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**PARENTAL CONCERNS IN GENERAL PARENTING:
THE DEVELOPMENT OF A SCALE TO ASSESS PARENTAL CONCERNS**

PREOCUPAÇÕES PARENTAIS NA PARENTALIDADE GENÉRICA:
DESENVOLVIMENTO DE UMA ESCALA DE AVALIAÇÃO DE
PREOCUPAÇÕES PARENTAIS

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To my father

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Palavras-chave:

Parentalidade; preocupações parentais; escala de avaliação; estudo representativo

Key words:

Parenting; parental concerns; assessment scale; representative study

PsycINFO Classification Categories and Codes:

2200 Psychometrics & Statistics & Methodology

 2226 Health Psychology Testing

2900 Social Processes & Social Issues

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RESUMO

Objetivo: Este estudo teve como objetivo desenvolver um instrumento de medida das preocupações parentais genéricas, e avaliar a prevalência das preocupações em pais Portugueses de crianças entre os 3 e os 10 anos.

Metodologia: Participaram 3842 pais de crianças a frequentar o ensino público pré-escolar e o 1º ciclo do ensino básico. Tendo por objetivo o estudo representativo da população portuguesa, realizou-se uma amostragem estratificada que selecionou 820 escolas dos 18 Distritos de Portugal Continental. Foi realizada uma pesquisa em bases de dados relevantes para o tema, tendo como palavra-chave preocupações parentais, e como critérios de inclusão serem peer-reviewed, focarem a avaliação das preocupações parentais e serem pertinentes para a parentalidade genérica. Os pais preencheram um questionário sociodemográfico, a Escala de Preocupações Parentais, a Escala de Stress Parental e duas subescalas do Inventário de Comportamento da Criança para Pais.

Resultados: Foram selecionadas 128 publicações que preencheram os critérios definidos. Os temas foram agrupados segundo as seguintes categorias: Definição de preocupação parental, determinantes das preocupações parentais, preocupações parentais preditivas de problemas da criança, preocupações parentais preditivas do comportamento parental, resultados das preocupações parentais, influência das preocupações parentais nos profissionais de saúde, preocupações parentais e estratégias de intervenção. Os estudos de validação da Escala de Preocupações Parentais revelaram validade de constructo, avaliado por uma Análise Fatorial Confirmatória que confirmou os 5 fatores da Escala, e valores elevados de consistência interna, avaliada pelo alfa de Cronbach. A validade de critério, avaliada através da correlação com o ICCP, revelou valores baixos de correlação. Os estudos de validação da Escala de Stress Parental revelaram validade de constructo através de uma Análise Fatorial Confirmatória, confirmando os 4 fatores definidos na versão Portuguesa da Escala. Valores mais elevados de stress verificaram-se em pais de crianças do sexo masculino, com um maior número de irmãos, e em pais com um nível de escolaridade mais baixo, mais velhos, divorciados ou solteiros, e ainda em mães em situação profissional inativa. O estudo comparativo entre preocupações parentais e stress parental revelou correlações baixas. No estudo de prevalência das preocupações verificaram-se valores muito elevados de preocupação. O valor mais elevado verificou-se na subescala preocupações escolares e problemas familiares, enquanto o valor mais baixo foi observado na subescala de medos das crianças. A análise das variáveis sociodemográficas revelou diferenças significativas entre mães e pais, no sexo da criança, no nível de escolaridade da criança, no nível de escolaridade dos pais, na idade dos pais ao nascimento da criança, no estado civil, e na situação profissional.

Conclusões: A Escala de Preocupações Parentais revelou boas qualidades psicométricas, validade de constructo e validade de critério. Estes resultados apontam para a validade da escala na avaliação das preocupações parentais na investigação e na prática clínica. Os elevados níveis de prevalência das preocupações parentais confirmam a necessidade de avaliação pelos profissionais de saúde, devendo ser definidas diferentes estratégias de intervenção consoante o nível de preocupação que os pais manifestem. Estudos posteriores deverão analisar a influência da personalidade dos pais, problemas de saúde mental, e fatores de conjugalidade.

ABSTRACT

Objective: The aim of this study was to develop an instrument to assess general parental concerns, and to evaluate parental concerns' prevalence in Portuguese parents of children between 3 and 10 years old.

