1					
Activity	CDII.b	D/NC(4)	DO	DO	PA
Social Code	3a	3a		4a	4a
Materials	1g	1g		1g	1g
30.5 - 1					
Activity	DO	DO	PA(4)	1a/T	1a/2
Social Code	4a	4a		4a	4a/1
Materials	1g	1g		1g	1g
31.1 - 3					
Activity			AO(17)	NC	1a/R
Social Code				4a	1/4a
Materials				2b	-/1e/-
31.2 - 3					
Activity	AO/1a	NC	R(17)	PL(1)	*1a/NC
Social Code	4a/1	4a		3a	3a
Materials	-/1e	2b		--	--
31.3 - 3					
Activity	1a	PL	NC(1)	1a	1a/SS
Social Code	3a	3a		3a	3a
Materials	--	--		--	3d
31.4 - 3					
Activity	1a/NC	*PL	SS(1)	1a	1a
Social Code	3a	3a		5a	5a
Materials	3d	--		3d	---
31.5 - 3					
Activity	1a	1c(17)	DO	--	1a
Social Code	1	1		--	1
Materials	1d	1g		--	1f
31.6 - 3					
Activity	DO/1a	1c	PA(17)	--	1a
Social Code	1	1		--	1
Materials	1d/3d	1g		--	1e
32.1 - 8					
Activity	1ac/5	5	DII(G)	5	5

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	5b	5b		5b	5b
Materials	1c	1c		1c	1c
32.2 - 8					
Activity	5	5	NCII(G)	5/CD.a	5
Social Code	5b	5b		5b	5b
Materials	1c	1c		1c	1c
32.3 - 8					
Activity	5	5	NCII(G)	1a	1a
Social Code	5b	5b		5a	5a
Materials	1c	1c		1c	1c
33.1 - 14					
Activity	3	3	HS(8)	1a	1a
Social Code	3b	3b		3b	3b
Materials	--	--		1b	1b
33.2 - 14					
Activity	1a	CD.a	SA(y)	--	1a
Social Code	2c	2c		--	2d
Materials	1b	1b		--	1b
34.1 - 11					
Activity	1a	--	PA(15)	--	1a
Social Code	1	--		--	1
Materials	1f	--		--	1f
34.2 - 11					
Activity	6	6	PL(G)	D	D
Social Code	2d	2d		4a	4a
Materials	----------				
34.3 - 11					
Activity	PL/6	D	D(5)	D	CA(15)
Social Code	2d	2d		4a	5a
Materials	----------				
34.4 - 11					
Activity	D(5)	D(5)	CA(15)		
Social Co.	4a	4a			
Materials	--	--			
35 - 9					
Activity	2	AO(5)	D(5)	CS(8)	2
Social Code	2c	2c		2c	2c
Materials	2a	2a		2a	2a
36.1 - 14					
Activity	2	--	CD.a(5)	AO(8)	2/NC
Social Code	2c	--		4a	4a
Materials	3h	--		--	3h
36.2 - 14					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	2	AO	NC(8)	R	2/D
Social Code	2c	4a		3a	4a
Materials	3h	--		---	3h
36.3 - 14					
Activity	2	AO/R	D(8)	R	NC/2
Social Code	4a	3a		3a	4a
Materials	3h	--		--	3h
36.4 - 14					
Activity	D/2	R	NC(8)	NC/R	2/SA
Social Code	4a	3a		3a	5a
Materials	3h	--		--	3h
36.5 - 14					
Activity	NC/2	NC/R	SA(8)	2	2/CD.b(9)
Social Code	4a	3a		5a	5a
Materials	3h	--		3h	3h
36.6 - 14					
Activity	SA/2(8)	1b(9)	CD.b(9)	2(8)	2/1a
Social Code	5a	2c		5a	5a
Materials	3h	--		3h	3h
37 - 8					
Activity	2	3(9)	CD.b (9)	AO(5)/2	CD.b
Social Code	3a	3a		4a	4a
Materials	3h	--		3h	---
38 - 16					
Activity	5	5	HS(G)	2	2/1a
Social Code	3b	3b		5b	5b/3b
Materials	3a	3a		3g	3g/--
39 - 6					
Activity	1a	1a	PL(12)	3	3
Social Code	5b	5b		3b	3b
Materials	---------			2d	2d
40.1 - 10					
Activity	2	2	AO(16)	2/PL	2NC
Social Code	2c	2c		2c	2c
Materials	2d	2d		2d	2d
40.2 - 10					
Activity	2AO	2/PL	NC(16)	2	2
Social Code	2c	2c		2c	2c
Materials	2d	2d		2d	2d
41 - 12					
Activity	2	1b	SA(y)	2	2
Social Code	2c	2c		2c	2c
Materials	2d	2d		2d	2d

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
42.1 - 6					
Activity	1a	1a	CD.a(8)	1a	1a
Social Code	3b	3b		3b	3b
Materials	----------			----------	
42.2 - 6					
Activity	1a	1a	CD.a(G)	1a	1a
Social Code	5b	5b		5b	5b
Materials	1a	1a		----------	
43.1 - 12					
Activity	1a	1a	HS(G)	1a	1a/CD
Social Code	5b	5b		5b/3a	5b/3a
Materials	1a	1a		1a	1a
43.2 - 12					
Activity	1a	1a	CD.a(G)	1a	1a/PL
Social Code	3a	3a		3b	3b
Materials	1a	1a		1b/--	1b/--
43.3 - 12					
Activity	1a	1a	PL(6)	1b	1b/PL
Social Code	3b	3b		3a	3a
Materials	1a	1a		----------	
43.4 - 12					
Activity	1b	1b	PL(6)	1b	1b
Social Code	3a	3a		3a	3a
Materials	----------			----------	
44.1 - 2					
Activity	1a/3	1a/3	CD.a(11)	1a	1a/PL
Social Code	3a	3a		5a	5a
Materials	1g	1g		1gc	1gc
44.2 - 2					
Activity	1a/3	1a/3	PL(11)	1a	1a
Social Code	3a	3a		5a	5a
Materials	1g	1g		1gc	1gc
45.1 - 4					
Activity	2	1a/*AO/PA	PA(5)	2	2
Social Code	4a	1/4a		3b	3b
Materials	1g	1g		1g	1g
45.2 - 4					
Activity	PA/2	PA/1a	CD.a(5)	1a	3(SS)
Social Code	3b	1		2a	3b
Materials	1g	1g		1g	1g
45.3 - 4					
Activity	PA/2	PA/1a	SS(5)	3	3
Social Code	3b	2a		3b	3b
Materials	1g	1g		----------	

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
45.4 - 4					
Activity	3	3	CS(y)	3	3
Social Code	3a	3b		3b	3b
Materials	----------				
46.1 - 2					
Activity	3	3	PL(11)	3	3/1a
Social Code	3a	3a		3a	3a
Materials	----------			1cb	1cb
46.2 - 2					
Activity	1a	1a	SA(y)	1a	1a/CD.a
Social Code	2a	2a		3a	3a
Materials	1e	1e		1e	1e
46.3 - 2					
Activity	1a/SA(y)	1a	CD.a(11)	3	CS
Social Code	2a	2a		3a	3a
Materials	1e	1e		1e	1e
46.4 - 2					
Activity	3CD.a	3	CS(11)	1a/2	1a
Social Code	3a	3a		3a	3a
Materials	1e	1e		1d	1e
47.1 - 15					
Activity	1a/2	1a	CD.b(y)	1ca	2/CD.a
Social Code	3a	3a		5a	5a
Materials	1a/3e	1a		1a	1a/3e
47.2 - 15					
Activity	CD.b/2	1ca	CD.a(y)	1a	1a
Social Code	5a	5a		5a	5a
Materials	1a/3e	1a		1a	1a
48 - 1					
Activity	3	CS(G)	PL(4)	1a	1b
Social Code	3b	3a		1	1
Materials	--	--		1e	--
49.1 - 2					
Activity	1a/2	1b/2	CD.a(11)	1b	1a/5/CD.a
Social Code	3a	3a		3a	3a
Materials	1d	--/1d		1b	1b
49.2 - 2					
Activity	1a	1ab	CD.a(11)	1b/CD.a	1a/D
Social Code	3a	3a		3a	3a
Materials	1b	1b		----------	
49.3 - 2					
Activity	CD.a/1a	1b/CD.a	D(11)	1ba	1a/CD.a
Social Code	3a	3a		3a	1/3a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	----------			1g	1cg
49.4 - 2					
Activity	D/1a	1a	CD.a(11)	1bc	5/1a
Social Code	3a	3a		3a	3a
Materials	1g	1g		1g	1g
49.5 - 2					
Activity	1a/5	1b/3	CD.a(11)	3/1b	1a/D
Social Code	3a	3a		3a	3a
Materials	----------			--	1d
49.6 - 2					
Activity	1a/2	2/AO(y)	D(y)	NC/2	2/NC
Social Code	3a/2a	2c		2c	4a
Materials	1d	3e		3e	1d
49.7 - 2					
Activity	1a/2/D	NC/2	NC(y)	NC/2	NC/2
Social Code	4a	2a		2a	4a
Materials	1d	3e		3e	1d
50.1 - 11					
Activity	1a	--	CD.a(2)	1a/R	1a/HS
Social Code	2a	--		3a	3a
Materials	3d/1b	--		1a	1a
50.2 - 11					
Activity	CD.a/1a	1a/R	HA(2)	1a	1a/SA
Social Code	5a	5a		5a	5a
Materials	1a	1a		1a	1a
50.3 - 11					
Activity	1a/2	AO/CD.a	SA(2)	1a(14)	3/1b
Social Code	1/3a	3a		3a	3a
Materials	3dh	--		1c	1c
51.1 - 5					
Activity	1b	1a	AO(G)	--	1a/SS
Social Code	1	4a		--	1
Materials	2e	1e		--	1e
51.2 - 5					
Activity	1b	2	SS(1)	5	5
Social Code	1	3b		5a	5a
Materials	2e/3e	1g		2e/3e	2e/3e
52.1 - 17					
Activity	2	2	CD.a(y)	2	2/CD.a
Social Code	3a	3a		3a	3a
Materials	2d	2d		2d	2d
52.2 - 17					
Activity	2	2/3	CD.a(5)	NC/1c	1c

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	3b	3b		3b	3b
Materials	2d	2d		2d	2d
53 - 1					
Activity	2	2	CD.a(4)	2	3
Social Code	3a	3a		3a	3a
Materials	1hg	1g		1g	3e
54.1 - 3					
Activity	1ab	1a	R(o)	1a	1a
Social Code	3b	3b		3b	3b
Materials	3h	---		--	3h
55.1 - 14					
Activity	2	2	CD.b(17)	2	2SS
Social Code	2c	3a		2c	2c
Materials	2a	2a		2a	2a
55.2 - 14					
Activity	CD.b/2	2	SS(17)	2	2HS
Social Code	3a	3a		5a	5a
Materials	2a	2a		2a	2a
55.3 - 14					
Activity	SS2	2	HS(17)	2	2
Social Code	5a	5a		5a	5a
Materials	2a	2a		2a	2a
55.4 - 14					
Activity	HS/2	2	R(17)	2	2
Social Code	5a	5a		5a	5a
Materials	2a	2a		2a	2a
56 - 10					
Activity	1a	1a	HS(G)	R(o)	3
Social Code	5b	5b		5a	5d
Materials	3f	3f		--	--
57 - 3					
Activity	1a	1c	CD.b(G)	--	1a
Social Code	2c	3b		--	2c
Materials	3f	--		--	--
58.1 - 15					
Activity	6	6/2	CD.b(G)	6	R(o)
Social Code	2d	2d		2d/2b	2d/2b
Materials	--	4a		4a	--
58.2 - 15					
Activity	6/CD.b	6(G)	R(o)	2	3/R
Social Code	2d/2b	2d/2b		2d	2d/2b
Materials	----------			4a	--
58.3 - 15					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	6/R	2	R(o)	3(17)	2/3
Social Code	2d/2b	2d		3a	3a
Materials	--	4a		2c	2c
58.4 - 15					
Activity	4c	4c	R(o)	4c	4c/CD.b
Social Code	2d/2b	2d/2b		2db	2d/2b
Materials	-				
58.5 - 15					
Activity	4c	3	CD.b(8)	4c(G)	4c
Social Code	2db	3b		2db	2db
Materials					
59.1 - 16					
Activity	1a	1a/R	HA(1)	1a/R	1b
Social Code	3b	3b		3b	3b
Materials					
59.2 - 16					
Activity	2	2/AO	SA(1)	2	3
Social Code	3b	3b		3b	3b
Materials	2b	2b		2b	--
59.3 - 16					
Activity	1a	--	PL(15)	2(G)	1a/2
Social Code	1	--		3b	2c
Materials	--	--		4b	2b
60.1 - 9					
Activity	1a	1a	CD.a(14)	D/1a	1a
Social Code	3a	3a		3a	3a
Materials					
60.2 - 9					
Activity	1cb	1cb	CD.a(14)	1a	1a
Social Code	3a	3a		3a	3a
Materials					
61.1 - 3					
Activity			CD.a(15)	CD.a(G)	1c/RII
Social Code				3b	3b
Materials					
61.2 - 3					
Activity	CD.a(15)	CD.a(G)	RII(G)	HA	*HA/1c/CD.a
Social Code	3b	3b		5a	5b
Materials				--	3b
61.3 - 3					
Activity	RII	*CD.a	HA(G)	3	CD.a
Social Code	3b	3b		3b	3b
Materials	--	--		--	--

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
61.4 - 3					
Activity	1c/5	5	CD.a(G)	3(1)	3
Social Code	5b	5b		3a	3a
Materials	----------			----------	
61.5 - 3					
Activity	3	3(1)	R(o)	4b	1b
Social Code	3a	3a		5a	3b
Materials	--	--		4b	3h
62 - 1					
Activity	2/1b	6	CD.a(5)	4b	4b
Social Code	3b	2b		3a	3a
Materials	2b	--		4b	4b
63 - 11					
Activity	1b	R	SA(1)	4b	1b/2
Social Code	2c	3a		3a	2c
Materials	3d	4b		3d/4b	--/3d
64.1 - 5					
Activity	2	2/R	D(17)	R	CA/3
Social Code	2c	2c		4a	3a
Materials	2b	2b		2b	2b
64.2 - 5					
Activity	2	R	CA(17)	3	3
Social Code	2c	4a		3a	3a
Materials	2b	2b		2b	2b
65 - 4					
Activity	2	3/VA	VA(5)	3	2
Social Code	3b	3b/4a		3b	2c
Materials	2b	2b		2b	2b
66.1 - 11					
Activity	3/1a	4b/6	PL(3)	1a	1a
Social Code	3a/1	3ad/1		3a	3a
Materials	--	4b/--		----------	
66.2 - 11					
Activity	1b	1b	PL(3)	1a	1a
Social Code	2c	2c		3a	3a
Materials	----------			----------	
66.3 - 11					
Activity	PL/1a	1a	CD.a(3)	1b	3
Social Code	3a	3a		3a	3a
Materials	----------			----------	
66.4 - 11					
Activity	CD.a/3	1b	PL(3)	D	*CD.a/PL
Social Code	3a	3a		3a	3a
Materials	----------			1b	1b

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
66.5 - 11					
Activity	PL/1a	3	CD.a(3)	D	3/PL
Social Code	3a	3a		3a	3a
Materials	----------			1b	1b
67 - 4					
Activity	2/3	3(1)	HS(o)	--	1b
Social Code	3a	3a		--	2b
Materials	1b	--		----------	
68.1 - 5					
Activity	1a	--	PA(2)	--	1a/SS
Social Code	1	--		--	1
Materials	3d/1b	--		--	1b
68.2 - 5					
Activity	PA/1ca	1c	SS(2)	--	1a
Social Code	1/2c	2c		--	1/2d
Materials	1b	1b		--	1b
68.3 - 5					
Activity	1a	1c	CD.a(14)	1a	*AO/1c
Social Code	2c	2c		2c	2c
Materials	1b	1b		1b	1b
68.4 - 5					
Activity	1a/CD.a	1c	AO(14)	1a	1c
Social Code	2c	2c		2c	2c
Materials	1b	1b		1b	1b
69.1 - 2					
Activity	1bc	1c/D	NC(5)	1c	1ca/R(17)
Social Code	2c	4a		2c	3bd
Materials	1b	1b		1b	1b
69.2 - 2					
Activity	NC(5)1ca	1c	R(17)	1c	1ca
Social Code	3bd	2bc		2bd	3bd
Materials	1b	1b		1b	1b
69.3 - 2					
Activity	1a	3	CD.a(o)	3	3/5
Social Code	3db	3a		3a	3bd
Materials	1b	1b/3d		1b	1b/3d
70.1 - 11					
Activity	1a	1b	CD.a(3)	SA/1a	2/1a
Social Code	3a	3a		3a	1/3a
Materials	3h	3d		--	3dh
70.2 - 11					
Activity	1a	1a/R	HA(3)	1c	1c/2
Social Code	3a	3a		3a	3a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	3dh	--		1b	1b/3dh
70.3 - 11					
Activity	HA/2/1a	1c/R	CD.a(3)	1b	1b
Social Code	1/3a	3a		3a	3a
Materials	--/1b	1b		3b	3b
71.1 - 5					
Activity	2/1a	2	VA(1)	1b	AO/PA
Social Code	3b	3b		4a	4b
Materials	1e	1e		--	1e
71.2 - 5					
Activity	2VA(1)	2/1a	AO(1)	AO(4)	PA(4)
Social Code	4b	4a		4a	4a
Materials	1e/3d	1e		3d	1e
71.3 - 5					
Activity	AO(1)	AO(4)	PA(4)	--	1a/VA
Social Code	4a	4a		--	1/4a
Materials	1e	--		--	1e
71.4 - 5					
Activity	PA/1a	1b	VA(1)	VA/PA/1a/AO	1a/VA/AO
Social Code	4a/1	4a		4a	4a
Materials	1e	--		--/1e/--	1e
71.5 - 5					
Activity	1a/VA	1b	VA(1)	VA/PA/1a/AO	1a/AO
Social Code	4a	4a		4a	4a
Materials	1e	--		--/1e/--	1e
71.6 - 5					
Activity	VA/1a	VA/PA/AO	NC(1)	--	1a
Social Code	4a	4a		--	1
Materials	1e/--	--/1e		--	1e
71.7 - 5					
Activity	VA/1a	1a	VA(4)	--	1a
Social Code	4a/2a	4a		--	1
Materials	1e	1b		--	1b/1e
71.8 - 5					
Activity	VA/1a	--	VA(G)	--	3/1a
Social Code	4b/1	--		--	3d/1
Materials	1b	--		--	--/1b
72.1 - 1					
Activity	1b	*R	HA(3)	3	AO/HS/2
Social Code	3a	3a		3a	1/3b/1
Materials	--	--		--	--/3e
72.2 - 1					
Activity	HA(3)1b	--	AO(3)	3	HS(3)/1a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	1	--		3b	3b/1
Materials	--	--		--	5/1e
72.3 - 1					
Activity	AO(3)	3	HS(3)	--	1a
Social Code	3a	3b		--	1
Materials	5	--		--	1e
72.4 -1					
Activity	1a	3/1a	SA(16)	1a	1a
Social Code	3a	3a		5a	5a
Materials	1e	--/1e		1e	1e
73.1 - 16					
Activity	1a	1a	HS(1)	D(1->5)	3
Social Code	3b	3b		4a	3a
Materials	--	1e		1e	1e/--
73.2 - 16					
Activity	1a/3	1a	PL(G)	1a	HS/1a
Social Code	5a	5b		5a	5a
Materials	--	1e		1e	--
73.3 - 16					
Activity	1a	1a	HS(1)	1a	1a
Social Code	5a	5b		5b	5a
Materials	--	1e		1e	--
73.4 - 16					
Activity	1a	1a	HS(1)	1a	1a
Social Code	2c	3b		3b	3b
Materials	1b	1e		1e/--	1e/--
73.5 - 16					
Activity	1b	1a	SS(1)	--	1a/1b
Social Code	1	2a		--	1/3b
Materials	1e/3e	--		--	--
73.6 - 16					
Activity	1a/AO(1)	PA(5)	T(5)	1a	1a
Social Code	3b	4a		4a	4a
Materials	--	--		----------	
74.1 - 11					
Activity	1c	R	D(2)	--/1c	1a/AO
Social Code	2c	3b		--/3b	1/2c
Materials	1b	1b/3h		1b/3h	1b/3h
74.2 - 11					
Activity	1c/D	R	AO(2)	3HS	1b/DO
Social Code	2c	3b		3b	2c
Materials	1b	1b/3h		1b	3h
74.3 - 11					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	AO/1b	3HS(2)	DO	--/3/R(2)	1b/3
Social Code	2c	3b		--/3b	1/3a
Materials	3h	1b		--/1b	3h/1b
74.4 - 11					
Activity	3/2	3	SS(2)	3/1a	CD.a/1a
Social Code	3a	3a		3a	3a
Materials	1b/3h	1b		3h	--
74.5 - 11					
Activity	SS/1a	1a	CD.a(2)	3/--	3/1b
Social Code	3a	3a		3b/--	3b/1
Materials	--	3h		3h/--	--/3h
75.1 - 9					
Activity	4a	AO/4a	D(3)	NC/4a	4a/PL
Social Code	2a	2a		5a	5a
Materials	4a	--		4a	4a
75.2 - 9					
Activity	4a/D	4a/NC	PL(3)	4a	4a
Social Code	4a	3a		5a	5a
Materials	4a	4a		4a	4a
76.1 - 8					
Activity	4b	4b	D(5)	4b/R	<-*4b/R
Social Code	2c	2c		2c/3b	2c/3b
Materials	4b	4b		4b	4b
76.2 - 8					
Activity	4b	4b	R(1)	4b	4b
Social Code	2c	2c		2c	2c
Materials	4b	4b		4b	4b
77.1 - 10					
Activity	1b	2	HS(G)	2	1ba
Social Code	3b	3b		3b	3b/1
Materials	3f	3f		3f	4b
77.2 - 10					
Activity	1b	--	SS(9)	3	CD.a/3
Social Code	2c/1	--		3a	3a
Materials	5	--		5/2d	2d
77.3 - 10					
Activity	SS/3	3	CD.a(9)	2	2
Social Code	3a	3a		3a	3a
Materials	2d	2d		2d	2d
78.1 - 1					
Activity	2	2	CD.b(3)	NC/2	2/PL
Social Code	3b	3b		3b	3b
Materials	3c	3c		3c	3c

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
78.2 - 1					
Activity	2CD.b	NC/2	PL(3)	2	2
Social Code	3b	3b		3b	3b
Materials	3c	3c		3c	3c
78.3 - 1					
Activity	2/3	2(G)	DO	2	2
Social Code	3b	3b		3b/4a	3b
Materials	3c	3c		3c	3c
78.4 - 1					
Activity	2/3	2	SS(G)	2	2
Social Code	3b	3b		3b	3b
Materials	3c	3c		3c	3c
79 - 9					
Activity	1a	1a	CD.a(10)	2	2
Social Code	3a	3a		3a	3a
Materials	----------			2a	2a
80.1 - 13					
Activity	3	3	PL(3)	1a	1a
Social Code	3b	3b		3b	3b
Materials	----------				
80.2 - 13					
Activity	3	3	CD.a(3)	1a	1ac
Social Code	3a	3a		3a	3a
Materials	--	3d		3d	--
81.1 - 13					
Activity	5	5	PAII(16)	5	5
Social Code	3b	3b		3b	3b
Materials	----------				
81.2 - 13					
Activity	5	5	PAII(16)	1ac	1ac
Social Code	5b	5b		3b	3b
Materials	----------				
81.3 - 13					
Activity	1ca	1a	CD.a(10)	1a	1aca
Social Code	3b	3b		3b	3b
Materials	----------				
81.4 - 13					
Activity	1c	1a	PA(3)	1a	1c
Social Code	2c	3b		3b	2c
Materials	----------				
82.1 - 13					
Activity	1a	1a	CD.a(3)	1ca	1a
Social Code	3a	3a		3a	3a
Materials	----------				

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
82.2 - 13					
Activity	1a/CD.a	1ca	PL(3)	1a	1ac
Social Code	3a	3a		3a	3a
Materials					
82.3 - 13					
Activity	1ac	1a	PA(3)	1ac	1ac
Social Code	3a	3a		3a	3a
Materials					
82.4 - 13					
Activity	1a	1a	PAII(3)	PAII/1a	1a
Social Code	3a	3a		5a	5a
Materials					
82.5 - 13					
Activity	PAII/1a	PAII/1a	CD.a(3)	1a	1a
Social Code	5a	5a		3a	3a
Materials					
82.6 - 13					
Activity	CD.a/1a	1a	PL(3)	1a	1a
Social Code	3a	3a		3a	3a
Materials					
83.1 - 12					
Activity	2	2	CD.a(2)	2	2/PL
Social Code	3b	3b		3b	3b
Materials	3c	3c		3c	3c
83.2 - 12					
Activity	2	2	PL(2)	1b	1b/D
Social Code	3b	3b		3a	3a
Materials	3c	3c		--	--
83.3 - 12					
Activity	2	2/SS	D(2)	2/D	2/DO
Social Code	3b	3b		4a	4a
Materials	3c	3c		3c	3c
83.4 - 12					
Activity	2/D	D(2)	DO	2	2
Social Code	3b/4a	3b/4a		2c	2c
Materials	3c	3c		3c	3c
83.5 - 12					
Activity	DO/2	2/AO	AO(7)	2	2
Social Code	2c	2c		2c	2c
Materials	3c	3c		3c	3c
84.1 - 7					
Activity	2	2	R(2)	2	2/AO(12)
Social Code	2c	2c		2c	2c
Materials	3c	3c		3c	3c

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
84.2 - 7					
Activity	2/R	2	AO(12)	2	2
Social Code	2c	2c		2c	2c
Materials	3c	3c		3c	3c
84.3 - 7					
Activity	2	2	R(12)	2(SA)	2
Social Code	2c	2c		2c	2c
Materials	3c	3c		3c	3c
85.1 - 8					
Activity	4a	4a/R	HA(y)	4a	4a/DO
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
85.2 - 8					
Activity	HA/4a	4a(y)	DO	4a	4a
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
85.3 - 8					
Activity	DO/4a	4a	HA(y)	4a	4a
Social Code	5a	5a		5a	5a
Materials	4a	4a		4a	4a
85.4 - 8					
Activity	DO/4a	4a/2	NC(y)	NC/2	4a/CD.a
Social Code	3a	3a		3a	3a
Materials	4a	4a/3c		4a/3c	4a
85.5 - 8					
Activity	NC(y)/4a	NC/2	CD.a(y)	1b	1b
Social Code	3a	3a		3a	3a
Materials	4a	4a/3c		----------	
86 - 13					
Activity	2/3	2/3	CD.a(G)	2/3	2/3
Social Code	3b	3b		3b	3b
Materials	2d	2d		2d	2d
87.1 - 1					
Activity	1a/4c	1a/4c	PL(17)	1a	1a/HS
Social Code	3a	3a		3a	3a
Materials	----------				
87.2 - 1					
Activity	1a	1a/2	HS(17)	--	1a/AO(3)
Social Code	3a	3a		--	1
Materials	----------				
87.3 - 1					
Activity	1a	2	AO(G)	R(4)	D/SS
Social Code	1	3b		4a	4a/3d

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	-	3c		3c	3c
87.4 - 1					
Activity	AO/D/3	R	SS(4)	2	2
Social Code	4a/3d	4a		3a	3a
Materials	3c	3c		3c	3c
87.5 - 1					
Activity	SS/2	2	SS(4)	2/1a	2/1a
Social Code	3a	3a		3a/5a	3a/5a
Materials	3c	3c		3c/--	3c/--
88.1 - 4					
Activity	2	2	SS(1)	2/5	2
Social Code	1/2a	2a		2a	4a
Materials	3c	3c		3c	3c
88.2 - 4					
Activity	2	2	D(1)	D	NC
Social Code	2a	2a		4a	4a
Materials	3c	3c		3c	3c
88.3 - 4					
Activity	2/D	2/D	NC(1)	2	*SA
Social Code	4a	4a		3a	3a
Materials	3c	3c		3c	3c
88.4 - 4					
Activity	2/D	2/D	SA(1)	2/3	2/3
Social Code	4a	4a		3a	3a
Materials	3c	3c		3c	3c
88.5 - 4					
Activity	2/SA	2	CD.a(1)	2	2
Social Code	3a	3a		3a	3a
Materials	3c	3c		3c	3c
89.1 - 17					
Activity	2/3	1a/DO	PA(5)	2(G)	2
Social Code	5b	4a		5b	5b
Materials	2a	--		2a	2a
89.2 - 17					
Activity	2/3	3	CD.b(13)	2	2
Social Code	5b	3b		5b	5b
Materials	2a/3f	--		3f	3f
89.3 - 17					
Activity	2	1a/DO	CD.b(1)	DO	VA
Social Code	5b	2c		2c	4a
Materials	3f	3f		3f	3f
89.4 - 17					
Activity	2	1a/DO	VA(1)	1a/DO	PA

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	5b	2c		2c	4a
Materials	3f	3f		3f	3f
89.5 - 17					
Activity	VA	1a/DO	PA(1)	2(G)	2
Social Code	4a	2c		5b	5b
Materials	3f	3f		3f	3f
90.1 - 14					
Activity	2	1a	SS(12)	2/1b	1a/1b
Social Code	2c	2c		2c/3a	2c/3a
Materials	3d	1b		3d/1c	1b/1c
90.2 - 14					
Activity	3	3	CD.a(13)	NC	AO
Social Code	3a	2c		2c	4a
Materials	3d	1d		1d	3d
90.3 - 14					
Activity	CD.a	NC	AO(13)	NC	1b(12)
Social Code	3b	2c		2c	3a
Materials	3d	1d		1d	3d
91.1 - 15					
Activity	2/5	AO	D(5)	NC	NC
Social Code	3b	4a		4a	4a
Materials	3a	3a		3a	3a
91.2 - 15					
Activity	D	NC	NC(5)	--	2
Social Code	4a	4a		--	1
Materials	3a	3a		--	3a
91.3 - 15					
Activity	D/NC/2	*AO/3	VA(5)	DO	CD.b
Social Code	4a/1	3a		4a	4a/3a
Materials	3a	3a		3a	3a
91.4 - 15					
Activity	VA	DO	CD.b(5)	DO	1b -
Social Code	4a	4a		2a	2a/1
Materials	3a	3a		3a	3a/--
92.1 - 16					
Activity	3	2	PL(G)	2	2
Social Code	3b	3b		5a	5a
Materials	--	2c		2c	2c
92.2 - 16					
Activity	3/2	3/R	SA(y)	2	2
Social Code	3b	3b		3b	3b
Materials	2c	---		2c	2c
92.3 - 16					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	2	2	PL(G)	1b(17)	R(17)
Social Code	3b	3b		2c	3b
Materials	2c	2c		5	--
92.4 - 16					
Activity	PL/3	1b	R(17)	NC	R
Social Code	3b	2c		2c	3b
Materials	--	5		5	--
92.5 - 16					
Activity	R	NC	R(17)	NC	1b/4a
Social Code	3b	2c		2a	2a/2bc
Materials	--	5		5	--/4a
92.6 - 16					
Activity	1b/4a	NC/4a	R(17)	NC	3
Social Code	1/2bc	2bc		2bc	2bc
Materials	4a	5/4a		5	--
93.1 - 3					
Activity	3	5	AO(5)	NC/5	2
Social Code	3a	3b		3b	2b
Materials	3d	3f		3f	3d/2a
93.2 - 3					
Activity	AO(5)/2	2	AO(y)	R/2	2
Social Code	3a/2c	3b		3b	2c
Materials	3d/2a	3a		3a	3d/2a
93.3 - 3					
Activity	AO/2	R	PA(15)	--	6
Social Code	2c/3b	3b		--	1
Materials	3d/2a	---		--	3d
93.4 - 3					
Activity	1b	5	CD.a(14)	D	NC/AO
Social Code	3a	3a		3a	3a
Materials	3d	3f		3f	3d
93.5 - 3					
Activity	1CD.a	D	NC(14)	NC	AO/5
Social Code	3a	3a		3a	3a
Materials	3d	3f		3f	3d/3a
93.6 - 3					
Activity	1b/CD.a	NC	AO(14)	3	5
Social Code	3a	3a		3a/2c	3a/2c
Materials	3d	3f		--	3f/3d
94.1 - 17					
Activity	2	2	D(16)	NC/2	2/NC
Social Code	2a	2a		2a	2a
Materials	2a	2a		2a	2a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
94.2 - 17					
Activity	2/D	2/NC	NC(16)	2	2/DO
Social Code	2a	2a		2a	4a
Materials	2a	2a		2a	2a
94.3 - 17					
Activity	2/D	2/NC	DO	2	2
Social Code	2a	2a		2a	2a
Materials	2a	2a		2a	2a
95.1 - 14					
Activity	4a	6	CD.a(17)	4a	4a
Social Code	2c	2c		3a	3a
Materials	4a	4a		4a	4a
95.2 - 14					
Activity	1b	2	CD.b(G)	D	T
Social Code	1/3b	3b		4a	4a
Materials	--	2d		2d	--
95.3 - 14					
Activity	CD.b	D	T(15)	3	1a
Social Code	4a	4a		3b	3b
Materials	--	2d		----------	
95.4 - 14					
Activity	6/3	6/3	D(15)	3	PA
Social Co.	2d/3b	2d/3b		2d	2d/4a
Materials	----------				
95.5 - 14					
Activity	3/D	3	PA(15)	6	6
Social Co.	2d/4a	2d		2d	2d
Materials	----------				
96.1 - 4					
Activity	2/3	2	PA(17)	2	2/3
Social Code	3a	3a		4a	3a
Materials	2d	2d		2d	2d
96.2 - 4					
Activity	2/3	2/3	R(17)	2	2
Social Code	3a	3a		3a	3a
Materials	2d	2d		2d	2d
97.1 - 5					
Activity	2/1a	3	CD.a(G)	D(14)	1b
Social Code	2c	3b		4a	2c
Materials	3f	3f/4b		3f/4b	3f
97.2 - 5					
Activity	2/1a	CD.b	D(14)	PA	CD.b/NC
Social Code	2c	4a		4a	2a
Materials	2b/3f	3f/4b		3f/4b	2b/3f

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
97.3 - 5					
Activity	2/1a/D	CD.b/PA	CD.b(14)	3	NC/2
Social Code	2a	4a		4a	4a
Materials	2b/3f	3f/4b		3f/4b	2b/3f
97.4 - 5					
Activity	CD.b	*PA/CD.b	NC(14)	--	2/CD.a
Social Code	4a	4a		--	2c
Materials	2b/3f	3f/4b		--	2b/3f
97.5 - 5					
Activity	NC/2	--	CD.a(14)	1a/CD.a	1a/NC
Social Code	4a/2c	--		3a	3a
Materials	2b/3f	--		3f	3f
97.6 - 5					
Activity	CD.a/1a	1a/CD.a	NC(14)	1a	1a
Social Code	3a	3a		3a	3a
Materials	3f	3f		3f	3f
97.7 - 5					
Activity	2	1b	CD.a(14)	1b	CD.a(G)/SA
Social Code	3a	3a		3b	3b
Materials	2b/3f	--		3f	3f
97.8 - 5					
Activity	2/CD.a	1b	SS(G)	1b	CD.a(G)/SA
Social Code	2c	2c		3b	3b
Materials	3f	--		3f	3f
97.9 - 5					
Activity	SS(14)	R(G)	CD.a(G)	3	3
Social Code	3b	2c		3b	3b
Materials	3f	--		3f	3f
97.10 - 5					
Activity	CD.a(G)	1b/R	SA(9)	3	3
Social Code	3b	2c		3b	3b
Materials	3f	--		3f	3f
98.1 - 15					
Activity	5	1b	CD.b(14)	5(16)	5
Social Code	2c	4a		3a	3a
Materials	3f	3f		3f	3f
98.2 - 15					
Activity	5	5	PL(16)	5	CD.b
Social Code	3a	3a		3a	3a
Materials	3f	3f		3f	3f
98.3 - 15					
Activity	PL/5	5	CD.b(16)	5	5
Social Code	3a	3a		3a	3a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	3f	3f		3f	3f
98.4 - 15					
Activity	5	1a	CD.a(14)	1a	5
Social Code	2c	3b		3b	2c
Materials	3f	3f		3f	3f
99.1 - 3					
Activity	1a/5	R	SA(y)	R	R(5)
Social Code	3b	2a		3a	3b
Materials	3a	--		3a	3a
99.2 - 3					
Activity	SA(y)	2	R(5)	NC	PA
Social Code	3b	2c		2c	4a
Materials	3a	3ad		3ad	3a
99.3 - 3					
Activity	R	2/NC	PA(5)	NC	CD.a
Social Code	3b	2c		4b	4a
Materials	3a	3ad--		3ad	3a
99.4 - 3					
Activity	PA	NC	CD.a(5)	NC	PA
Social Code	4a	4b		4b	4a
Materials	3a	3ad		3ad	3a
99.5 - 3					
Activity	PA	NC	PA(5)	R(y)	SA
Social Code	3a/4a	4b		2c	2a
Materials	3a	3d		3a	3a
99.6 - 3					
Activity	PA(5)	R(y)	SA(y)	5(y)	5/TII
Social Code	4a/2a	2c		5a	5a
Materials	3a	3a		3a	3a
99.7 - 3					
Activity	SA(y)/5	5	TII(y)	5	5
Social Code	5a	5a		5a	5a
Materials	3a	3a		3a	3a
99.8 - 3					
Activity	5	2/R	CD.b(y)	--	1b
Social Code	5a	2a		--	1
Materials	3a	3a		--	--
99.9 - 3					
Activity	CD.b/1b	*R/2	PA(y)	2	2
Social Code	4a/2a	2a		2a	2a
Materials	3a	3a		3a	3a
100.1 - 15					
Activity	1a/3	3	PL(G)	1a/3	1a/3