Methods: The participants were 3842 parents of children attending public preschool and primary school. Being our aim to study a representative sample of Portuguese parents, a stratified design sample scheme selected 820 schools in the 18 Portuguese Districts. An extensive search was conducted using relevant databases. The key-words were parental concerns, and the criteria for inclusion were peer-reviewed publications, parental concerns' assessment, and being an issue of interest to general parenting. Parents completed a socio-demographic questionnaire, the Parental Concerns Scale, the Parental Stress Scale, and two subscales of the Portuguese version of the Child Behavior Checklist.

Results: 128 publications were selected for inclusion. Themes were grouped according to seven main outcome categories: Parental concerns' definition, parental concerns' determinants, parental concerns predictive of children's problems, parental concerns predictive of parental behavior, parental concerns' outcomes, parental concerns' influence on healthcare professionals, and parental concerns and intervention strategies. Results support the 5-factor structure of the Parental concerns Scale, which showed construct related validity, as evaluated by a confirmatory factorial analysis, and a strong internal consistency. Low evidence of criterion-related validity was obtained by a correlational study with CBCL. The validity studies conducted with the Parental Stress Scale supported the 4-factor structure of the Portuguese version of the Parental Stress Scale. Higher levels of parental stress were reported by parents of boys, with a lower educational level, older, divorced or single parents; unemployed mothers, and with a higher number of children. Parental concerns and parental stress' comparative study reported very low correlations. The prevalence study reported very high levels of parental concern. The highest level of concern was obtained in the subscale family and school problems, and the lowest level of concern in the fears subscale. Comparative analysis reported significant differences between mothers and fathers; child's gender; child's schooling level; mothers' and fathers' level of education, age at childbirth, marital status, and employment status.

Conclusions: The Parental Concerns Scale revealed good psychometric properties, construct validity, and criterion related validity. These results confirm the validity of this instrument in the assessment of parental concerns for research and clinical practice. The high prevalence levels of parental concerns in general parenting brings evidence for the need to address parental concerns, and also to define different strategies of intervention in accordance to the level of concern parents express. Future research should address the parents' personality, mental health problems, and also marital variables that might influence parental concerns.

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GENERAL INTRODUCTION

1. Aims and scopes of the present study

Listening and addressing parental concerns is considered to be a fundamental issue in psychological evaluation and intervention, being transversal to different areas in psychology, such as clinical psychology, health psychology, and educational psychology. Parental concerns play an important role in all child and family intervention areas, from the parents' and the child's initial referral, to the parents' adherence to different intervention strategies.

A parental concern is a sign of interest and care for the child. Donald Winnicott gave an important contribution to the development of the concept with his notion of maternal primary preoccupation, in the first weeks of the infant's life. He defined it as a psychological condition that «gradually develops and becomes a state of heightened sensitivity during, and especially towards the end of the pregnancy», «which enables them to adapt delicately and sensitively to the infant's needs at the very beginning» (Winnicott, 1956, p. 300). This state is normal and temporary, and allows the mother to become preoccupied with her infant to the exclusion of other interests, providing a necessary setting for the infant's early ego constitution. Furthermore, he considered that this ability to be concerned is acquired in the individual maturity process, reflecting an emotional state where the individual cares, and takes responsibility for the other (Winnicott, 1979). Swain et al. (2007) reinforced this idea through neuropsychological studies conducted upon the child's early development. However, this dimension was not further studied throughout the child's developmental process.

The extensive search conducted on parental concerns showed a high percentage of studies regarding specific diseases, and the children's developmental and behavioral problems, while few studies addressed general parenting. Moreover, the literature also reflected different ways of operationalizing this construct that is still in theoretical development. The majority of the studies operationalized this concept based on the parents' expressed concern, which constituted a referral for consultation, but did not define parental concerns. It was mostly considered as a parents' expressed complaint about something that was wrong with the child.