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	3b	3b		3b	3b
Materials	3f	3f		3f	3f
100.2 - 15					
Activity	1a/3	1a/3	PL(G)	1a/3	1a/3
Social Code	3b	3b		3b	3b
Materials	3f	3f		3f	3f
101.1 - 4					
Activity	1a	2	CD.a(17)	R	1bR(5)
Social Code	2c	2c		3a	3a
Materials	2b	2b		2b	--
101.2 - 4					
Activity	CD.a(17)	R	R(5)	4b	R(G)
Social Code	3a	3a		2c	2c
Materials	2b	2b		4b	4b
101.3 - 4					
Activity	R(5)	4b	R(G)	2	2
Social Code	2c	2c		2c	2c
Materials	--	4b		3a	3a
102.1 - 16					
Activity	4b	4b/AO	R(5)	4b	4b/SS
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.2 - 16					
Activity	4b/R	*AO/4b	SS(5)	4b	4b
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.3 - 16					
Activity	4b	4b	R(5)	AO	NC/R
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.4 - 16					
Activity	R	AO	NC(5)	4b	4b/CD.a
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.5 - 16					
Activity	NC/4b	4b	CD.a(5)	4b	4b/R
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.6 - 16					
Activity	CD.a/4b	4b	R(5)	4b	4b/SS
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.7 - 16					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	R/4b	4b	SS(5)	4b	3/5
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
102.8 - 16					
Activity	1ac	--	CD.a(G)	1c	1c
Social Code	1/2c	--		3b	3b
Materials	--/3f	--		3f	3f
103.1 - 17					
Activity	2	2	R(16)	SA	1c
Social Code	2c	2c		2c	2c
Materials	--	3a		--	3a/3f
103.2 - 17					
Activity	2	CD.a(3)	DO	--	2
Social Code	2c	3a		--	1
Materials	3a	--		--	2a
104.1 - 14					
Activity	2	2	SS(16)	2	2/SA
Social Code	3a	3a		3a	3a
Materials	2e	2e		2e	2e
104.2 - 14					
Activity	SS/2	2/R	SA(16)	2	3/1b
Social Code	3a	3a		3a	3a/1
Materials	2e	2e		2e	2e
105.1 - 15					
Activity	2	2	CD.a(16)	2	2
Social Code	3b	3b		3b	3b
Materials	3a	3a		3a	3a
105.2 - 15					
Activity	2	2/R	D(4)	NC	2
Social Code	2c	3b		3b	2c
Materials	3c	--		3c	3b
105.3 - 15					
Activity	2	6	SS(3)	3	3/HS
Social Code	2c	2c		3a	3a
Materials	3b	--		3b	3b
105.4 - 15					
Activity	SS/3	3/2	HS(3)	1b	5
Social Code	3a	3a		3b	3b
Materials	3b	3b		3b	3b
105.5 - 15					
Activity	HS/2	2	CD.a(3)	3	1b/3
Social Code	5a	5a		3b	3b
Materials	3b	3b		3b	3b

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
105.6 - 15					
Activity	1b/3	3/5	TII(G)	3	CD.a/PL
Social Code	3b	3b		3b	3b
Materials	3b	3b		3b	3b
105.7 - 15					
Activity	TII(G)	3	CD.a(3)	5	5/PL
Social Code	3b	3b		3b	3b
Materials	3b	3b		3b	3b
105.8 - 15					
Activity	CD.a	3	PL(3)	5	5(TII)
Social Code	3b	3b		3b	3b
Materials	3b	3b		3b	3b
105.9 - 15					
Activity	TII/PL	3/5	TII(G)	3	3
Social Code	3b	3b		3b	3b
Materials	3b	3b			
106 - 4					
Activity	1c	2	CD.b(17)	2	1c/2
Social Code	3b	2c		2c	2c
Materials	3b	3b		3b	3b
107.1 - 16					
Activity	1a	1c/PA	NC(1)	1c	1a
Social Code	3a	3a		3a	3a
Materials	3b	1g/3b		1g/3b	3b
107.2 - 16					
Activity	1a	1c(1)	R(5)	1b	1b/2
Social Code	3a	3a		2c	2c
Materials	3b	1g/3b		3b	3b
107.3 - 16					
Activity	2	2	HS(1)	2	2
Social Code	3a	3a		5a	5a
Materials	3b	1g		1g	1g
107.4 - 16					
Activity	HS/1a	1a	PL(4)	1c/R(1)	NC
Social Code	5a	5a		4b	5a
Materials	1g	1g		1g	1g
107.5 - 16					
Activity	PL/1a	1c/R	NC(1)	1c	1a/CD.a
Social Code	5a	3b		4b	5a
Materials	1g	1g		1g	1g
107.6 - 16					
Activity	NC/1a	1a	CD.a(4)	1a	1a
Social Code	5a	5a		5a	5a
Materials	1g	1g		1g	1g

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
108.1 - 5					
Activity	5/1a	1c	PA(3)	3	1b/2
Social Code	2a	2a		4a/3d	1/3a
Materials	3a	3a		3a	3a/3b
108.2 - 5					
Activity	1b	2	AO(17)	D	CD.a/3/2
Social Code	1	1		4a	3a
Materials	3b	3b		--	3b
109 - 15					
Activity	AO/3	2	CD.a(17)	3	2/HS
Social Code	3a	1		3a	3a
Materials	3b	3b		--	3b
110.1 - 5					
Activity	AO/2	D	HS(17)	2	2/HS
Social Code	3a	4a		5a	5a
Materials	3b	3b		3b	3b
110.2 - 5					
Activity	HS/2	2	HS(17)	4b(4)	CD.a/1a/3
Social Code	5a	5a		3bd	2bc
Materials	3b	3b		4b	--
110.3 - 5					
Activity	3	4b(4)	CD.a(G)	4b	3
Social Code	2bc	3bd		3bd	2bc
Materials	--	4b		4b	--
111.1 - 15					
Activity	3	2/3	CD.a(G)	2/3	1a/3
Social Code	3b	3b		3b	1/3b
Materials	3a	3a		3a	3a
111.2 - 15					
Activity	CD.a(G)	2/3	CD.a(14)	3	2
Social Code	3b	3b		3a	3a
Materials	3a	3a		3a	3a
111.3 - 15					
Activity	2/3	2	R(3)	1b/3	3/5
Social Code	3a	3b		3a	3a
Materials	3a	2c		3a	3a
111.4 - 15					
Activity	2/3/5	1b	TII(y)	3	5
Social Code	3b	2c		3b	3b
Materials	3a	3a		3a	3a
112.1 - 14					
Activity	1a	1b/R	CD.b(y)	6	DO
Social Code	3a	2c		2c	4a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	3a	--		--	3a
112.2 - 14					
Activity	2/CD.b	2/R	DO	NC	1b
Social Code	3a/4a	2c		3d	1
Materials	3a	--		3a	--
113.1 - 1					
Activity	3	3	PA(5)	R(a)	3
Social Code	3b	3b		4a	5da
Materials	3b	3b		3b	3b
113.2 - 1					
Activity	5	5	CD.a(17)	5	5
Social Code	3a	3a		3a	3a
Materials	3b	3b		3b	3b
113.3 - 1					
Activity	5/1b	--	SS(3)	3	3/SS
Social Code	3a/1	--		3b	3a
Materials	3b	--		3b	3b
113.4 - 1					
Activity	SS/3	3	SS(3)	3	CD.a(15)/1b
Social Code	3b	3b		3b	3b/1
Materials	3b	3b		3b----------	
113.5 - 1					
Activity	3	3	CD.a(15)	--	1b
Social Code	3b	3b		--	1
Materials	3b	3b		--	--
113.6 - 1					
Activity	5	5	CD.a(4)	5	5
Social Code	3b	3b		3b	3b
Materials	3b	3b		3b	3b
113.7 - 1					
Activity	5	5	CD.b(G)	3/2	3/2
Social Code	3b	3b		3b	3b
Materials	3b	3b		2e	2e
113.8 - 1					
Activity	CD.a(SG)	3/2	PL(G)	2	2
Social Code	3b	3b		3b	3b
Materials	--	--		2e	2e
114.1 - 4					
Activity	2/3	2	SS(1)	2	AO(15)/2
Social Code	2d/1/3a	2d		2d	2d
Materials	2e	2e		2e	2e
114.2 - 4					
Activity	2/SS	2	AO(15)	3	2/3/RII

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	2d/3a	2d		4a	3a/2d
Materials	2e	2e		2e	2e
114.3 - 4					
Activity	2	2/SS	RII(17)	2/1a	2a
Social Code	2d	3a/2d		3b/2d	2d
Materials	2e	2e		2e	2e
114.4 - 4					
Activity	3/2	2/CD.b	SS(1)	2	2
Social Code	2d	2d		2d	2d
Materials	2e	2e		2e	2e
115.1 - 3					
Activity	1a	*1a/R	SA(14)	1a	1a/R
Social Code	5a	5a		5a	5a
Materials	3f	3f		3f	3f
115.2 - 3					
Activity	SA/1a	1a	R(14)	1a	1a
Social Code	5a	5a		5a	5a
Materials	3f	3f		3f	3f
116 - 17					
Activity	2	2/R	SA(16)	2	2
Social Code	2c	2c		3a	3a
Materials	2a	2a		2a	2a
117.1 - 16					
Activity	5	5	TII(G)	PAII(5)	2HS/PAII(8)
Social Code	3b	3b		3b	3b/5b
Materials	--	---		--	--/1g
117.2 - 16					
Activity	5	5/1c	HS(5)	5/1c	3/PAII(8)
Social Code	3b	3b		5b	5a/3b
Materials	--	1g		1g	1g/--
117.3 - 16					
Activity	5HS/2	--	PAII(8)	5/1c	CD.a(5)/5
Social Code	5b/2a	--		3b	3a/1
Materials	1g	--		1g	--
117.4 - 16					
Activity	5	5	TII(5)	--	2/1a
Social Code	3b	3b		--	2c
Materials	----------			--	2a/--
118 - 5					
Activity	1bc(16)	1c	PA(14)	2(G)	CD.b/1c
Social Code	3a	3b		3b	4b
Materials	--	--		1g/--	1g

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
119.1 - 6					
Activity	2	2/R	HA(14)	2	2/CD.b(5)
Social Code	5a	5a		5a	5a
Materials	2a	2a		2a	2a
119.2 - 6					
Activity	CD.b/2	2	HS(G)	--	2/4c
Social Code	5b	5b		--	2c
Materials	2a	2a		--	3d
120 - 7					
Activity	1a	2/R	SA(12)	1a	1a
Social Code	5b	5b		3b	3b
Materials	1a	1a		1a	1a
121 - 6					
Activity	1a	1ab	CS(12)	1a	1a
Social Code	3b	3b		3b	3b
Materials	1b	1b		1c	1c
122 - 4					
Activity	CD.b	2	TII(G)	5	5
Social Code	3a/4a	2c		3b	3b
Materials	3f/1f	3f		3f	1f
123.1 - 5					
Activity	2	1b	AO(16)	R	CA/3/1b
Social Code	2c	2c		4a	3a
Materials	3d	3h		--	3d/3h
123.2 - 5					
Activity	AO	R	CA(16)	1b	1b/CS
Social Code	3a	4a		2a	3a
Materials	3d/3h	--		3h	3d
123.3 - 5					
Activity	AO/CA/1b	1b	CS(16)	--	1b
Social Code	3a	2a		--	1
Materials	3d/3h	3h		--	3d/3h
123.4 - 5					
Activity	1b/2	3/2	AO(16)	D/2	D/2
Social Code	3a	3a		4a	4a
Materials	4b	4b		4b	4b/2a
124 - 15					
Activity	3	3	SS(1)	R(o)	3/1b
Social Code	3b	3b		3b	3b/3d
Materials	2b	2b		2c	--
125 - 2					
Activity	6	3	AO(3)	NC	6/1b
Social Code	2c	2c		4a	2cb
Materials	--	3d		3d	--

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
126.1 - 8					
Activity	1b/CD.a	3	TII(15)	PA	*PA
Social Code	2c	3b		4a	4a
Materials	--/3a	--		--/3a	3a
126.2 - 8					
Activity	TII	3	PA(15)	PA/1b	2
Social Code	4a	3b		4a/2c	2c
Materials	3a	--		3a	3a
126.3 - 8					
Activity	2	--	DO	1ca	1ca
Social Code	1	--		3a	3a
Materials	3a	--		----------	
127 - 4					
Activity	1a	1b	SA(8)	1b	1a
Social Code	3b	2c		2c	3b
Materials	1e	--		--	1e
128.1 - 17					
Activity	1ab	2	AO(y)	3	CA
Social Code	3b/1	1		4a	3a
Materials	--	3h		--	3h
128.2 - 17					
Activity	AO	3	CA(y)	1b	1b
Social Code	3a	4a		2c	2c
Materials	3h	--		3h	--
128.3 - 17					
Activity	1b		PA(15)		2
Social Code	2c				1
Materials	--				2d
128.4 - 17					
Activity	1a	1a/R/PA	VA(8)	1a	PA
Social Code	2c	2c		4a	4a
Materials	1b	1b		1b	1b
128.5 - 17					
Activity	VA/1a	1a	PA(8)	1a	1a/PA
Social Code	4a	4a		2a	4a
Materials	1b	1b		1b	1b
129 - 16					
Activity	PL/1a	1a(5)	PA(o)	1a	1a
Social Code	5a	5a		5a	5a
Materials	1b	1b		1b	1b
130.1 - 5					
Activity	1a	1a	PA(16)	--	1a
Social Code	3a	3a		--	1

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	1b	1b		--	1b
130.2 - 5					
Activity	1a	1c	PA(4)	R(16)/1a	HA/1a
Social Code	2c	1		5a	5a
Materials	--	1b		1b	1b
130.3 - 5					
Activity	PA(4)	R	HA(16)	--	1b/HS
Social Code	4a	3a		--	1/5b
Materials	1b	1b		--	--
130.4 - 5					
Activity	HA(16)1b	1a	HS(G)	1a	1b/PA(1)
Social Code	5a/1	3b		3b	1/4a
Materials	1b/--	1a		1a/3d	--
130.5 - 5					
Activity	1b	1c	PA(y)	NC/1c	CD.a
Social Code	1	1		4b	4a
Materials	--	1b		1b	--
131 - 17					
Activity	3	2	AO(y)	1a	1a
Social Code	3a	3a		3a	3a
Materials	--	3h		--	3h
132 - 1					
Activity	PL/3	3	SS(G)	3	5/PL
Social Code	3b	3b		3b	3b
Materials	---------			----------	
133.1 - 9					
Activity	2	2	SA(15)	2	2
Social Code	3b	3b		3b	3b
Materials	3c	3c		3c	3c
133.2 - 9					
Activity	2	2/SS(8)	SS(15)	2	2
Social Code	3b	3b		3b	3b
Materials	3c	3c		3c	3c
134.1 - 15					
Activity	2/CD.b	1a/R	SA(5)	--	2
Social Code	4a	4a		--	2c
Materials	3a	--		--	3a
134.2 - 15					
Activity	2	2	HS(1)	--	1b
Social Code	2c	3b		--	3b
Materials	3a	3h		----------	
135.1 - 8					
Activity	2	2/DO	VA(14)	T	3/2

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	2c	2c		4a	4a/3d
Materials	3d	3d		3d	3d
135.2 - 8					
Activity	2	2/R	HA(3)	2/R(14)	2HA
Social Code	2c	2c		2c/3b	5a
Materials	3d	3d		3d	3d
135.3 - 8					
Activity	HA(3)/2	2/R(14)	HA(14)	2	2/1c
Social Code	5a	3b		3b	2c/3a
Materials	3d	3d		3d	3d/--
136.1 - 1					
Activity	3	3	HS(G)	HS/2	HS/2
Social Code	3bd	3bd		5b	5b
Materials	---			3g	3g
136.2 - 1					
Activity	2/HS	2/HS	HS(G)	1c	1ca
Social Code	5b	5b		2d	2d/1
Materials	3g	3g		---	
137.1 - 4					
Activity	2D/	AO	PA(1)	PA/AO	NC/CD.a
Social Code	4a	4a		4a	4a
Materials	2a	2a		2a	2a
137.2 - 4					
Activity	2	PA	PA(5)	NC	T/VA
Social Code	4a	4a		4a	4a
Materials	2a	--		--	2a
137.3 - 4					
Activity	PA	*PA/NC	T(5)	NC	VA
Social Code	4a	4a		4a	4a
Materials	2a	--		--	2a
137.4 - 4					
Activity	PA/T	*PA/NC	VA(5)		
Social Code	4a	4a			
Materials	2a	--			
138 - 4					
Activity	2	2	SA(15)	2/AC	2/CD.b
Social Code	2a	2a		2a	2a/4a
Materials	3d	3d		3d	3d
139.1 - 5					
Activity	2	2/R	HA(16)	3/2	3/2
Social Code	1	1/3a		5a	5a
Materials	2a	3h		3d	3d
139.2 - 5					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	3/2	3/2	SS(16)	3	PL/4b(SS)
Social Code	5a	5a		3a	3a
Materials	3d	3d		3f	4b/2a
139.3 - 5					
Activity	PL/4b	4b	SS(16)	4b	4b
Social Code	3a	3a		3a	3a
Materials	4b/2a	4b		4b/2a	4b
139.4 - 5					
Activity	4b	1b	AO(15)	--	4b
Social Code	2a	2a		--	2a
Materials	4b	4b		--	4b
140 - 16					
Activity	2	R	SA(5)	2	2/1b
Social Code	1/2a	3a		3a	3a
Materials	4b	--		4b	3f
141.1 - 8					
Activity	2	3	CS(9)	3	3/HS
Social Code	2a	2ab		3ad	3ad
Materials	4b	--		--	--
141.2 - 8					
Activity	CS/3	3	HS(9)	3	3
Social Code	3ad	3ad		3ad	3ad
Materials	----------				
142.1 - 13					
Activity	4a	3	VA(5)	R(9)	4a
Social Code	3b	3b		3b	3b
Materials	4a	--		--	4a
142.2 - 13					
Activity	4a/CD.a	R	HA(9)	3	3
Social Code	3b	3b		3b	3b
Materials	4a	--		--	--
143 - 1					
Activity	2	2	DO	2/DO/3	2/3
Social Code	3a	3a		3a	3a
Materials	3h	3h		3h/-	5
144 - 13					
Activity	1cb	3	PA(8)	CD.a/3(10)	1c/2
Social Code	3a/1	4a		3a	3a
Materials	----------			--	3h
145.1 - 13					
Activity	5	5/CD.a	HAII(8)	5CD.a	5HAII
Social Code	5a	5a		5a	5a
Materials	3f	3f		3f	3f

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
145.2 - 13					
Activity	HAII/5	5/CD.a	HAII(8)	5/CD.a	R(TII)
Social Code	5a	5a		5a	5a
Materials	3f	3f		3f	3f
145.3 - 13					
Activity	HAII/R	5/R	TII(8)	5	5
Social Code	5a	5a		5a	5a
Materials	3f	3f		3f	3f
146 - 14					
Activity	1b	5/R	HA(G)	5	1b/R
Social Code	2c	5b		5b	2c
Materials	--	3a		3a	--
147 - 12					
Activity	1a	1a	HS(6)	3	3
Social Code	3b	3b		3b	3b
Materials	1bc	1bc		1c	1c
148 - 7					
Activity	1a	1a	HS(G)	1a	1a
Social Code	3b	3b		3b	3b
Materials	1a	1a		--	--
149 - 6					
Activity	1a	2	AO(y)	R	2
Social Code	1	1		4a	2a/1
Materials	--	1f		--/1f	1f/1c
150.1 - 6					
Activity	1a	1a/HS	SS(2)	1a/5	1a/5
Social Code	3b/3a	3a		5a	5a
Materials	1a/2a	1a/3d		1a/2a	1a/2a/3d
150.2 - 6					
Activity	1a/CD.b	6/HS/1a	PA(10)	NC	CD.b/PA
Social Code	4a	2c		2c	4a
Materials	1a/2a	--		--	1a/2a
150.3 - 6					
Activity	PA/CD.b	DO	PA(10)		
Social Code	4a	4a			
Materials	1a	--			
151 - 1					
Activity	1c	2R(4)	DO	--	1c
Social Code	2a/3a	2a/3a		--	1
Materials	1g	1g		--	1g
152 - 8					
Activity	2	2	HS(y)	2	2
Social Code	3b	3b		3b	3b
Materials	2a	2a		2a	2a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
153 - 2					
Activity	2	3/R	HA(8)	CD.a/5	5
Social Code	2c	2c		5b	5b
Materials	3a	3a		3a	3a
154 - 17					
Activity	2	2	PA(5)	3	2
Social Code	3a/4a	2c		4b/3d	2cb
Materials	2d	2d		2d	2d
155 - 14					
Activity	5	5	SSII(2)	5	5
Social Code	5b	5b		5b	5b
Materials	3a	3a		3a	3a
156 - 4					
Activity	2	2	HS(G)	2/CD.b(1)	2(NC)
Social Code	5b	5b		5b/3b	5b/3b
Materials	2d	2d		2d	2d
157 - 2					
Activity	5	5/R	SA(14)	5	5
Social Code	3a	3a		3a	3a
Materials	3d/2a	2a		3d	--
158.1 - 1					
Activity	5/2/1b	2R	HA(17)	1b/HA	*R/2/5
Social Code	5b/1	1		5a	5a
Materials	3a/--	2a		--	3a/3h
158.2 - 1					
Activity	5/1c	1b/R	HA(G)	2	2
Social Code	3a	3b		3b	3b
Materials	3a	--		3a	3a
159 - 3					
Activity	2/4c	5/R	HA(4)	5	4c/3
Social Code	2a	2a		5a	5a
Materials	3a	3b		3b	3a
160.1 - 8					
Activity	4b/CD.a	2	PA(3)	PA	AO/2
Social Code	1/3d	3a		4a	4a
Materials	4b/--	3ab		3a	3ab
160.2 - 8					
Activity	CD.a/PA	2/PA	AO(3)	CD.a	2
Social Code	2c/4a	4a		4a	2c
Materials	4b/--	3ab		3a	3ab
160.3 - 8					
Activity	2	2	T(14)	VA	2/VA/SS
Social Code	2c	2c		4a	4a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	3ab	3a		3a	3ab
160.4 - 8					
Activity	2/T	VA	VA(14)	2	2/SS
Social Code	4a	4a		2c	2c
Materials	3ab	3a		3a	3ab
160.5 - 8					
Activity	VA/2	VA/2	SS(14)	2	2/CD.a
Social Code	4a/2c	4a/2c		2c	2c
Materials	3ab	3a		3ab	4b/3a
161.1 - 1					
Activity	2	2	PA(15)	CD.b	1ba
Social Code	4a	3a		4a	1/3a
Materials	2d	2d		2d	--
161.2 - 1					
Activity	1bCD.a(5)	1b	HS(y)	2	1a
Social Code	3b	3b		3b	3b
Materials	3e	3e		3e/3h	--
162.1 - 5					
Activity	2	4a	AO(9)	--	4a/HS
Social Co.	2bc	3b		--	2bc
Materials	2a	4a		--	4a
162.2 - 5					
Activity	AO/4a	2	HS(y)	--	2/1b
Social Code	2bc	5a		--	2c/3a
Materials	4a	--		--	2a
163 - 15					
Activity	2/3/R	1a	HS(1)	1a	2/3
Social Code	2c/3a	2c		5a	5a
Materials	3a	3a		3a	3a
164 - 9					
Activity	2/NC	*AO(14)	AO(2)	D	2/CD.a
Social Code	2c/4a	2c		4a	4a
Materials	2a	2a		2a	2a
165 - 16					
Activity	1a	1a	HS(1)	CD.b(15)	3
Social Code	3b	3b		3b	3b
Materials	----------				
166 - 15					
Activity	2/R/D/NC	D/PA(1)	AO(G)	PA(4)	2/4b
Social Code	3b/4b	3b/4a		4a	1/3d
Materials	2b	2b		2b	2b/4b
167 - 2					
Activity	1a	1a	SA(16)	1a	1a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	2a	2a		2a	2a
Materials	1e	1e		1e	1e
168.1 - 16					
Activity	2	2/DO	HA(5)	1a	2
Social Code	2c	2c		3a	3a
Materials	3c	3c		3c	3c
168.2 - 16					
Activity	2	2	HA(5)	3	3/2
Social Code	3a	3a		3a	3a
Materials	3c/--	3c		--	--/3c
169.1 - 8					
Activity	6	1b	VA(9)	--	6(VA)
Social Code	2a	3b		--	1
Materials	--	--		--	---
169.2 - 8					
Activity	VA/6/3/6	--	VA(5)	--	6/1b
Social Code	1/3a/1	--		--	1/3d
Materials	--	--		--	---
170.1 - 10					
Activity	3/6	R(14)	SA(14)	1a/R(9)	1a/HA(9)
Social Code	5b	3b		3b	3b
Materials	1a	1a		1a	1a
170.2 - 10					
Activity	SA/1a	1a/R	HA(9)	3/--	1a
Social Code	3b	3b		3b/--	3b/1
Materials	1a	1a		1a/--	1a
170.3 - 10					
Activity	R/1a/3	R	SA(5)	1a/R	NC/1a
Social Code	3b	2a		2a	2a
Materials	1e	--		1e	--
171 - 5					
Activity	1a	3	AO(10)	--	2/1a
Social Code	1	3a		--	1
Materials	1e	3d		--	1e/3d
172 - 17					
Activity	1c	1c/3	HS(G)	1c/3	1a
Social Code	2c	3b		3b	1/2c
Materials	1g	1g		1g	--/1g
173 - 10					
Activity	3/1a	1b/3	SA(G)	1a/3	1ba/3
Social Code	3a	3b		3b	3b
Materials	1b	1b		1b	1b
174 - 9					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	CD.a	1a/NC	PA(10)	NC/1a	R
Social Code	4a	2a		2a	4a/3d
Materials	1b	1b		1b	1b
175 - 13					
Activity	1a	1a(3)	*PA(o)	1a(3)	1a
Social Code	3a/1/3a	3ada		3a	3a
Materials	--/1b	--/1b		1b	1b
176 - 8					
Activity	1b	3	HS(9)	6/3	3/1a
Social Code	2a	3d		5d/3b	3b/1/3b
Materials	5	--		5	1c/1b
177.1 - 14					
Activity	1a	1a/AO	PA(17)	CD.b	NC/AO/1a
Social Code	1	1		4a	4a/1/3a
Materials	1ea	--/1e		1e	--/1e
177.2 - 14					
Activity	1a/PA	1a/CD.b	AO(17)	1a(9)	1a/3
Social Code	1/4a	1/4a		1/3a	1/3a
Materials	1ea/--	1e		1e	1e
178 - 10					
Activity	1a/3	1a	SA(17)	--	1a
Social Code	3b	1		--	1
Materials	1e	--		--	1e
179 - 12					
Activity	1a	1a	HS(G)	1a	1a
Social Code	3b	3b		5b	5b
Materials	1a	1a		1a	1a
180 - 5					
Activity	4a	4a	SS(y)	4a	4a
Social Code	2cb	2cb		2cd	2cb/3d
Materials	4b	4b		4b	4b
181 - 16					
Activity	3	2/3	HS(o)	3	3/2
Social Code	2c/3d	3a		3a	3a
Materials	2b	2b		2b	2b
182.1 - 17					
Activity	4b/R	4b	AO(y)	NC/4b	4b
Social Code	2c	2c		4a	2c
Materials	4b	4b		4b	4b
182.2 - 17					
Activity	4b/3	4b/3/R	AO(G)	4b/R	4b/NC
Social Code	3b	3b/2b		2c/2b	2c/2b
Materials	4b	4b		4b	4b

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
183.1 - 3					
Activity	1a/3	1a/3	PAII(5)	1a/3/PAII	1a/3
Social Code	3b	3b		3b	3b
Materials	3a	3a		3a	3a
183.2 - 3					
Activity	PAII1a(5)	3	HS(o)	1a/3	1a/3
Social Code	3b	2c		3b	3b
Materials	3a	--		--/3a	--/3a
183.3 - 3					
Activity	1a/3	1a/3	PAII(G)	1a/3	1a/5/SA
Social Code	3b	3b		3b	3b
Materials	3a/--	3a/--		3a	3a
183.4 - 3					
Activity	PAII1a/5	R	SA(G)	1a/3	1a/3
Social Code	3b	2c		3b	3b
Materials	3a	--		3a	3a
184 - 14					
Activity	4b/NC(5)	4b	HS(9)	4b	4b
Social Code	2c/3a	3a		3a	3d
Materials	4b	4b		4b	4b
185.1 - 5					
Activity	2	2	AO(G)	2/R	2NC
Social Code	2c	3b		3b	2c
Materials	2d	2d		2d	2d
185.2 - 5					
Activity	2AO/NC	2/R	AO(G)	CD.b	2/NC
Social Code	2c	3b/4a		3b/4a	2c/1
Materials	2d	2d		2d	2d
186.1 - 16					
Activity	NC/2	*R/2(3)	SS(5)	2R(3)	2/SA
Social Code	3b	3b		3b	3b
Materials	2d	2d		2d	2d
186.2 - 16					
Activity	SS(5)/2	2/R	SA(3)	2	2(SS)
Social Code	3b	3b		3b	3b
Materials	2d	2d		2d	2d
186.3 - 16					
Activity	SA(3)/2	2	SS(5)	2	2/3
Social Code	3b	3b		5b	5b
Materials	2d	2d		2d	2d
187.1 - 17					
Activity	4a/CD.b	4a/NC	AO(5)	NC	PA
Social Code	4a	3b/4a		4a	4a
Materials	4a	4a		4a	4a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
187.2 - 17					
Activity	4a/AO	NC	PA(5)	NC/4a	*CD.b
Social Code	4a	4a		2c	4a
Materials	4a	4a		4a	4a
188.1 - 14					
Activity	2	PA(o->o)	PA(G)	2	2
Social Code	2c	4b		2c	2c
Materials	3a	3a		3a	3a
188.2 - 14					
Activity	2/1b	1a	PA(5)	1a	SS/3
Social Code	2c	2c		2c	2c
Materials	--/3d	--		--	3d
188.3 - 14					
Activity	1b/PA	1a	SS(5)	1a	3
Social Code	2c	2c		2c	3b/2b
Materials	3d	--		3d	--
189.1 - 5					
Activity	1a	6	PA(y)	6	1a(CD.a)
Social Code	2a	2a		2a	2a
Materials	1e	--		--	1e
189.2 - 5					
Activity	1b	2	AO(y)	3	DO
Social Code	1	1		4a	4a
Materials	--	3e		--	3e
189.3 - 5					
Activity	AO/2	3(y)	DO	3	CA
Social Code	4a	4a		4a	3a
Materials	3e	--		--	3e
189.4 - 5					
Activity	DO	3	CA(y)	D/3	1b
Social Code	4a/3a	4a		4a	2d
Materials	3e	--		--	--
190 - 15					
Activity	2	2	SS(17)	SS/2	2
Social Code	3a	3a		5a	5a
Materials	2c	2c		2c	2c
191 - 16					
Activity	2	2	SA(5)	2	2/3/PL
Social Code	3b	3b		3b	3b
Materials	2e	2e		2e	2e
192 - 9					
Activity	2/3	3	SS(y)	3	2/3
Social Code	3a	3a		3a	3a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Materials	2b	2b		2b	2b
193 - 3					
Activity	3/4c	4c	SS(17)	4c	3
Social Code	5a	5a		5a	5a
Materials	2b	--		2b	--
194.1 - 9					
Activity	2/3	3	HS(y)	3	2/3HS
Social Code	5a	5a		5a	5a
Materials	5	5		5	5
194.2 - 9					
Activity	HS/2	3	HS(y)	3/4a	4a/PL
Social Code	5a	5a		5a	5a
Materials	5	5		4a	4a
195.1 - 11					
Activity	2	2/R	SA(o)	2/AO	5/HS
Social Code	2a	2a		2a	2a
Materials	2c	2c		2c	2c
195.2 - 11					
Activity	SA/5	AO/2	HS(o)	2/R	2/HA
Social Code	2a	2a		5a	5a
Materials	2c	2c		2c	2c
195.3 - 11					
Activity	HS/2	2/R	HA(o)	2/R	2/HA
Social Code	5a	5a		5a	5a
Materials	2c	2c		2c	2c
195.4 - 11					
Activity	HA/2	2/R	HA(o)	2/CD.a	2/HA
Social Code	5a	5a		3a	3a
Materials	2c	2c		2c	2c
196.1 - 15					
Activity	3	2/3	AO(o)	3/CD.a	3
Social Code	3b	3b		3b	3b
Materials	3a	3a/2b		3a	3a/2b
196.2 - 15					
Activity	5	3	TII(3)	3	5
Social Code	3a	3a		3a	3a
Materials	2b	--		--	2b
197 - 11					
Activity	5	5	DO	5	5
Social Code	5b	5b		5b	5b
Materials	3a	3a		3a	3a
198.1 - 15					
Activity	2/CD.a	NC	PA(5)	PA	PA

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	1	4a		4a	4a
Materials	2b	3a		3a	3a
198.2 - 15					
Activity	PA	PA	PA(5)	NC	5
Social Co	4a	4a		2c	5b
Materials	3a	3a		3a	3a
198.3 - 15					
Activity	5/2	5	TII(11)	5	5
Social Code	5b	5b		5b	5b
Materials	3a	3a		3a	3a
198.4 - 15					
Activity	TII/5	1b	T(14)	D	5/CD.b
Social Code	5b	2a		4a	5b
Materials	3a	--		--	3a
199 - 9					
Activity	1a	3	HS(12)	1a(3)	1a
Social Code	2ab	3d		3a	3a
Materials	----------			----------	
200.1 - 13					
Activity	2	2	PA(5)	--	1a
Social Code	4a	4a		--	1
Materials	1c	1c		--	--
200.2 - 13					
Activity	6	6/R	T(17)	6	PA
Social Code	2d	2d		2d	4a
Materials	5	--		--	5
200.3 - 13					
Activity	6/T	*R/6	PA(17)	6	SS(3)
Social Code	2d	2d		2d	2d
Materials	5	--		--	5
200.4 - 13					
Activity	PA(17)	6	SS(3)	6	6
Social Code	4a	2d		2d	2d
Materials	5	--	-	5	--
201.1 - 4					
Activity	1a	1a	HS(G)	1c(14)	CD.b
Social Code	3b	3b		3b	5b/4a
Materials	--	3f		3f	3f
201.2 - 4					
Activity	HS/CD.a	HA/HS	HS(G)	1a	1a
Social Code	5b	5b		3a	3a
Materials	3f	3f		--	--
202.1 - 2					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	1a	2/1a	SA(G)	2/1a	HS(4)
Social Code	1/2c	5a		5a	5a
Materials	1e	1g		1g	1g
202.2 - 2					
Activity	SA(G)	2/1a	HS(4)	1a	1a/HS
Social Code	5b	5a		5a	5a
Materials	1e	1g		1g	1g
202.3 - 2					
Activity	HS	1a	HS(4)	1a	SA(16)
Social Code	5a	5a		5a	5a
Materials	1g	1g		1g	--
202.4 - 2					
Activity	HS(4)	1a(16)	SA(16)	--	1a
Social Code	5a	1		--	1
Materials	1g	1e		--	1e
202.5 - 2					
Activity	1a	1a	SA(17)	1a	3/1a
Social Code	1	1		2a	3a/1
Materials	1e	1e		1e	1e
203.1 - 15					
Activity	3/1a	--	TII(G)	1a/5	5/TII
Social Code	3a/1	--		5b	5b
Materials	3h/--	--		----------	
203.2 - 15					
Activity	TII/5	1a	TII(G)	1a/5	5/1b
Social Code	5b	5b		5b	5b
Materials	----------				
204 - 11					
Activity	5	5R	HAII(15)	5	5
Social Code	5a	5a		5a	5a
Materials	3a	3a		3a	3a
205.1 - 14					
Activity	2	2	AO(o)	2	2CD.b
Social Code	2c	2c		2c	4a
Materials	3a	3a		3a	3a
205.2 - 14					
Activity	AO/2	2	AO(y)	3(3)	3
Social Code	2c/4a	2c		3a	3a/3d
Materials	3a	3a/5		3a	3a/5
205.3 - 14					
Activity	2/R	R	SA(4)	3	CD.a
Social Code	3a	3a		3b	3b
Materials	3a	3a		3a	3a

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
206 - 16					
Activity	1b/6	2/R	SA(4)	2/3	3
Social Code	3a	3a		3a	3a
Materials	3a	3a		3a	3a
207 - 11					
Activity	1b	2/CD.b	CA(G)	2/3(15)	2/D
Social Code	1/2c	4a		4a	4a/1
Materials	--/2a	2a		2a	2a
208 - 1					
Activity	2	2	AO(3)	3	2/3
Social Code	3b	3b		3b	3b
Materials	2c	2c		--	2c
209.1 - 5					
Activity	2	2	AO(Y)	1c(DO)	2/PA
Social Code	2ab	2ab		2ab	4a/2b
Materials	2a	2a		--	2a
209.2 - 5					
Activity	AO	1a(DO)	PA(y)	HS	2
Social Code	2ab	2ab		5a/2b	5a/2b
Materials	2a	--		2a	2a
209.3 - 5					
Activity	R/PL(y)	3(G)	VA(G)	6(y)	2/CD.b
Social Code	1/3a	3b		2a	4a
Materials	2a	3h		2a	--
209.4 - 5					
Activity	2/CD.b	6	PA(y)	1b	2/CS
Social Code	4a	2a		2a	2a
Materials	2a	2a		--	2a
209.5 - 5					
Activity	PA/2	6	CS(y)	--	1b
Social Code	4a/2a	2a		--	1
Materials	2a	--		--	--
210.1 - 1					
Activity	4b	3	HS(3)	--	1b(G)
Social Code	3a	3a		--	1/3b
Materials	4b	4b		--	4b
210.2 - 1					
Activity	5CD.a/1a	1a	PA(5)	3(3)	5
Social Code	3b	2c		3a	3a
Materials	3a	3a		3a	3a
211.1 - 13					
Activity	2CD.b	1b	AO(3)	3	2/CD.b/PA
Social Code	3a/4a	2c		4a	4a/3a
Materials	3d	3d		--	3d