The importance given to the need of health professionals to elicit, to listen and to evaluate parental concerns in children's mental health practice and also in general practice is consensual. However, parental concerns are rarely considered a psychological concept,

being usually defined upon the children's current behavior. A symptomatic approach might be insufficient, when it is known that there are parents that are concerned about problems that are being experienced by the child, but there are also parents that are concerned about inexistent problems or even parents that do not feel concerned about the existent problems. These different types of parents should be differentiated, as it will be necessary to promote different intervention strategies. In addition, excessive concern and lack of concern may have a negative effect on the parent-child's relationship, conducting to different child's psychopathological problems, reason why these parental concerns should be addressed on their onset, to promote a healthier relationship. It is important, in the clinical practice, to distinguish between the complaints expressed by the parents, the professional assessment, and the psychological elements that interfere with the actual concern. Usually, parents report more problems than those verified by a professional assessment (Blanchard, et al., 2006; Reijneveld, De Meer, Wiefferink, and Crone, 2008; Stickler, Broughton, & Alario, 1991). However, regarding the child's developmental and behavioral problems, Glascoe (1997) considered that this disproportionate anxiety may reflect a more subtle observation from parents that is not diagnosed in formal testing.

Prior research demonstrated that parental concerns are determined by internal factors such as the parents' personality, or mental health problems, and external factors such as life stressors, or the child's difficult temperament or behavior. In addition, these parental concerns were related to parental behavior. Being considered as a sign of interest for the child's needs, they influence parental behavior, promoting healthier parenting practices, and were predictive of positive outcomes for childhood behavior. When these parental concerns are excessive, they may promote a more controlling and restrictive behavior from parents, which might lead to a disruption in the child's independence and autonomy processes, as well as to negative outcomes for the child's personality and behavior. Moreover, these excessive concerns were related to poor adherence to the child's medical treatments. The lack of concern was also related to poor adherence to prevention strategies, for example in childhood obesity, and to negative outcomes for the child's personality and behavior.

There were some studies that addressed general parenting. Overall, parents expressed concern about their parental role and recognized a need for help with parenting. Stickler, Broughton, and Alario (1991) compared parental worries to actual risks in a group of American parents, and reported that the majority of the parents worried about their own

contribution to their child's wellbeing. The highest percentage of concerns regarded the child's abduction, conversely a problem that had a very low risk of occurrence. Similarly, Akister and Johnson (2002) also reported a high percentage of parental concern about child abuse. Slater et al. (2010) analyzed a representative sample of Australian parents, and concluded that parents were concerned about their child's education, health, and wellbeing. Several studies reported that the parents were mostly concerned about their child's negative behaviors, in infants and toddlers (O'Brien, 1996), as well as in preschoolers and in primary school children (Mesibov, Shroeder & Wesson, 1993; Akister and Johnson, 2002). Parents also expressed frequent concerns about their child's feeding and sleep, school problems (Stickler, et al., 1991; Mesibov, et al., 1993; Akister, 2002), toileting problems, developmental and emotional problems (Mesibov et al. 1993), and also about family relations (Mesibov, et al., 1993; Akister, 2002).

The prevalence studies that were conducted in Great Britain, in the United States, and in the Netherlands, focused on the child's behavior, emotional and developmental problems (Blanchard, Gurka, & Blackman, 2006; Elligson, Briggs-Gowan, Carter, & Horwitz, 2004; Ford, Sayal, Meltzer, & Goodman, 2005; Halfon et al., 2002; Long, Gurka, & Blackman, 2008; Reijneveld, De Meer, Wiefferink, and Crone, 2008). Parental concerns were highly prevalent, except for the British study (Ford, et al., 2005) that had a different variable's operationalization, based on the problems presently occurring with the child, and in the study by Long et al. (2008) where the frequency of concerns regarded only parents with high levels of concern, because their study aimed at the comparison between this variable and parental stress. The parental concerns' analysis, by family and child background, reported higher prevalence rates among parents with a lower socioeconomic level, and in single parents (Long, Gurka, and Blackman, 2008; Reijneveld, et al., 2008). Additionally, Reijneveld, et al. (2008) found higher prevalence rates in parents of younger children, from labor immigrant families, in families with a single child, and fathers with a medium educational level; while Long, et al. (2008) found higher rates in parents of boys compared to parents of girls, and in parents with a lower educational level.

Several studies demonstrated that parental concerns were highly sensitive of the children's developmental and behavioral problems (e.g. Glascoe, MacLean, & Stone, 1991), results that reinforced the importance of eliciting parental concerns in health and in educational settings. In addition, these results supported evidence for the possibility of considering parental concerns as a pre-screening test, or even as a screening test when

concerns are systematically elicited (Glascoe, 1997). Ford et al. (2005) also confirmed the specificity and negative predictive power of parental concerns.

Regarding the benefits of eliciting parental concerns, such as providing a collaborative approach, there are also some constraints derived from the difficulty expressed by some parents to seek for professional help, or even from the adoption of a «wait and see» approach from healthcare professionals in response to parents' concerns. This approach by health professionals was associated to parents' dissatisfaction with services, and especially to a possible aggravation of the children's problems. The use of checklists by healthcare professionals, that addressed parental concerns, was considered to be a way to revert this problem, stimulating parental concerns' discussion and promoting a better relationship between parents and professionals (Kanoy & Schroeder, 1993; Triggs & Perrin, 1989).

There are instruments that aimed at measuring the construct in specific dimensions, such as parental concerns about the children's chronic disease, developmental problems and behavioral problems. The studies by Glascoe (e.g. Glascoe, 2003) made a very relevant contribution to the definition of parental concerns; the author also developed an instrument for primary care use, to assess parental concerns about their children's development.

Considering the inexistency of instruments to assess parental concerns in general parenting, as well as, related prevalence studies, we had two primary aims with this study, the development of an instrument to assess parental concerns in general parenting, and the study of general parental concerns' prevalence in the Portuguese parents of preschool and primary school children.

In order to develop an instrument to assess parental concerns, we considered the problems' definition reported in the study by Mesibov, Schroeder and Wesson (1993). These authors developed a longitudinal study to address parental concerns in a call-in and come-in service, plus educational groups, in a pediatric setting. Parents were able to express their concerns about their children without any constraints, differently from other studies where parents had to report their concerns based on a prior decision made by the professionals, set on what the literature considered that would be a matter of concern to parents.

In previous studies we started the construction of the scale that was now validated with a representative stratified sample of the Portuguese parents of children attending public preschools and primary schools. Given the fact that the construct parental concerns is imprecise, we considered that it would be important to compare the results obtained by the parental concerns scale we developed with the results obtained in two of the Child Behavior Check List (CBCL) subscales from the Portuguese validation study (Albuquerque, et al., 1999), and in the Parental Stress Scale (Berry & Jones, 1995). The CBCL was chosen because the literature supported that parent's concerns were predictive of their children's problems. Additionally, this scale is widely used for research purposes, and it is validated for the Portuguese population of parents. Stress and concerns are confounded in some studies, where authors refer to stress as a concern. The Parental Stress Scale by Berry and Jones (1995) was chosen because it measures general parental stress, while the Parenting Index developed by Abidin (1997), more widely used by researchers, assesses the stress resulting from the parent-child system. Prior research reported few studies about the relation between parental concerns and parental stress. Parental stress was associated to a higher intensity or frequency of concern, especially in studies about the children's chronic disease or mental disease.

2. Dissertation structure

This dissertation was written in an article format, integrating four papers, each one representing specific aspects of its overall study. These four papers were divided into three parts, the first one presenting the parental concerns background, the second the parental concerns' scale validation studies and the third one the parental concerns' prevalence in general parenting.

The first part, the parental concerns background, has one chapter named parental concerns definition: systematic review of the literature. This paper is a review of the literature about parental concerns, pertinent to general parenting and to the construct definition.

The second part, concerning the scales' validation study, integrates two chapters, the parental concerns scale for parents of children from 3 to 10 years old, and the Parental Stress Scale: validation study with a Portuguese population of parents of children from 3 to 10 years old. The first paper presents the parental concerns scale that was developed, its psychometric properties and its validity studies. The second paper reports the Parental Stress Scale validation study and the comparative study between this scale and the Parental Concerns Scale to assess criterion related validity.

Finally, the third part of this dissertation regards parental concerns' prevalence in general parenting. It has one chapter named parental concerns' prevalence and sociodemographic variables in general parenting. In this paper we reported the findings about parental concerns' prevalence in a stratified Portuguese population of parents of children between 3 and 10 years old, attending public schools, as well as the sociodemographic variables affecting general parental concerns.

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PART I

PARENTAL CONCERNS BACKGROUND

Chapter 1

Parental concerns definition: a systematic literature review

Abstract

Background: The evaluation of parental concerns is considered of extreme importance in clinical practice, confirmed by current research. However, criteria for the definition of parental concerns are not standardized, and reflect different levels of analysis. The purpose of this study was to build a descriptive literature base of the current research on parental concerns.