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
211.2 - 13					
Activity	2AO/CD.b	3	PA(3)	3	2/AO
Social Code	3a/4a	4a		4a	3a/4a
Materials	3d	--		--	3d
211.3 - 13					
Activity	2/PA	NC	AO(3)	3	CD.a/R(1)
Social Code	3a/4a	4a		4a	3a/4a
Materials	3d	--		--	3d
212.1 - 1					
Activity	2	2	AO(3)	3	CS/2.R
Social Code	3b	2c		4a	3b
Materials	3d	3d		3d	3d
212.2 - 1					
Activity	2/AO	3	CS(3)	2	2/R
Social Code	3b	4a		2c	3b
Materials	3d	3d		3d	3d
213 - 14					
Activity	2/3	2	SS(5)	3	3/CD.a
Social Code	5a	5a		5a	5a
Materials	2a	2a		2a	2a
214 - 2					
Activity	4b/CD.ba	4b/D	AO(14)	3	4b/CD.a/R
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
215 - 10					
Activity	1a	1a/R	HA(14)	1a/5	1a/5
Social Code	3b	3b		5b	5b
Materials	----------				
216 - 7					
Activity	2/1a	2	HS(G)	--	2/1a
Social Code	1	3b		--	1
Materials	1d	1b		---	1b/--
217 - 13					
Activity	2/CD.a	2(2)	DO	1a	1a
Social Code	5a	5a		3a	3a
Materials	2a	2a		2a	2a
218.1 - 8					
Activity	3	PL	PA(3)	NC/PL	3
Social Code	3a	2a		3a	3a/2a
Materials	--	4a		4a	--
218.2 - 8					
Activity	2	2/PL	VA(5)	2/R	HA/2
Social Code	2d	2d/3a		3a	3a

	Antecedents		Event	Consequents	
	Child	Others		Others	Chil
Materials	2a	2a		2a	2a
218.3 - 8					
Activity	VA/2	2/R	HA(5)	HA/2	*R/2/I
Social Code	4a	2d/3a		5a	5a
Materials	2a	2a		2a	2a
218.4 - 8					
Activity	2PL/CD.b	2/DO	PA(5)	NC/DO/2	CD.b
Social Code	3a	4a		4a/2d	4a/2d
Materials	2a	2a		2a	2a
219.1 - 8					
Activity	4b	4b/1b	HS(9)	4b/3	4b/3
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
219.2 - 8					
Activity	4b/HS	4b/1b	SS(9)	4b	4b
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
220 - 14					
Activity	1a/3	1c	HS(y)	1a(17)	1a
Social Code	3b	2c		3a	3a
Materials	1e	--		1e	1e
221.1 - 5					
Activity	3/D	3/D	PA(14)	3/2	3/2/SS
Social Code	3b/4b	4a		4a	4b
Materials	2a	2a		2a	2a
221.2 - 5					
Activity	PA(14)2	3/2	SS(17)	CD.b/DO/PA	DO/2
Social Code	4b	4a		4a	1
Materials	2a	2a		2a	2a
221.3 - 5					
Activity	SS/2	DO/PA	DO	--	2
Social Code	3a	4a		--	1
Materials	2a	2a		--	2a
222.1 - 6					
Activity	4b	4b	HS(14)	4b/3	3/4b/SS
Social Code	2a	2a		3a	3a
Materials	4b	4b		4b	4b
222.2 - 6					
Activity	HS/4b	4b	SS(14)	3/4b	3/4b
Social Code	3a	3a		3a	3a
Materials	4b	4b		4b	4b
223 - 2					
Activity	6	1c	PA(5)	PA	3/CD.b

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Social Code	2c/2b	2c/2b		4a	4a
Materials	--	--		----------	
224 - 6					
Activity	1b/CD.a	--	PA(8)	1c	1ac/PA
Social Code	2a	--		2d	2d
Materials	4b	--		--	4b
225.1 - 16					
Activity	5	5/PAII	T(5)	--	5
Social Code	5b	4a		--	2c
Materials	3a	3a		--	3a
225.2 - 16					
Activity	5/T	*PAII/5	PAII(5)	5	3/CD.a
Social Code	4a	4a		3b	3b
Materials	3a	3a		3a	3a
226.1 - 13					
Activity	2/CD.a	2	AO(3)	2	2
Social Code	3a	3a		3a	3a
Materials	2a	2a		2a	2a
226.2 - 13					
Activity	2/CD.b	2	DO	1b	1a
Social Code	3a	3a		3a	3a
Materials	2b	2b		----------	
227 - 12					
Activity	1c	1b	SA(2)	6	6
Social Code	1/2a	2a		2d	2d
Materials	----------				
228.1 - 16					
Activity	1a	1a	SA(5)	1a	1a/HS
Social Code	2a	2a		5a	5a
Materials	1a	--		1a	1a
228.2 - 16					
Activity	1a/SA	1a	HS(5)	1a	1HA
Social Code	5a	5a		5a	5a
Materials	1a	1a		1a	1a
228.3 - 16					
Activity	1aHS	1a	HA(5)	1a	1a
Social Code	5a	5a		5a	5a
Materials	1a	1a		1a	1a
229 - 17					
Activity	1a	3/R	SA(14)	1a	1a
Social Code	2c/3a	2c/3a		3a	3a
Materials	1a	--		1a	1a
230.1 - 4					

	Antecedents		Event	Consequents	
	Child	Others		Others	Child
Activity	2	2	HA(G)	2	CD.b/2
Social Code	2c	2c		5a	5b
Materials	1g	2b		1g	1g
230.2 - 4					
Activity	4c/2	2	HA(o)	2	1a/2
Social Code	2c	2c		2c	2c
Materials	1g	2b		3a	3a
230.3 - 4					
Activity	CD.b/2	6	HS(o)	--	2
Social Code	2a	2c		--	1
Materials	3a	--		--	3a
231.1 - 1					
Activity	R(y)/3	R	HA(15)	3	3
Social Code	3a	3a		3a	3a
Materials	----------				
231.2 - 1					
Activity	HA/3	3	HS(15)	2/1b	2/1b/R
Social Code	3a	3a		3a	3a
Materials	----------				
232.1 - 15					
Activity	5	5	TII(1)	5	5
Social Code	3a	3a		3a	3a
Materials	----------				
232.2 - 15					
Activity	TII/5	5	TII(1)	1a	1a
Social Code	3a	3a		3a	3a
Materials	----------			1a	1a
232.3 - 15					
Activity	1a	1a/PaII	PAII(1)	1a	3/1a
Social Code	3a	3a		3a	3a
Materials	----------				

2.2. Scores Obtained on Naturalistic Observations

TABLE 26: SCORES OBTAINED ON NATURALISTIC OBSERVATIONS (1)

CHILDREN	TIME (mins)	ASSERTIVENESS CATEGORIES															Assertiv Global S	
		Command/ Direction			Disagreement			Noncompliance			Request			Physical Leading				
		Condition		Total	Condition		Total	Condition		Total	Condition		Total	Condition		Total	Conditio	
		I	II		I	II		I	II		I	II		I	II		I	II
1	60	9	1	10	0	0	0	3	0	3	2	0	2	14	0	14	28	1
	120	25	2	27	1	0	1	7	0	7	7	1	8	21	3	24	61	6
2	60	8	0	8	3	0	3	5	0	5	2	1	3	2	0	2	20	1
	90	16	0	16	3	0	3	6	0	6	10	1	11	2	0	2	37	1
	120*	21	0	21	4	0	4	8	0	8	13	2	15	3	0	3	49	1
3	60	6	0	6	1	0	1	2	0	2	3	1	4	1	0	1	13	1
	120	18	0	18	3	0	3	6	0	6	6	1	7	3	0	3	36	1
4	60	10	0	10	5	0	5	9	0	9	1	0	1	0	0	0	25	0
	120	21	0	21	6	0	6	13	0	13	8	1	9	3	0	3	51	1
5	60	5	0	5	3	0	3	4	0	4	1	0	1	2	0	2	15	0
	120	19	0	19	6	0	6	9	0	9	4	0	4	4	0	4	42	0
6	60	22	0	22	1	0	1	3	0	3	5	0	5	6	0	6	37	0
	120*	44	0	44	2	0	2	6	0	6	10	0	10	12	0	12	74	0
7	60	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0	3	0
	75	0	0	0	0	0	0	1	0	1	2	0	2	0	0	0	3	0
	120*	0	0	0	0	0	0	2	0	2	3	0	3	0	0	0	5	0
8	60	13	1	14	1	1	2	2	2	4	4	0	4	4	1	5	24	5
	120	26	1	27	2	1	3	3	2	5	8	1	9	9	1	10	48	6
9	60	5	0	5	5	0	5	0	0	0	2	0	2	3	0	3	15	0
	120	15	0	15	6	0	6	1	0	1	5	0	5	6	0	6	33	0
10	60	1	0	1	0	0	0	4	0	4	1	0	1	0	0	0	6	0
	90	3	0	3	1	0	1	5	0	5	2	0	2	3	0	3	14	0
	120*	4	0	4	1	0	1	7	0	7	3	0	3	4	0	4	19	0
11	60	8	1	9	2	0	2	1	0	1	0	0	0	5	0	5	16	1
	70	9	2	11	3	0	3	1	0	1	0	0	0	5	0	5	18	2
	120*	15	3	19	5	0	5	2	0	2	0	0	0	9	0	9	31	3
12	60	5	0	5	1	0	1	2	0	2	1	0	1	6	0	6	15	0
	75	5	0	5	1	0	1	2	0	2	1	0	1	6	0	6	15	0
	120*	8	0	8	2	0	2	3	0	3	2	0	2	10	0	10	24	0
13	60	12	2	14	0	0	0	0	1	1	2	0	2	5	0	5	19	3
	90	30	6	36	0	0	0	0	1	1	9	0	9	11	0	11	50	7
	120*	40	8	48	0	0	0	0	1	1	12	0	12	15	0	15	67	9
14	60	10	0	10	2	0	2	3	0	3	4	0	4	1	0	1	20	0
	120	23	0	23	3	0	3	5	0	5	7	0	7	3	0	3	41	0
15	60	9	0	9	3	0	3	3	0	3	5	0	5	1	0	1	21	0
	120	26	5	31	6	0	6	7	0	7	10	0	10	5	1	6	54	6
16	60	7	0	7	2	0	2	4	0	4	4	0	4	4	0	4	21	0
	120	14	0	14	3	0	3	10	0	10	12	0	12	10	1	11	49	1
17	60	5	0	5	1	0	1	1	0	1	2	0	2	1	0	1	10	0
	120	11	0	11	3	0	3	3	0	3	5	0	5	2	0	2	24	0

TABLE 27: SCORES OBTAINED ON NATURALISTIC OBSERVATIONS (1)

CHILDREN	TIME (Mins.)	AGGRESSION CATEGORIES															Aggressi Global Scores	
		Appropriation of Others' Objects			Damage of Objects			Physical Aggression			Threat			Verbal Aggression				
		Condition		Total	Condition		Total	Condition		Total	Condition		Total	Condition		Total	Condition	
		I	II		I	II		I	II		I	II		I	II		I	II
1	60	0	0	0	4	0	4	1	1	2	0	3	3	0	0	0	5	4
	120	4	0	4	5	0	5	4	1	5	0	3	3	0	0	0	13	4
2	60	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	90	2	0	2	0	0	0	1	0	1	0	0	0	0	0	0	3	0
	120◄	3	0	3	0	0	0	1	0	1	0	0	0	0	0	0	4	0
3	60	1	0	1	1	0	1	1	0	1	0	0	0	0	0	0	3	0
	120	4	0	4	1	0	1	5	2	7	0	1	1	0	0	0	10	3
4	60	0	0	0	1	0	1	3	0	3	1	1	2	2	0	2	7	1
	120	1	0	1	1	0	1	4	0	4	1	1	2	2	0	2	9	1
5	60	7	0	7	0	0	0	7	0	7	0	0	0	5	0	5	19	0
	120	14	0	14	0	0	0	12	0	12	0	0	0	6	0	6	34	0
6	60	1	0	1	0	0	0	3	0	3	0	0	0	0	0	0	4	0
	120◄	2	0	2	0	0	0	6	0	6	0	0	0	0	0	0	8	0
7	60	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	75	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	120◄	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
8	60	1	0	1	1	0	1	3	0	3	1	1	2	2	0	2	8	1
	120	1	0	1	2	0	2	5	0	5	1	1	2	5	0	5	14	1
9	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	2	0
10	60	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	90	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
	120◄	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0
11	60	1	0	1	2	0	2	1	0	1	0	0	0	0	0	0	4	0
	70	1	0	1	2	0	2	1	0	1	0	0	0	0	0	0	4	0
	120◄	2	0	2	3	0	3	2	0	2	0	0	0	0	0	0	7	0
12	60	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	2	0
	75	1	0	1	1	0	1	0	0	0	0	0	0	0	0	0	2	0
	120◄	2	0	2	2	0	2	0	0	0	0	0	0	0	0	0	3	0
13	60	0	0	0	0	0	0	6	3	9	1	1	2	1	0	1	8	4
	90	3	0	3	2	0	2	7	3	10	1	1	2	1	0	1	14	4
	120◄	4	0	4	3	0	3	9	4	13	1	1	3	1	0	1	19	5
14	60	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0
	120	4	0	4	1	0	1	5	0	5	1	0	1	0	0	0	11	0
15	60	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0
	120	2	0	2	0	0	0	3	1	4	1	9	10	1	0	1	7	10
16	60	0	0	0	0	0	0	1	1	2	1	2	3	0	0	0	2	3
	120	0	0	0	0	0	0	1	2	3	2	2	4	0	0	0	3	4
17	60	2	0	2	0	0	0	4	0	4	0	0	0	1	0	1	7	0
	120	5	0	5	2	0	2	7	0	7	0	0	0	2	0	2	16	0

TABLE 28: SCORES OBTAINED ON NATURALISTIC OBSERVATIONS (1)

CHILDREN	TIME (mins)	Prosocial Behaviour Comforting Category						Comforting Global Scores		
		"Spontaneous"			"Asked-for"					
		Condition		Total	Condition		Total	Condition		Total
		I	II		I	II		I	II	
1	60	0	0	0	0	0	0	0	0	0
	120	1	0	1	0	0	0	1	0	1
2	60	1	0	1	0	0	0	1	0	1
	90	1	0	1	0	0	0	1	0	1
	120*	1	0	1	0	0	0	1	0	1
3	60	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
4	60	1	0	1	0	0	0	1	0	1
	120	1	0	1	0	0	0	1	0	1
5	60	1	0	1	2	0	2	3	0	3
	120	2	0	2	3	0	3	5	0	5
6	60	1	0	1	0	0	0	1	0	1
	120*	2	0	2	0	0	0	2	0	2
7	60	0	0	0	0	0	0	0	0	0
	75	0	0	0	0	0	0	0	0	0
	120*	0	0	0	0	0	0	0	0	0
8	60	1	0	1	0	0	0	1	0	1
	120	1	0	1	0	0	0	1	0	1
9	60	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
10	60	0	0	0	0	0	0	0	0	0
	90	0	0	0	0	0	0	0	0	0
	120*	0	0	0	0	0	0	0	0	0
11	60	0	0	0	1	0	1	1	0	1
	70	0	0	0	2	0	2	2	0	2
	120*	0	0	0	3	0	3	3	0	3
12	60	0	0	0	0	0	0	0	0	0
	75	0	0	0	0	0	0	0	0	0
	120*	0	0	0	0	0	0	0	0	0
13	60	0	0	0	0	0	0	0	0	0
	90	0	0	0	0	0	0	0	0	0
	120*	0	0	0	0	0	0	0	0	0
14	60	1	0	1	0	0	0	1	0	1
	120	1	0	1	0	0	0	1	0	1
15	60	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
16	60	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
17	60	0	0	0	1	0	1	1	0	1
	120	0	0	0	1	0	1	1	0	1

TABLE 29: SCORES OBTAINED ON NATURALISTIC OBSERVATIONS (1)

CHILDREN	TIME (mins)	Prosocial Behaviour Helping Category						Helping Global Scores		
		"Spontaneous"			"Asked-for"					
		Condition		Total	Condition		Total	Condition		Total
		I	II		I	II		I	II	
1	60	2	1	3	0	0	0	2	1	3
	120	7	1	8	4	0	4	11	1	12
2	60	0	0	0	1	0	1	1	0	1
	90	2	0	2	1	0	1	3	0	3
	120*	3	0	3	1	0	1	4	0	4
3	60	0	1	1	2	0	2	2	1	3
	120	1	1	2	2	0	2	3	1	4
4	60	5	0	5	0	0	0	5	0	5
	120	8	0	8	2	0	2	10	0	10
5	60	2	0	2	2	0	2	4	0	4
	120	5	0	5	2	0	2	7	0	7
6	60	2	0	2	1	0	1	3	0	3
	120*	4	0	4	2	0	2	6	0	6
7	60	1	0	1	1	0	1	2	0	2
	75	2	0	2	1	0	1	3	0	3
	120*	3	0	3	2	0	2	5	0	5
8	60	2	0	2	2	0	2	4	0	4
	120	4	0	4	5	0	5	9	0	9
9	60	1	0	1	1	0	1	2	0	2
	120	4	0	4	1	0	1	5	0	5
10	60	3	0	3	1	0	1	4	0	4
	90	3	0	3	2	0	2	5	0	5
	120*	4	0	4	3	0	3	7	0	7
11	60	1	0	1	4	0	4	5	0	5
	70	1	0	1	4	1	5	5	1	6
	120*	2	0	2	7	2	9	9	2	10
12	60	3	0	3	0	0	0	3	0	3
	75	3	0	3	0	0	0	3	0	3
	120*	5	0	5	0	0	0	5	0	5
13	60	0	0	0	1	2	3	1	2	3
	90	0	0	0	1	2	3	1	2	3
	120*	0	0	0	1	3	4	1	3	4
14	60	2	0	2	1	0	1	3	0	3
	120	4	0	4	1	0	1	5	0	5
15	60	3	0	3	4	0	4	7	0	7
	120	4	0	4	4	0	4	8	0	8
16	60	5	0	5	1	0	1	6	0	6
	120	9	0	9	4	0	4	13	0	13
17	60	0	0	0	0	0	0	0	0	0
	120	1	0	1	0	0	0	1	0	1

TABLE 30: SCORES OBTAINED ON NATURALISTIC OBSERVATIONS (1)

CHILDREN	TIME (units)	Prosocial Behaviour Sharing Category						Sharing Global Scores		
		"Spontaneous"			"Asked-for"					
		Condition		Total	Condition		Total	Condition		Total
		I	II		I	II		I	II	
1	60	1	0	1	0	0	0	1	0	1
	120	6	0	6	1	0	1	7	0	7
2	60	0	0	0	2	0	2	2	0	2
	90	0	0	0	6	0	6	6	0	6
	120*	0	0	0	8	0	8	8	0	8
3	60	1	0	1	0	0	0	1	0	1
	120	2	0	2	4	0	4	6	0	6
4	60	2	1	3	2	0	2	4	1	5
	120	4	1	5	3	0	3	7	1	8
5	60	4	0	4	0	0	0	4	0	4
	120	7	0	7	1	0	1	8	0	8
6	60	2	0	2	0	0	0	2	0	2
	120*	4	0	4	0	0	0	4	0	4
7	60	0	0	0	1	0	1	1	0	1
	75	0	0	0	1	0	1	1	0	1
	120*	0	0	0	2	0	2	2	0	2
8	60	1	0	1	0	0	0	1	0	1
	120	2	0	2	0	0	0	2	0	2
9	60	1	0	1	1	0	1	2	0	2
	120	2	0	2	1	0	1	3	0	3
10	60	1	0	1	3	0	3	4	0	4
	90	1	0	1	4	0	4	5	0	5
	120*	1	0	1	5	0	5	7	0	7
11	60	1	0	1	3	0	3	4	0	4
	70	1	0	1	3	0	3	4	0	4
	120*	2	0	2	5	0	5	7	0	7
12	60	1	0	1	1	0	1	2	0	2
	75	1	0	1	2	0	2	3	0	3
	120*	2	0	2	3	0	3	5	0	5
13	60	2	0	2	0	0	0	2	0	2
	90	2	0	2	0	0	0	2	0	2
	120*	3	0	3	0	0	0	3	0	3
14	60	1	1	2	2	0	2	3	1	4
	120	5	1	6	4	0	4	9	1	10
15	60	1	0	1	3	0	3	4	0	4
	120	3	0	3	3	0	3	6	0	6
16	60	1	0	1	3	0	3	4	0	4
	120	5	0	5	8	0	8	13	0	13
17	60	0	0	0	1	0	1	1	0	1
	120	0	0	0	2	0	2	2	0	2