Methods: An extensive search was conducted using MEDLINE, ERIC, PsycINFO, PsycARTICLES, Academic Search Complete, Education Research Complete, PEP Archive, and Psychology and Behavioral Sciences Collection databases. The key words used were parental concerns. Criteria for inclusion were: peer-reviewed publications, parental concerns' assessment, issue of interest for general parenting.

Results: A total of 4130 publications were abstracted and reviewed, 128 were selected for inclusion. Themes from these papers were identified and were grouped according to seven main outcome categories: Parental concerns' definition, parental concerns' determinants, parental concerns predictive of children's problems, parental concerns predictive of parental behaviour, parental concerns' outcomes, parental concerns' influence on healthcare professionals, and parental concerns and intervention strategies.

Conclusions: Evidence demonstrated that parental concerns are an expected and positive aspect of parenting. They influence parental behaviour and thus promote positive outcomes in children. Parental concerns presented high sensitivity regarding children's problems, being considered as effective as formal testing. General parental concerns, the factors that influence them and the related outcomes should be considered in future studies. Further research should also address the development of standardized instruments for the assessment of general parental concerns.

Parental concerns definition: a systematic literature review

There is an extensive body of research concerning the identification of parental concerns regarding specific groups of parents, determined medical conditions, educational issues, or different children's problems. The importance of addressing parental concerns is also well documented; however, as a result of the vast scientific production in this area, criteria for defining parental concern are not standardized. Some studies considered what parents expressed as their concerns, and others, what researchers considered to be cause for concern based on the literature.

Few studies explored parental concerns in the general population, concerning normative parenting. Stickler et al. (1991) conducted a study with 376 parents in the United States, comparing parental worries to actual medical and social risks. They concluded that the majority of parents focused their concerns on good parenting, systematized in providing their children with appropriate discipline, affection, good values and morals, and about providing sufficient financial support for their families. Their results also pointed to some issues causing disproportionate anxiety comparing to real risks, such as the abduction of the child, which was cause of frequent concern to one third of the parents, representing the highest percentage of frequent worries expressed by the parents who participated in the study.

A longitudinal study was conducted by Mesibov et al. (1993), within preventive education services in a paediatric setting, with parents from middle socioeconomic class. It included Call-In and Come-In services, plus evening parent education groups, integrating education staff representative of 12 health disciplines, to answer to parents' non-medical issues about their children. Results indicated that negative behaviours were the most frequent cause for concern. They also concluded that there were certain ages (2-3 years old) that caused more concern in parents.

Blanchard et al. (2006) using data from the 2003 National Survey of Children's Health, with 102,353 children from the United States, reported rates of parental concerns about emotional, developmental, or behavioural problems much higher than the rates of children that were actually diagnosed with those problems.

A more recent study was conducted in the Netherlands (Reijneveld et al., 2008) with a representative sample of 4107 parents, to assess the prevalence of parental concerns about their child's development, in the general population, and also to identify risk groups.

The results obtained showed that 49.3% of the parents reported some concerns, and 8.7% reported frequent concerns, mostly concerning child behaviour. Although those rates were high, the prevalence rates of professional-assessed parenting problems were much lower than those reported by the parents. They concluded that, considering the high prevalence rates obtained, parental concerns must be a general aspect of parenting.

Slater et al. (2010) identified parents' concerns in 1202 Australian parents of children from 2 to 16 years old. In their study, parents were mostly concerned about their child's education (35%), child's health and well-being (25%) and violence, drugs and alcohol (20%). Despite aiming at the children's diet, activity habits and weight status, this study did provide additional information about normative parenting.

Methods

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Results

A total of 4130 publications were abstracted and reviewed, 128 were selected for inclusion. Themes from these papers were identified, and were grouped, according to seven main outcome categories: Parental concerns' definition, parental concerns' determinants, parental concerns predictive of children's problems, parental concerns predictive of parental behaviour, parental concerns' outcomes, parental concerns' influence on healthcare professionals, parental concerns and intervention strategies. Another theme was identified but it was not selected for inclusion: the identification of parental concerns under determined health, educational and social circumstances, because of its specificity on the parenting process.

Parental concerns definition

According to Mesibov et al. (1993), most studies defined parental concerns by how frequently a paediatrician makes a referral of a parent with a specific concern to a psychologist, social worker or psychiatrist.

Winnicott (1979) considered that the capacity for concern is acquired when the individual reaches a level of emotional maturity where he/she cares, feels, and accepts responsibility for the other. It is generally accepted that parental concern is characterized by sympathy, care for the child (Fouladi et al., 2006; Huppertz et al., 2008; Kloep et al., 2001), more specifically, by a preoccupation with the interests and wants of the child, which was also verified in neuropsychological studies (Swain et al., 2007). This concern can be expressed as protection, involvement, support and encouragement (Fouladi et al., 2006) or even as anger when the child presents destructive tendencies that put his/her development at risk (Likierman, 1987).

Parental concerns may address child-related concerns, and/or parent-related concerns, defined as job stress, and personal concerns (Duhig et al., 2002; Greenberger & O'Neil, 1990). Accordingly, Dix (1991; 1992) conceptualized parental concerns related to parental goals, organized into child-centred goals, and parent-centred goals. He further refers that effective parenting must have child-centred goals, even though children, as well as parents' concerns, must be considered in positive parenting. Parenting evolves organizing emotions empathically around concerns and outcomes necessary to the child's well-being and development. Additionally, this parental emotional awareness will promote the attendance to the child's needs, the willingness to teach, to encourage and to comfort.

Parental concerns' determinants

Parental concerns usually express actual problems being experienced by the child, but evidence has reported different influence factors. Therefore, parental concerns may be influenced by internal factors, like parents' personality characteristics (Demby, 2009; Matthey, 2001; Wildman et al., 2004), parental cognitions (Sadeh et al., 2007), parental separation anxiety (Kaitz, 2007; Sadeh et al., 2007), and parents' mental health problems, such as depression, anxiety disorders, or chronic negative emotions (Briggs-Gowan et al., 1996; Dix, 1992; Swain et al., 2007).

Several studies supported evidence for external factors influencing parental concerns, related to the child, such as difficult temperament or behaviour (Ellingson et al., 2004; Kaitz, 2007; Owens & Palermo, 2008), or related to the parents, such as family stress, resulting from recent divorce (Campbell & Johnston, 1986; Hodges et al., 1990), family violence (Wissow et al., 1992), poverty and chronic stress (Richter, 2003), and also

job stress (Kaitz, 2007), that when associated to parental concerns about after-school time predicted job disruptions (Barnett et al., 2010).

Mothers that have experienced atypical circumstances like obstetrical complications also presented contiguity of concerns overtime (Kaitz, 2007). Negative events may diminish the parents' ability to differentiate their children's needs from their own, and consequently the possibility to protect and care for their child (Campbell & Johnston, 1986; Dix, 1992).

Concerning the effects of demographic factors on parental concerns, such as level of education or parenting experience, Glascoe et al. (1989; 1995) did not obtain significant differences for the type of concerns parents raised, as well as for their accuracy. However, Reijneveld et al. (2008) reported that frequent concerns were more prevalent among parents of young children, of labour-immigrant origin, with low family income and a medium paternal educational level.

Parental concerns predictive of children's problems

Glascoe et col. (1989; 1991; 1994; 1995; 1997; 1999; 2003) conducted an extensive research about the importance of using parental concerns as an indicator of children's developmental and behavioural problems. These studies allowed the development of a well standardized instrument to elicit parental concerns, named PEDS – Parents' Evaluation of Developmental Status, and also provided evidence that parental concerns were highly predictive of behavioural and developmental problems in children. Results point to the possibility of considering parental concerns as a pre-screening test for developmental delays, or even, as a screening test when concerns are systematically elicited (Glascoe, 1997).

Several studies provided evidence for parents' concerns high sensitivity in identifying developmental delays in children. Parents' concerns for speech, language, motor, or cognitive skills were indicators of developmental delay (Coghlan et al., 2004; Diamond, 1993; Glascoe et al., 1989; Glascoe, 1991; McGinty, 2000; Samms-Vaughan & Franklyn-Banton, 2008) for 70% to 80% of the parents. However, parental concerns about cognitive problems, global delay, or associated behavioural concerns presented lower sensitivity for developmental delay (Chen et al., 2004; Chen et al., 2007; Chung et al., 2011; Glascoe & Dworkin, 1995). In addition, Reijneveld et al. (2008) verified that

professional and parent agreement varied from 73.8% in behavioural problems, to 87.5% in developmental delays.