TABLE 31: SCORES OBTAINED ON NATURALISTIC OBSERVATIONS (1)

CHILDREN	TIME (mins)	PROSOCIAL BEHAVIOUR GLOBAL SCORES								
		"Spontaneous"			"Asked-for"			Spontaneous and "Asked-for"		
		Condition		Total	Condition		Total	Condition		Total
		I	II		I	II		I	II	
1	60	3	1	4	0	0	0	3	1	4
	120	14	1	15	5	0	5	19	1	20
2	60	1	0	1	3	0	3	4	0	4
	90	3	0	3	7	0	7	10	0	10
	120*	4	0	4	9	0	9	13	0	13
3	60	1	1	2	2	0	2	3	1	4
	120	3	1	4	6	0	6	9	1	10
4	60	8	1	9	2	0	2	10	1	11
	120	13	1	14	5	0	5	18	1	19
5	60	7	0	7	4	0	4	11	0	11
	120	14	0	14	6	0	6	20	0	20
6	60	5	0	5	1	0	1	6	0	6
	120*	10	0	10	2	0	2	12	0	12
7	60	1	0	1	2	0	2	3	0	3
	75	2	0	2	2	0	2	4	0	4
	120*	3	0	3	3	0	3	6	0	6
8	60	4	0	4	2	0	2	6	0	6
	120	7	0	7	5	0	5	12	0	12
9	60	2	0	2	2	0	2	4	0	4
	120	6	0	6	2	0	2	8	0	8
10	60	4	0	4	4	0	4	8	0	8
	90	4	0	4	6	0	6	10	0	10
	120*	5	0	5	8	0	8	13	0	13
11	60	2	0	2	8	0	8	10	0	10
	70	2	0	2	9	1	10	11	1	12
	120*	3	0	3	15	2	17	19	2	21
12	60	4	0	4	1	0	1	5	0	5
	75	4	0	4	2	0	2	6	0	6
	120*	6	0	6	3	0	3	10	0	10
13	60	2	0	2	1	2	3	3	2	5
	90	2	0	2	1	2	3	3	2	5
	120*	3	0	3	1	3	4	4	3	7
14	60	4	1	5	3	0	3	7	1	8
	120	10	1	11	5	0	5	15	1	16
15	60	4	0	4	7	0	7	11	0	11
	120	7	0	7	7	0	7	14	0	14
16	60	6	0	6	4	0	4	10	0	10
	120	14	0	14	12	0	12	26	0	26
17	60	0	0	0	2	0	2	2	0	2
	120	1	0	1	3	0	3	4	0	4

(1) Key:
Condition I: non role playing; Condition II: role playing

*Scores estimated for 120 minutes, obtained from those observed during the previous period of time.

2.3. Correlations Between Naturalistic Variables

TABLE 32: CORRELATIONS BETWEEN NATURALISTIC VARIABLES (1) WITH VALUES OF P ≥ .10 OMITTED (DEC. POINTS OMITTED)

ASSERTIVENESS			COMMAND/DIRECTION			DISAGREEMENT			NONCOMPLIANCE			REQUEST			PHYSICAL LEADING			ASSERTIVENESS GLOBAL SCORES		
		Condition	I	II	TOT	I	II	TOT	I	II	TOT	I	II	TOT	I	II	TOT	I	II	TOT
COMMAND/DIRECTION	Condition	I	80																	
			53																	
		II	49	73																
			-																	
		TOT	99	66																
			99	63	75															
			99	-																
DISAGREEMENT	Condition	I				90														
		II					100													
		TOT				99														
						99		89												
						99														
NONCOMPLIANCE	Condition	I			45	53		52												
					-	-		-	92											
					-	42		42												
		II	43	-			89													
			-	-			89			100										
			-	63			89													
		TOT				51		51	99											
						-		-	99		90									
						-		-	92											
REQUEST	Condition	I	68		66				49		54									
			63		62				-		-	66								
			55		51				-		-									
		II									46									
											44		41							
											-									
		TOT	69		66				51		57	99	47							
			62		60				-		-	99	-	57						
			52		48				-		-	98								
PHYSICAL LEADING	Condition	I	49		51										98					
			52	46	56															
				51	-															
		II					-			-					84					
							-			-					66	15				
							99			89					-					
		TOT	48	-	50										99	88				
			50	44	53										99	73	98			
			-	53	43										99	-				
ASSERTIVENESS GLOBAL SCORES	Condition	I	91	41	88				54		59	80	43	82	60	57	61			
			93	43	-				-		-	75	-	74	61	-	60	92		
			91	-	-				-		-	50	-	42	51	-	56			
		II	67	84	75		41			61		46	47		66	61	66	62		
			54	87	64		-			-		-	-		61	52	62	53	56	
			-	74	-		81			95		-	-		-	81	-	-		
		TOT	92	50	91				47		54	79	43	81	64	61	65	99	70	
			93	52	93				-		-	74	-	73	65	42	64	99	63	58
			93	-	92				-		-	69	-	67	55	-	57	99		

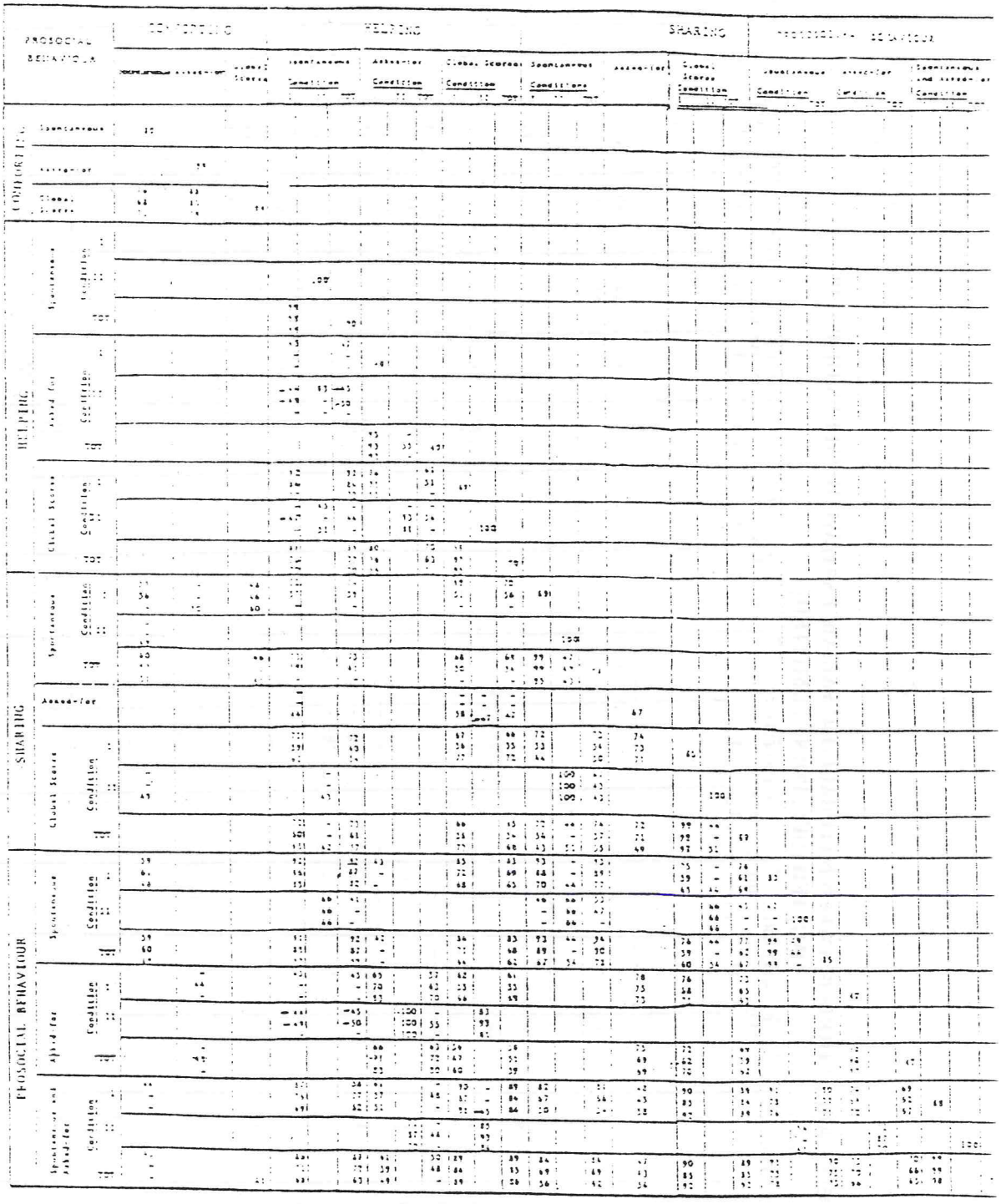
(1) Line 1 - unequal lengths of time; Line 2: 120 minutes of observation - Line 3 - 60 minutes
Values for 60 with 120 mins. in diagonal
Coefficients greater ≥ 61 sig. at .01 level
Coefficients greater ≥ 18 sig. at .05 level
Coefficients greater ≥ 41 sig. at .10 level
(2-tail probabilities)
} excluding diagonal.

TABLE 33: CORRELATIONS BETWEEN NATURALISTIC VARIABLES (1) WITH VALUES OF P ≥ .10 OMITTED (DEC. POINTS OMITTED)

AGGRESSION		APPROPRIATION OF OTHERS' OBJECTS	DAMAGE OF OBJECTS	PHYSICAL AGGRESSION Condition I	PHYSICAL AGGRESSION Condition II	PHYSICAL AGGRESSION TOT	THREAT Condition I	THREAT Condition II	THREAT TOT	VERBAL AGGRESSION	AGGRESSION GLOBAL SCORES Condition I	AGGRESSION GLOBAL SCORES Condition II	AGGRESSION GLOBAL SCORES TOT
APPROPRIATION OF OTHERS' OBJECTS		93											
DAMAGE OF OBJECTS			84										
PHYSICAL AGGRESSION	Condition I	83 73 54	47 - -	90									
	Condition II				56								
	TOT	75 63 -	47 41 -	96 96 96	43 53 64	82							
THREAT	Condition I				46 44 52	- - 46	72						
	Condition II		- - 62		- - 52			12					
	TOTAL		- - 45		41 43 59		59 61 76	97 96 95	17				
VERBAL AGGRESSION		62 58 77		74 66 80		63 54 67				92			
AGGRESSION GLOBAL SCORES	Condition I	90 85 77	55 50 -	96 94 89		90 88 80				81 78 94	93		
	Condition II		- - 42		63 64 85	- - 47	48 49 59	94 92 89	95 95 89			23	
	TOTAL	82 76 61	54 49 -	93 91 89		92 91 87				74 71 86	95 95 97	- - 42	51

(1) Line 1 - unequal lengths of time; Line 2; 120 minutes of observations - Line 3 - 60 minutes. Values for 60 with 120 mins. in diagonal.

TABLE 34: CORRELATIONS BETWEEN NATURALISTIC VARIABLES (1) WITH VALUES OF P ≥ .10 OMITTED (DEC. POINTS OMITTED)



(1) Line 1 = unequal lengths of time; line 2 = 120 minutes of observation; line 3 = 60 minutes

Coefficients ≥ 61 sig. at .01 level.
Coefficients ≥ 40 sig. at .05 level.
Coefficients ≥ 41 sig. at .10 level.
} excluding diagonal

(2-tail probabilities)

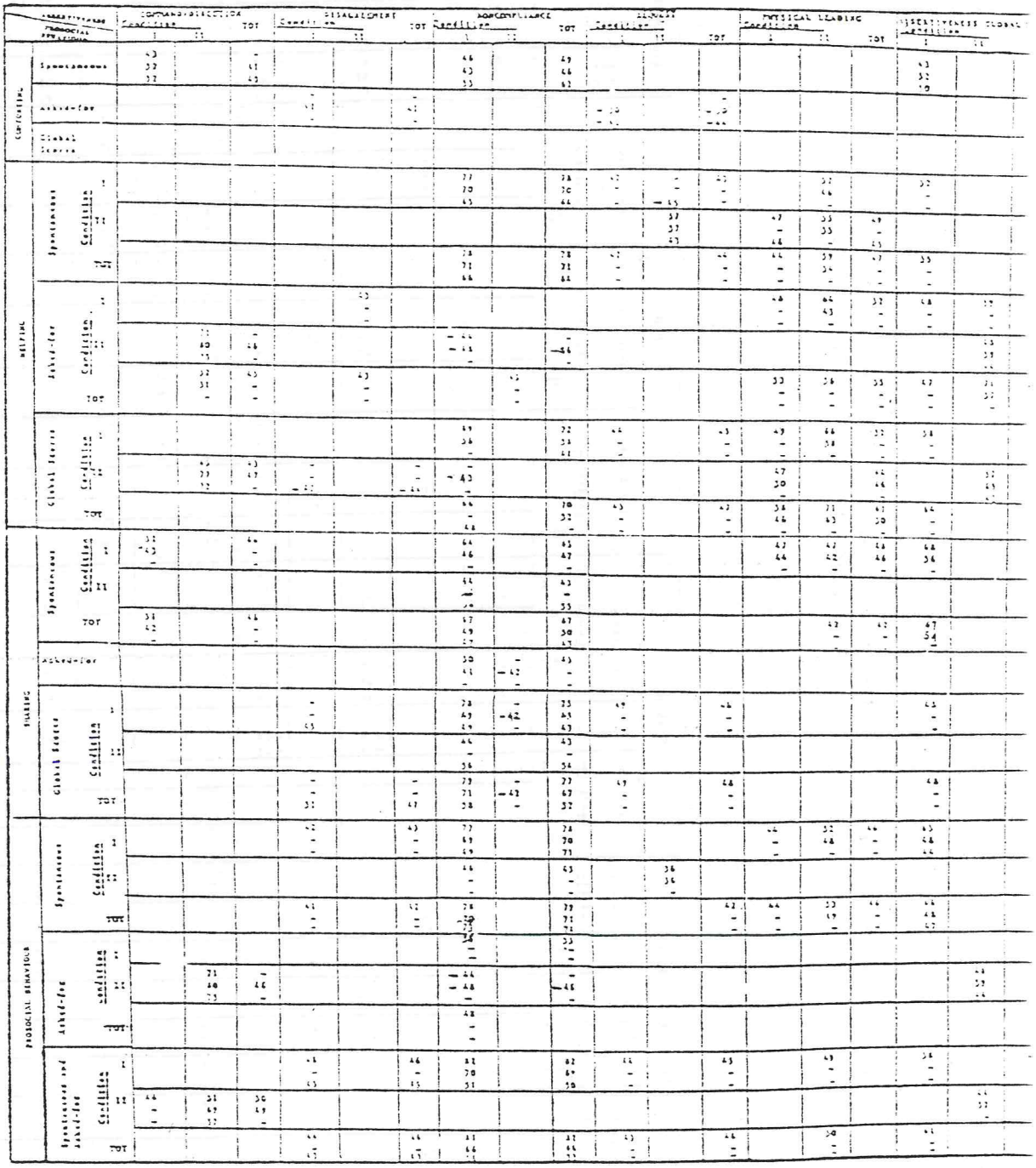
TABLE 35: CORRELATIONS BETWEEN NATURALISTIC VARIABLES (1) WITH VALUES OF P ≥ .10 OMITTED (DEC. POINTS OMITTED)

ASSERTIVENESS / AGGRESSION		COMMAND/DIRECTION Condition I	COMMAND/DIRECTION Condition II	COMMAND/DIRECTION TOT	DISAGREEMENT Condition I	DISAGREEMENT Condition II	DISAGREEMENT TOT	NONCOMPLIANCE Condition I	NONCOMPLIANCE Condition II	NONCOMPLIANCE TOT	REQUEST Condition I	REQUEST Condition II	REQUEST TOT	PHYSICAL LEADING Condition I	PHYSICAL LEADING Condition II	PHYSICAL LEADING TOT	ASSERTIVENESS GLOBAL SCORES Condition I	ASSERTIVENESS GLOBAL SCORES Condition II	ASSERTIVENESS GLOBAL SCORES TOT
APPROPRIATION OF OTHERS OBJECTS																			
DAMAGE OF OBJECTS														69 65 75	62 51 -	69 66 76		50 54 -	-
PHYSICAL AGGRESSION	Condition I	56 56 -		52 55 -													45 45 -		44 45 -
	Condition II	42 - -	59 69 76	48 48 -							51 49		49 45	44 43 -			45 42 -	52 62 -	49 43 -
	TOT	62 61 -	- 44 55	61 62 -												41 -	53 52 -		53 53 -
THREAT	Condition I	43 - -		44 - -		- - 45			- - 62	46 - 42	72 58 -		68 53 -		- - 45		56 - -	- - 54	55 - -
	Condition II	43 - -	62 50 44	50 - -							49 - -		47 - -	- - 68	52 52 -	- - 69	52 - 43	61 53 -	56 - 45
	TOTAL	48 - -	62 57 50	54 - -							60 48 -		58 44 -	- - 51	51 49 -	- - 53	60 43 43	62 61 42	61 48 48
VERBAL AGGRESSION						56 56 -	42		51 51 -										
AGGRESSION GLOBAL SCORES	Condition I	45 - -		42 - -															
	Condition II	50 - -	72 68 68	58 61 -							58 48 -		56 44 -	- - 63	52 49 -	41 - 62	59 45 -	68 66 -	63 51 -
	TOTAL	58 44 -	- 42 43														56 42 -	- 45 -	56 45 -

(1) Line 1 – unequal lengths of time: line 2 – 120 minutes of observation: line 3 – 60 minutes.

Coefficients ≥ 61 sig. at .01 level.
Coefficients ≥ 46 sig. at .05 level.
Coefficients ≥ 41 sig. at .10 level.

TABLE 36: CORRELATIONS BETWEEN NATURALISTIC VARIABLES (1) WITH VALUES OF P ≥ .10 OMITTED (DEC. POINTS OMITTED)



(1) Line 1 - unequal lengths of time: line 2 - 120 minutes of observation: line 3 - 60 minu

Coefficients ≥ 61 sig. at .01 level.
Coefficients ≥ 48 sig. at .05 level.
Coefficients ≥ 41 sig. at .10 level.