High sensitivity was also obtained in identifying children's behavioural problems, although the positive predictive value was low because parents voiced more concerns than the children had significant problems (Glascoe et al., 1991; Malhi & Singhi, 2002; Mulhern et al., 1994). A similar result was obtained with hearing concerns (Hammond et al., 1997) and in the study by Stickler et al. (1991) where parental concerns were much higher than the actual risks the child was facing.

Glascoe (2003) observed that the detection of mental health problems, when children were 4.5 years and older and at low risk for developmental problems, was possible by eliciting certain parental concerns. Furthermore, parental concerns voiced in early childhood significantly predicted school-age problems (Briggs-Gowan & Carter, 2008; Diamond, 1987; Restall & Borton, 2010), and identified a large number of children with hearing loss (Olusanya et al., 2006; Thompson & Thompson, 1991).

Ford et al. (2005) conducted a nationally representative study in Great Britain, with 10438 children aged from 5 to 15 years, addressing parental concerns about their children's emotions and behaviour. Results from this study confirmed the negative predictive power and specificity of parental concerns, meaning that clinicians should rely on the lack of parental concern about the presence of psychiatric disorders in the child. Parents were accurate at identifying conduct disorders, and positive predictive power increased when both the parent and the teacher were concerned.

Specificity was found to be high in all the studies considered (Drachler et al., 2005; Ford et al., 2005; Glascoe, 1997), addressing American, Brazilian, and British, populations of parents. However, the Brazilian study verified that with deprived mothers this value decreased. Results pointed to a 99.5% of negative predictive value for the wealthier and higher educated mothers, while for deprived mothers, 5% of the children considered to have a normal development by their parents obtained a score reflecting a developmental delay. Even though the authors considered a lower predictive value for this population, it still maintained a high positive predictive value of 95%.

There are certain concerns expressed by the parents that are strong indicators of problems the children may have. Chung et al. (2011) found that parental concerns about language and motor development were good predictors of children with language and

motor delays. Concerning chronic diseases, Kulkarni (2007) found that for the majority of parents with hydrocephalus, their concerns fairly reflected the status of their child. However, parental concerns about behaviour, emotions, and/or language were often indicators of developmental delays rather than behavioural delays (Glascoe, 1994; Oberklaid et al., 1979).

Concerning the child's psychosocial problems, Wren et al. (2003) conducted a large study with 395 clinicians and 20861 children aged between 4-15 years, in the United States, Puerto Rico, and Canada. They verified that parental concerns about mood and anxiety symptoms were not predictors of psychosocial problems.

Concern is considered excessive when parents report concern about children's problems that are not confirmed by a professional assessment. Nevertheless, it may reflect an underdiagnosis, representing a more sensitive observation from parents about developmental and behavioural problems that should be further investigated by clinicians (Diamond, 1993; Glascoe, 1991; Glascoe, 1997; McMahon et al., 2007). Glascoe et al. (1991) found that parents concerned about their child's behavior, concerns which were not confirmed by a behavioral screening, had children with more behavioural problems than those parents who did not have any concerns.

Parental concerns predictive of parental behaviour

Parental concerns defined as protection and care for the child, influence parental behaviour. Dix (1992) considered that parents engage in determined behaviours once they have defined a particular goal concerning their children. Parental concerns over the negative effects of television were significant predictors of the television mediation style (Valkenburg et al., 1999), as well as parental safety concerns predicted the use of a car to take children to school (Ridgewell et al., 2009). These parental concerns were also associated with being proactive in mothers of children with disabilities, which explained some variance in the child's functioning (Vaughan, 2005); they were considered fundamental to the fathers' involvement in families with children with haemophilia, and therefore also important for the family's success in concerning their coping strategies (Mattsson & Gross, 1966); and were likely to promote healthier practices in overweight or obese children (Lampard et al., 2008). Parental concerns were also reported as a factor that predicts the seek for help/advice about their child's communication development, in a

sample of 1911 Australian families of children from 8 months to 4 years old (Skeat et al., 2010).

Parental concerns may also promote a controlling behaviour, or restrictive parenting practices. Parental concerns may stimulate a controlling parenting through dependency, related to parental separation anxiety, and achievement, which, in turn, is related to perfectionism (Baptiste, 2005; Soenens et al., 2010). Parental concerns expressed by anxiety for the child, associated with feelings of exhaustion and excessive stress, were related to restrictive practices and controlling behaviour in sick children (Huppertz et al., 2008).