(2-tail probabilities)

TABLE 37: CORRELATIONS BETWEEN NATURALISTIC VARIABLES (1) WITH VALUES OF P ≥ .10 OMITTED (DEC. POINTS OMITTED)

PROSOCIAL BEHAVIOUR			AGGRESSION: APPROPRIATION OF OTHERS' OBJECTS	DAMAGE OF OBJECTS	PHYSICAL AGGRESSION Condition I	PHYSICAL AGGRESSION Condition II	PHYSICAL AGGRESSION Total	THREAT Condition I	THREAT Condition II	THREAT Total	VERBAL AGGRESSION	AGGRESSION GLOBAL SCORES Condition I	AGGRESSION GLOBAL SCORES Condition II	AGGRESSION GLOBAL SCORES Total
CONFORTING	Spontaneous		59 46 –		57 53 –		43 – –				60 47 49	63 51 –		52 – –
CONFORTING	Asked-for		73 62 85		54 – 59		43 – 45				55 44 71	65 55 76		53 43 60
CONFORTING	Global Scores		80 71 77		67 59 63		52 41 44				69 58 81	77 68 77		63 53 61
HELPING	Spontaneous	Condition I						53 42 –		– – 42				
HELPING	Spontaneous	Condition II		54 44 68					– – 44					
HELPING	Spontaneous	Condition TOT						49 – –	– – 46	– – 49				
HELPING	Asked-for	Condition I						43 – –	52 – –	56 – –		– – –	50 – –	
HELPING	Asked-for	Condition II		– 43 –	– – 49	55 59 90	– – 69	– – 45					– – 58	
HELPING	Asked-for	Condition TOT						45 – –	48 – –	53 – –			52 – –	
HELPING	Global Scores	Condition I					– 45 –	57 43 –	43 – –	51 – –				
HELPING	Global Scores	Condition II		52 59 –		72 70 84	– – 53						– – 69	
HELPING	Global Scores	Condition TOT						58 46 –	44 – –	52 – –			– – –	
SHARING	Spontaneous	Condition I	51 – 58		51 50 71		52 49 66				– – 71	57 52 77		63 56 74
SHARING	Spontaneous	Condition II												
SHARING	Spontaneous	Condition TOT	43 – 45		50 43 66		50 46 59	42 – –			– – 71	55 49 69		59 53 66
SHARING	Asked-for				– –54 –49		–48 –49				– –42 –	– –47 –47		– –45 –49
SHARING	Global Scores	Condition I												
SHARING	Global Scores	Condition II						53 42 –		– – 42				
SHARING	Global Scores	Condition TOT						54 44 –						
PROSOCIAL BEHAVIOUR	Spontaneous	Condition I						46 – –			– – 50			44 – –
PROSOCIAL BEHAVIOUR	Spontaneous	Condition II		– – 49										
PROSOCIAL BEHAVIOUR	Spontaneous	Condition TOT						45 – –			– – 46			43 – –
PROSOCIAL BEHAVIOUR	Asked-for	Condition I			– – 49			42 – –						
PROSOCIAL BEHAVIOUR	Asked-for	Condition II		– 43 –		55 59 90	69	– – 45					– – 53	
PROSOCIAL BEHAVIOUR	Asked-for	Condition TOT						46 – –						
PROSOCIAL BEHAVIOUR	Spontaneous and Asked-for	Condition I						53 – –						
PROSOCIAL BEHAVIOUR	Spontaneous and Asked-for	Condition II		47 56 –		57 62 70	– 45 48						– – 60	
PROSOCIAL BEHAVIOUR	Spontaneous and Asked-for	Condition TOT						54 42 –						

(1) Line 1 - unequal lengths of time: line 2 - 120 minutes of observation: line 3 - 60 minutes

Coefficients ≥ 61 sig. at .01 level.
Coefficients ≥ 48 sig. at .05 level.
Coefficients ≥ 41 sig. at .10 level.

(2-tail probabilities)

2.4. Frequencies and Proportions of Behaviour

(i) Distribution of behaviour (frequencies)

(ii) Proportion matrices

(iii) Difference matrices

TABLE 38: DISTRIBUTION OF ASSERTIVENESS

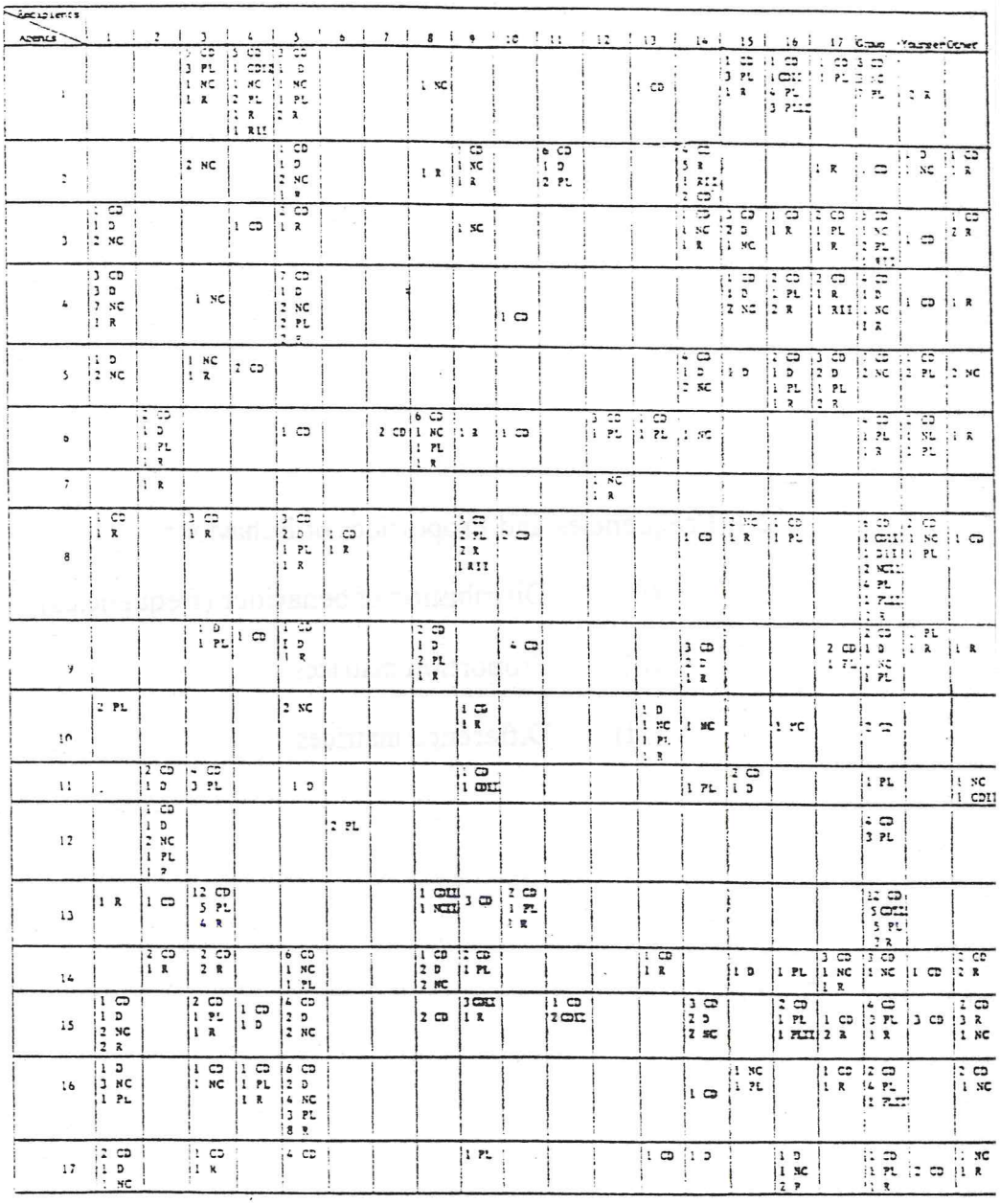


TABLE 39: DISTRIBUTION OF AGGRESSION

Agents \ Recipients	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Group	Younger	Other
1		1 T	3 AO 1 PATT	1 PA 1 TIT	2 PA										1 PA			1 AO 1 TIT		
2			1 AO		1 PA									1 AO						
3					1 AO 2 PA 1 PATT									1 AO	1 PA		1 AO 1 PA	1 PATT	1 AO 1 PA 1 TIT	
4	1 PA				2 PA 1 T 2 VA										1 AO		1 PA	1 TIT		
5	1 AO 3 VA	1 PA	1 PA	2 PA 1 VA					1 AO	1 AO				1 AO 2 PA	1 AO	3 AO 2 PA	1 AO	3 AO 2 VA	2 AO 4 PA	
6								1 PA		2 PA									1 AO	
7												1 AO								
8			1 AO 2 PA		1 PA 2 VA	1 PA			1 VA					2 VA 1 T	1 PA 1 TIT					
9		1 AO								1 PA										
10														1 AO		1 AO				
11		1 AO													1 PA					
12							1 AO													
13			3 AO 3 PA 1 PATT		1 PA 1 VA			1 PA 1 TIT								2 PATT	1 PA 1 T			1 PA
14					1 PA					1 PA			1 AO		1 PA 1 T		1 AO 1 PA	1 PA	1 AO	1 AO
15	1 PATT 2 TIT		1 TIT		2 PA 1 VA			1 PA			1 TIT			1 T				1 AO 4 TIT	1 TIT	1 AO
16					1 PATT 2 T 1 TIT			1 PATT										1 TIT		1 PA
17	1PA 1 VA				1 AO 3 PA			1 PA 1 PA							1 PA			1 AO	3 AO 1 PA	

TABLE 40: DISTRIBUTION OF PROSOCIAL BEHAVIOUR

Agents \ Recipient	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Group	Younger	Other
1			1 CS 2 HA 2 HS 2 SS	1 HS II 2 SS											1 HA 1 HS	1 SA	1 HA 2 HS	1 HA 2 HS 2 SS	1 HS	
2				2 HS				1 HA			1 CS			1 SA		2 SA	1 SA	1 SA	1 SA	
3	1 SS			1 HA									1 HS II	1 SA			1 SS	1 HA 1 SA	2 SA	1 HS
4	1 HS 1 SA 2 SS				1 SS			1 SA		1 HS 1 SS					1 SA 1 SS II			1 HA 5 HS	1 CS	1 HA 1 HS
5	1 SS	1 SS							1 SA							1 CS 2 SA 1 SS	1 CA 2 HS 1 SS	1 HS 1 SS	1 CA 1 CS 1 HS 1 SS	
6		1 SS												1 HA 1 SS 1 SS				1 HS		
7		1 HA										1 SA						2 HS		
8			1 HA		1 HA				1 CS 3 HS 1 SS					1 HA 1 SS					2 HA 1 HS	
9											1 HA 1 HS	1 HS			1 SA 1 SS				2 HS 1 SS	
10					1 SA				1 HA 1 SS					1 HA 1 HS 1 SA			1 SA	2 HS 1 SA		
11	1 SA	1 HA 1 SA 1 SS	1 HA												1 CA 1 HA II			1 CA		2 HA 1 HS 1 SA
12		1 SA				1 HS		1 SS										2 HS	1 SA	
13			2 SS					2 HA II	1 HA											
14		1 SS II		1 SA	2 SS	..		1 HS 1 SA	1 HS	1 CS		1 SS				1 SA 1 SS	1 HS 1 HA	1 HA	1 HS 1 SA	
15	2 HS 1 SS		1 HS 1 SS		3 SA									4 HA 1 SS			1 SS			
16	3 HS 1 SS 1 SA		1 SA	1 SA	2 HS 4 SS													1 HS	1 SA	1 HS
17														1 SA		1 SA		1 HS	1 CA	

TABLE 41: ASSERTIVENESS PROPORTION MATRIX (DEC. POINTS OMITTED)

Agents \ Recipients	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	G	Y	O
1			164	148	131			016					016		082	082	033	295	033	
2			054		135			027	081		243		054	243			027	027	054	054
3	111			028	083				028					083	167	055	111	222	028	083
4	276		020		275					020					078	098	059	137	020	020
5	071		048	048										167	024	119	190	214	071	048
6		135			027		054	243	027	027		108	054	027				162	108	027
7		333										667								
8	042		083		146	042			188	042				021	063	042		229	083	021
9			061	030	091			182		121				182			091	152	061	030
10	143				143				143				286	071		071		143		
11		167	389		056				056					056	167			056		056
12		400				133												467		
13	020	020	420						060	080								400		
14		073	098		195			122	073				049		024	024	122	098	024	098
15	111		074	037	148			037	019		019			130		056	056	148	056	111
16	102		041	061	469									020	041		082	122		061
17	167		083		167				042				042	042		167		125	083	083

TABLE 42: AGGRESSION PROPORTION MATRIX (DEC. POINTS OMITTED)

Recipients / Agents	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	G	Y	O
1			375	125	250										125			125		
2			333		333									333						
3					333									111	111		222		222	
4	125				625										125		125			
5	125	031	031	094					031	031				094	031	156	031	156	188	
6								250		500									250	
7												1000								
8			250		250	083			083					250	083					
9		500								500										
10														500		500				
11		500													500					
12							1000													
13			500		167			083									167			083
14					100					100			100		200		200	100	100	100
15					429			143						143				143		143
16					667														333	
															071			071	286	

TABLE 43: PROSOCIAL BEHAVIOUR PROPORTION MATRIX (DEC. POINTS OMITTED)

Agents \ Recipients	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	G	Y	O
1			333	056											111	056	111	278	056	
2				200				100			100			100		200	100	100	100	
3	111			111										111			111	222	222	111
4	222				056			056		111					111			333	056	111
5	050	050							050							200	200	100	250	
6		167												667				167		
7		250										250						500		
8			083		083				417					167					250	
9											250	125			250				375	
10					100				200					300			100	400		
11	091	273	091												091			091		364
12		167				167		167										333	167	
13			667						333											
14				067	133			133	067	067		067				133	133	067	133	
15	214		143		214									357			071			
16	333		042	042	542													042	042	042
17														250		250		250	250	

TABLE 44: SPONTANEOUS PROSOCIAL BEHAVIOUR PROPORTION MATRIX (DEC. POINTS OMITTED)

Agents \ Recipients	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	G	Y	O
1			357	143											071		071	286	071	
2				667							333									
3	333																333			333
4	231				077					154								385	077	077
5	071	071														214	214			
6		200												600				200		
7																		1000		
8									714					143					143	
9											167	167			167				500	
10									250					250				500		
11		500																		500
12						250		250										500		
13			1000																	
14					200			100	100	100		100				100	200		100	
15	429		286											143			143			
16	429				429													071		071
17																		1000		

TABLE 45: ASSERTIVENESS DIFFERENCE MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1			053	-128	060			-026		-143			-004		-029	-020	-134
2					135	-135	-333				076	-400	034	170			-015
3				-008	035			-083	-033		389		-420	-015	007	014	-028
4					227				-007	020					041	037	059
5						-027		-146	-091	-143	-056			-028	-124	-350	023
6							054	201	027	027		-025	054	027			
7												667					
8									006	042				-101	026	042	
9										-022	-056		-060	109	-019		049
10													216	071		071	
11															148		
12																	
13														049			042
14															106	004	180
15																015	-085
16																	082
17																	

TABLE 46: AGGRESSION DIFFERENCE MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1															125		-143
2			375	000	125									333			
3			333		302				-500		-500						
4					302			-250					-500	111	111	222	
5					531										125		125
6								-250	031	031			-167	-006	-304	-511	-215
7								167		500							
8												000					
9									083					250	-060		143
10										500							
11														400			
12															500		
13														-100			167
14															057		129
15																	071
16																	
17																	

TABLE 47: PROSOCIAL BEHAVIOUR DIFFERENCE MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1			222	-166	-050										103	277	111
2				200	-050	-167	-250	100			173	-167		100		200	
3				111				-083			-091		667	111	-143	-042	
4					056			056		111				-067	111	-042	
5								-083	050	-100				-133	-214	-242	200
6												-167		667			
7												250					
8									417			-167		034			
9										200	250	125	-333	-067	250		
10														233			
11																091	
12														-067			
13																	
14															357	133	-117
15																	071
16																	-250
17																	

TABLE 48: SPONTANEOUS PROSOCIAL BEHAVIOUR DIFFERENCE MATRIX

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1															-358	-429	071
2			024	-088	-071												
3				667	-071	-200					-167						
4													1000		286		333
5					077					154							
6														-200		214	214
7												-250		600			
8																	
9									714			250		043			
10										-250	167	167		100	167		
11														150			
12													100				
13																	
14															-143	100	200
15																	143
16																	
17																	

APPENDIX 3: EMPATHY

3.1. Assessment Material

(i) Cut out model and rating scale
(ii) Sample of pictures

3.2. Scores on Pictures of Happy and Unhappy Children

3.1. Assessment Material

(i) Cut out model and rating scale

(ii) Sample of pictures

Please note: the quality of the reproductions is less good than the originals shown to the children

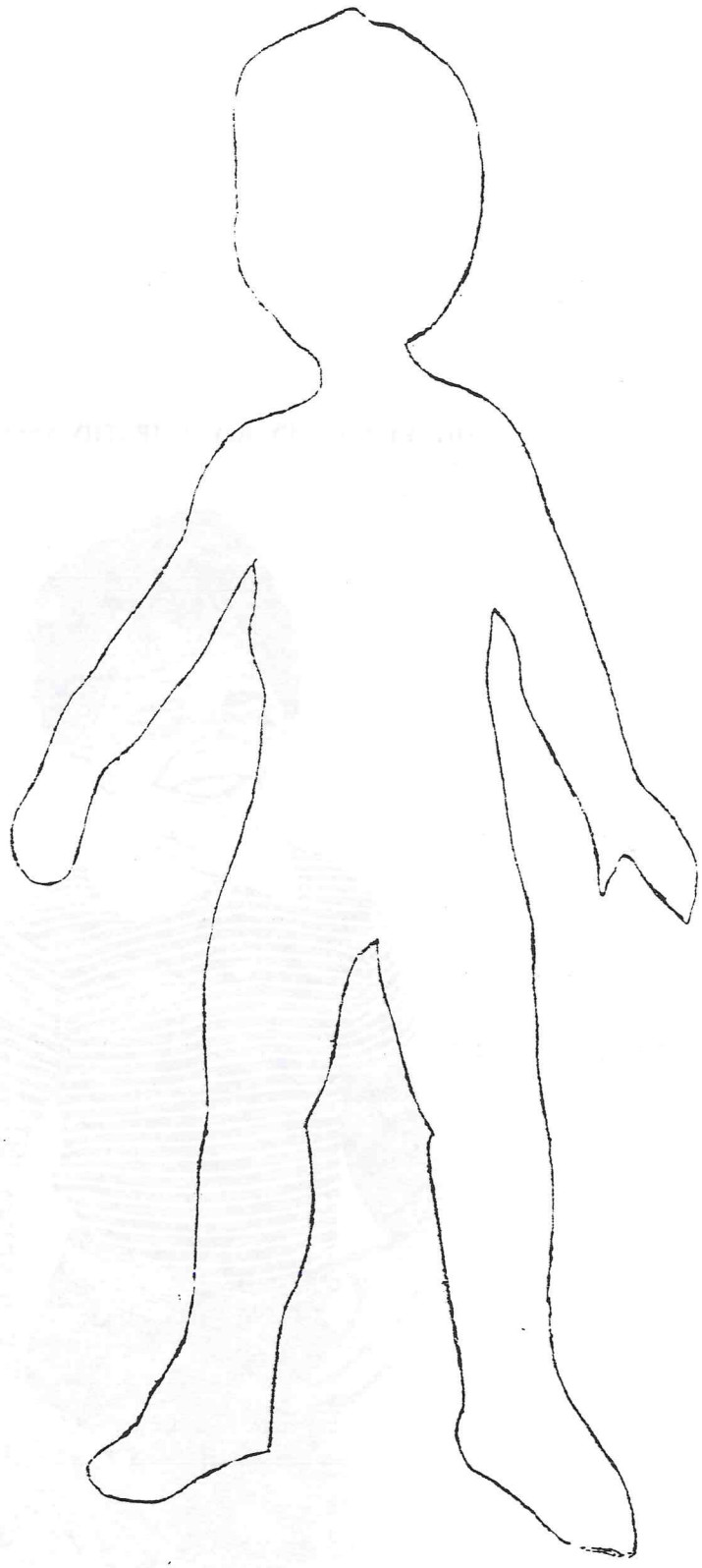


FIGURE 7: RATING SCALE (SCALE USED BY THE CHILD TO RATE HIS AND ANOTHER CHILD'S EMOTIONAL EXPERIENCE)

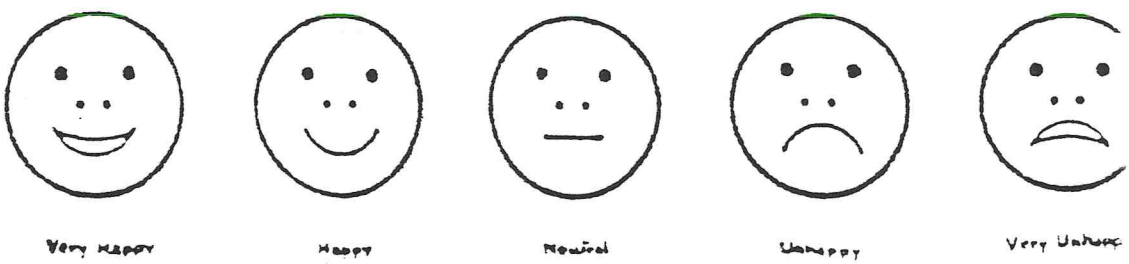


FIGURE 8: HAPPY BOY (EMPATHY AFFECTIVE TEST)

FIGURE 9: HAPPY BOY (EMPATHY COGNITIVE TEST)

FIGURE 10: HAPPY GIRL (EMPATHY AFFECTIVE TEST)

FIGURE 11: HAPPY GIRL (EMPATHY COGNITIVE TEST)

FIGURE EMPATHY 12: UNHAPPY BOY (EMPATHY AFFECTIVE TEST)

FIGURE 13: UNHAPPY BOY (EMPATHY COGNITIVE TEST)

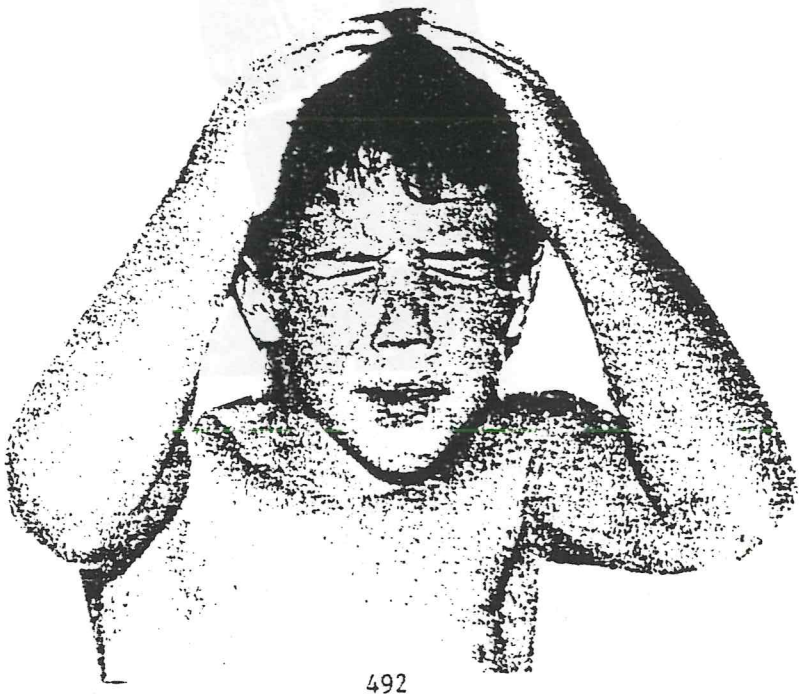


FIGURE 14: UNHAPPY GIRL (EMPATHY AFFECTIVE TEST)

FIGURE 15: UNHAPPY GIRL (EMPATHY COGNITIVE TEST)

TABLE 49: SCORES ON PICTURES OF HAPPY AND UNHAPPY CHILDREN (EMPATHY: AFFECTIVE TEST)

CHILDREN	CHILDREN'S PICTURES																	
	Happy							Unhappy							Happy and Unhappy			
	BOYS			GIRLS			Total	BOYS			GIRLS			Total	BOYS	GIRLS		
	Pictures I	Pictures II	Total	Pictures I	Pictures II	Total		Pictures I	Pictures II	Total	Pictures I	Pictures II	Total					
1	3	4	7	3	3	6	13	4	4	8	4	3	7	15	15	13	28	
2	4	3	7	4	3	7	14	1	0	1	1	0	1	2	8	8	16	
3	4	3	7	4	4	8	15	0	1	1	0	0	0	1	8	8	16	
4	4	3	7	3	3	6	13	3	2	5	4	4	8	13	12	14	26	
5	1	0	1	4	4	8	9	1	1	2	3	0	3	5	3	11	14	
6	4	4	8	4	4	8	16	4	4	8	4	3	7	15	16	15	31	
7	4	3	7	2	1	3	10	4	4	8	1	0	1	9	15	4	19	
8	1	3	4	4	2	6	10	4	4	8	2	3	5	13	12	11	23	
9	4	4	8	4	3	7	15	0	3	3	3	0	3	6	11	10	21	
10	0	0	0	2	3	5	5	3	4	7	3	1	4	11	7	9	16	
11	3	4	7	0	3	3	10	3	2	5	3	4	7	12	12	10	22	
12	3	3	6	3	2	5	11	3	2	5	4	4	8	13	11	13	24	
13	4	3	7	0	1	1	8	0	0	0	2	2	4	4	7	5	12	
14	4	3	7	3	2	5	12	4	4	8	2	3	5	13	15	10	25	
15	4	4	8	3	4	7	15	4	2	6	2	2	4	10	14	11	25	
16	3	4	7	4	4	8	15	2	2	4	3	4	7	11	11	15	26	
17	4	4	8	4	4	8	16	0	0	0	0	0	0	0	8	8	16	

TABLE 50: SCORES ON PICTURES OF HAPPY AND UNHAPPY CHILDREN (EMPATHY: COGNITIVE TEST)

CHILDREN	CHILDREN'S PICTURES																
	Happy							Unhappy							Happy and Unhappy		
	BOYS			GIRLS			Total	BOYS			GIRLS			Total	BOYS	GIRLS	TOTAL SCORE
	Pictures I	Pictures II	Total	Pictures I	Pictures II	Total		Pictures I	Pictures II	Total	Pictures I	Pictures II	Total				
1	4	3	7	4	1	5	12	4	4	8	4	4	8	16	15	13	28
2	4	3	7	3	4	7	14	3	0	3	0	3	3	6	10	10	20
3	4	4	8	4	4	8	16	4	4	8	3	3	6	14	16	14	30
4	3	3	6	4	4	8	14	2	2	4	2	4	6	10	10	14	24
5	4	1	5	3	3	6	11	3	4	7	3	3	6	13	12	12	24
6	4	4	8	4	4	8	16	4	4	8	4	4	8	16	16	16	32
7	4	2	6	3	4	7	13	4	3	7	0	4	4	11	13	11	24
8	4	4	8	4	3	7	15	3	3	6	3	2	5	11	14	12	26
9	3	4	7	4	4	8	15	2	1	6	4	4	8	14	13	16	29
10	3	3	6	3	4	7	13	4	4	8	4	4	8	16	14	15	29
11	1	2	3	4	4	8	11	2	4	6	4	2	6	12	9	14	23
12	3	0	3	3	4	7	10	3	3	6	3	2	5	11	9	12	21
13	4	4	8	4	4	8	16	3	3	6	2	4	6	12	14	14	28
14	4	3	7	4	3	7	14	2	3	5	3	3	6	11	12	13	25
15	4	4	8	4	4	8	16	3	4	7	4	4	8	15	15	16	31
16	4	3	7	4	3	7	14	4	2	6	4	2	6	12	13	13	26
17	4	4	8	4	4	8	16	4	3	7	0	4	4	11	15	12	27

TABLE 51: SCORES ON PICTURES OF HAPPY AND UNHAPPY CHILDREN (EMPATHY: AFFECTIVE AND COGNITIVE TESTS)

CHILDREN	CHILDREN'S PICTURES								
	Happy			Unhappy			Happy and Unhappy		
	BOYS	GIRLS	TOTAL	BOYS	GIRLS	TOTAL	BOYS	GIRLS	CHILDREN
1	14	11	25	16	15	31	30	26	56
2	14	14	28	4	4	8	18	18	36
3	15	16	31	9	6	15	24	22	46
4	13	14	27	9	14	23	22	28	50
5	6	14	20	9	9	18	15	23	38
6	16	16	32	16	15	31	32	31	64
7	13	10	23	15	5	20	28	15	43
8	12	13	25	14	10	24	26	23	49
9	15	15	30	9	11	20	24	26	50
10	6	12	18	15	12	27	21	24	45
11	10	11	21	11	13	24	21	24	45
12	9	12	21	11	13	24	20	25	45
13	15	9	24	6	10	16	21	19	40
14	14	12	26	13	11	24	27	23	50
15	16	15	31	13	12	25	29	27	56
16	14	15	29	10	13	23	24	28	52

APPENDIX 4: NURSERY NURSES'RATINGS

(i) Self-control behaviour Inventory

(ii) Item and total scores obtained on self-control behaviour inventory

(iii) Scores obtained on nursery nurses'ratings of empathy, prosocial behaviour, assertiveness and aggression

Name of Pupil _____

Date _____
County _____

	A Rarely Does 0	B Sometimes Does 1	C Usually Does 2	D Almost Always Does 3
1. Pays attention to teacher's directions or instructions.				
2. Remembers teacher's directions or instructions.				
3. Organizes self to perform assignments.				
4. Anticipates the consequences of own behavior.				
5. Manages external frustration while working on an assignment.				
6. Can delay actions even when excited.				
7. Expresses feelings through acceptable words and behavior.				
8. Thinks positively about self.				
Column Score	X			

Scoring Values:
Rarely Does - 0 points
Sometimes Does - 1 point
Usually Does - 2 points
Almost Always Does - 3 points

*Total SCBI Score - _____

Self-Control Behavior Inventory [SCBI]

A	B	C	D
Rarely Does (less than 20% of time)	Sometimes Does (less than 50% of time)	Usually Does (more than 50% of time)	Almost Always Does (more than 80% of time)

Self-Control Components

1. *Pays Attention to Teacher's Directions or Instructions (Selection).*

   Behavioral Examples:

   — Pays attention to teacher directions or instructions (e.g., listens and observes with care).

   — Can work intently on tasks (e.g., maintains span of attention and interest; makes steady progress toward completing tasks).

2. *Remembers Teacher's Directions or Instructions (Storage).*

   Behavioral Examples:

   — Can accurately recall or repeat verbal instructions given by teacher (or peers).

   — Can accurately perform behavior(s) after directions have been given (e.g., seems to know what is to be done; does not ask for instructions to be repeated).

3. *Organizes Self to Perform Assignments (Sequencing and Ordering).*

   Behavioral Examples:

   — Has the ability to organize himself for a task

   — Can perform an action that requires several steps to be taken in order (e.g., folding paper to produce shapes).

   — Does not become easily flustered, confused, or overwhelmed when he has to perform a series of actions to complete a task.

   — Is able to find several ways of achieving a goal.

4. *Anticipates the Consequences of Own Behavior (Anticipating Consequences).*

   Behavioral Example:

   — Can verbalize what might happen if certain behavior occurs (e.g., can anticipate teacher's reaction if assignment is not completed; can anticipate peers' reaction to unacceptable social behavior; can explain to other children what might happen if certain actions are taken).

5. *Manages External Frustrations while Working on an Assignment (Managing Frustration).*

   Behavioral Examples:

   — Can accept obstacles placed in way (e.g., persists on task even when faced with outside interference; does not strike back or withdraw quickly when faced with difficulty).

   — Can accept disappointment (e.g., seems to understand and maintain control when not able to get own way; does not become overly distressed when let down by others).

   — Can continue working effectively even after interruption or interference (i.e., returns to drawing a picture after others have teased about it).

6. *Can Delay Actions even when Excited (Inhibition and Delay).*

   Behavioral Examples:

   — Able to inhibit actions, even when excited or eager to respond.

   — Can perform a task in part and set it aside for another time (e.g., able to complete projects requiring gradual progress rather than instant attainment).

— Can express movement, feeling, and action in moderation without extreme responses (e.g., laughing, not hysterics; noisiness, not chaos, etc.).

— Does not exhibit temper tantrums or aggressive outbursts.

7. *Expresses Feelings through Acceptable Words and Behavior (Appreciating Feelings).*

Behavioral Examples:

— Can use words to describe feelings (e.g., he looks sad, happy, angry, etc.).

— Can express own feelings in words (e.g., expresses feelings of loneliness, anger, happiness, etc.).

— Seeks help or substitute activities when strongly upset rather than displaying gross outbursts or marked withdrawal (e.g., calls for teacher; asks to change task or situation rather than blowing up).

— Is not hypersensitive.

8. *Thinks Positively about Self (Appreciating Feelings).*

Behavioral Examples:

— Shows pleasure at own efforts or accomplishments.

— Shows willingness to display work or interests to others.

— Is willing to volunteer to help others.

— Expresses liking and enjoyment of own behavior.

TABLE 52: ITEM AND TOTAL SCORES OBTAINED ON SELF-CONTROL BEHAVIOUR INVENTORY

Children	Scores in:	Item								Total
		1	2	3	4	5	6	7	8	
1	Raters: I	2	1	2	2	2	2	1	3	15
	II	2	3	3	3	2	3	1	3	20
	Mean	2	2	2.5	2.5	2	2.5	1	3	17
2	Raters: I	3	2	2	2	2	2	3	2	18
	II	3	2	2	2	2	1	1	3	16
	Mean	3	2	2	2	2	1.5	2	2.5	17
3	Raters: I	2	2	2	2	3	2	3	3	19
	II	3	3	3	3	3	3	1	3	22
	Mean	2.5	2.5	2.5	2.5	3	2.5	2	3	20
4	Raters: I	2	2	1	1	1	2	2	2	13
	II	2	3	3	3	2	2	1	3	19
	Mean	2	2.5	2	2	1.5	2	1.5	2.5	16
5	Raters: I	1	1	1	1	1	1	2	3	11
	II	1	3	1	3	0	0	2	2	12
	Mean	1	2	1	2	0.5	0.5	2	2.5	11
6	Raters: I	2	1	1	1	1	1	2	2	11
	II	2	2	2	2	1	1	1	2	13
	Mean	2	1.5	1.5	1.5	1	1	1.5	2	12
7	Raters: I	2	1	1	1	1	1	1	1	9
	II	3	2	2	2	3	2	1	2	17
	Mean	2.5	1.5	1.5	1.5	2	1.5	1	1.5	13
8	Raters: I	3	3	3	3	2	3	3	3	23
	II	3	3	3	3	3	3	3	3	24
	Mean	3	3	3	3	2.5	3	3	3	23
9	Raters: I	3	2	2	2	1	2	1	2	15
	II	3	2	3	3	3	2	1	3	20
	Mean	3	2	2,5	2,5	2	2	1	2,5	17
10	Raters: I	2	1	1	1	1	1	1	1	9
	II	2	2	2	2	2	2	1	3	16
	Mean	2	1,5	1,5	1,5	1,5	1,5	1	2	12
11	Raters: I	3	2	2	2	2	3	2	3	19
	II	3	2	2	2	3	2	1	3	18
	Mean	3	2	2	2	2,5	2,5	1,5	3	18
12	Raters: I	2	1	1	1	1	1	1	1	9
	II	3	2	2	2	3	2	1	2	17
	Mean	2.5	1.5	1.5	1.5	2	1.5	1	1.5	13
13	Raters: I	2	3	1	3	2	2	2	2	17
	II	2	3	3	2	2	1	2	3	18
	Mean	2	3	2	2.5	2	1.5	2	2.5	17
14	Raters: I	2	1	1	1	1	1	2	1	10
	II	2	2	1	2	1	2	1	2	13
	Mean	2	1.5	1	1.5	1	1,5	1.5	1.5	11
15	Raters: I	3	3	3	3	2	2	3	3	22
	II	3	2	2	3	2	2	1	3	18
	Mean	3	2.5	2.5	3	2	2	2	3	20
16	Raters: I	2	2	1	2	2	1	1	2	13
	II	2	2	2	3	2	2	1	3	17
	Mean	2	2	1,5	2,5	2	1,5	1	2,5	15
17	Raters: I	2	1	1	1	1	1	1	1	9
	II	1	3	1	1	2	1	2	3	14
	Mean	1.5	1.5	1	1	1.5	1	1.5	2.5	11

Instituto Superior de Psicologia Aplicada
BIBLIOTECA

TABLE 53: SCORES OBTAINED ON NURSERY NURSES'RATINGS OF EMPATHY, PROSOCIAL BEHAVIOUR, ASSERTIVENESS AND AGGRESSION

Children	EMPATHY			PROSOCIAL BEHAVIOURS			ASSERTIVENESS			AGGRESSION		
	Raters:		Mean	Raters:		Mean	Raters:		Mean	Raters:		Mean
	I	II		I	II		I	II		I	II	
1	2	3	2,5	4	5	4,5	5	5	5	5	2	3,5
2	2	4	3	3	5	4	2	3	2,5	2	1	1,5
3	5	4	4,5	4	5	4,5	4	4	4	2	1	1,5
4	4	3	3,5	3	4	3,5	4	5	4,5	3	2	2,5
5	3	2	2,5	4	3	3,5	5	5	5	5	3	4
6	3	3	3	4	5	4,5	3	5	4	3	2	2,5
7	1	3	2	2	3	2,5	1	2	1,5	1	1	1
8	5	5	5	3	5	4	5	5	5	4	1	2,5
9	3	5	4	3	5	4	2	2	2	1	1	1
10	2	3	2,5	3	5	4	2	3	2,5	2	1	1,5
11	4	4	4	2	5	3,5	2	1	1,5	2	1	1,5
12	1	3	2	2	3	2,5	1	2	1,5	1	1	1
13	2	4	3	3	4	3,5	4	5	4,5	3	2	2,5
14	3	3	3	3	5	4	2	2	2	1	1	1
15	3	4	3,5	4	5	4,5	4	4	4	2	1	1,5
16	2	3	2,5	3	2	2,5	5	5	5	4	2	3
17	2	2	2	3	2	2,5	4	4	4	3	3	3