The concern about fever and its potential harm was related to excessive monitoring and treatment of children, which might be felt by them as intrusive, during the time that they are recovering from the illness (Crocetti et al., 2001). Moreover, parents with greater concern about medication for asthma were more likely to have poor adherence to the children's treatment (Chan & DeBruyne, 2000; Conn, et al. 2005). Similar results were found for parents of children with attention deficit hyperactivity disorder, in spite of parents having felt that they were given adequate information about medication's safety (Kiliç et al., 2007; Stine, 1994). Greater parental concern is also associated to reduced uptake of vaccination (Fredrickson et al., 2004; Petousis-Harris et al., 2004), especially in better educated families (Leib et al., 2011).

Excessive parental concern about child's development, or behaviour, predicted significant levels of parenting stress, but did not influence the parents' decision to seek for medical care for their children with mild acute illnesses (Voigt et al., 2009).

Parental concerns' outcomes

The preoccupation with the child's needs allows the formation of strong interpersonal bonds (Swain et al., 2007), and it is predictive of positive outcomes for childhood and adolescence behaviour. It was found to be predictive of less addictive behaviours in adolescence (Kalesan et al., 2006; Kloep et al., 2001), of adolescent's life satisfaction associated with academic competence (Leung et al., 2004), and of children and adolescent's achievement and academic success (Duchesne & Ratelle, 2010). When genuine concern about others' activities is expressed at mealtime, children are less likely to experience internalizing symptoms (Fiese et al., 2006). Greater parental concern and involvement are likely to encourage more active monitoring and controlling of a child's

dietary intake, a greater inclination to seek treatment for an overweight child, and improved behavioural treatment outcomes for childhood obesity (Lampard et al., 2008).

Considering parental concern as parental care for the child, the absence of concern may reflect low patterns of parental care. Absence of the father's concern was correlated with child's personality problems (Peterson et al., 1959). Lack of parental concern about the infant's mental and physical development, was associated with mother's substance abuse during pregnancy (Seagull et al., 1996). Furthermore, a lack of parental concern in association with high levels of protection was related with greater internalizing symptoms (Anhalt & Morris, 2008), and with smoking in adolescence (Distefan et al., 1998).

Research concerning childhood obesity reported that parents' low recognition rates of child's overweight or obesity, associated to a lack of parental concern (Bossink-Tuna et al., 2009; Lampard et al., 2008), particularly at school entry (Wake et al., 2008) may prevent parents from implementing strategies to diminish risk factors for childhood obesity (Crawford et al., 2006).

A greater parental concern over the child's weight may lead to a controlling behaviour, overprotection and restrictive practices regarding the child's eating habits (Musher-Eizenman et al., 2007), which may increase the risk of adolescent overweight (Haines et al., 2007); also, this type of behaviour was found to be associated with negative self-evaluations among girls (Davison & Birch, 2001), and even growth failure in infants (Birch, 1990). Nevertheless, maternal concern about overweight when the child was 4 years old was not associated with the child's body dissatisfaction by the age of 6.5 (Mitchell et al., 2008). Perceptions of parental concerns were predictors of higher eating disorder scores in children between 6 and 14 years old (Gardner et al., 2000). Children's overweight was considered a risk factor for psychosocial problems, when associated to excessive parental concern (Stradmeijer et al., 2000).

Additionally, with participants with eating disorders, both preoccupation and parental interference were significantly (and positively) correlated with depression scores (Miljkovitch et al., 2005). In a study with 4,746 adolescents, from a population-based study about eating patterns and weight concerns among teenagers in the United States (Project EAT: Eating Among Teens), greater parental concern was associated with steroid use, which was also associated with poorer self-esteem and higher rates of depressed mood and attempted suicide (Irving et al., 2002)

Parental concerns associated to controlling parenting, and restrictions, influence negatively the development of social competences and independence in children. Parental concerns were related to low social competences in transplant children (Törnqvist et al., 1999), to changes in sleep arrangements caused by parental separation anxiety in children with epilepsy (Williams et al., 2000), and to less time playing outdoors in primary school children (Bringolf-Isler et al., 2010), which in turn may indirectly influence overweight and obesity, among 5-6 and 10-12 years old children (Timperio et al., 2005). Another study suggests that parents that were concerned about their children's activity level provided a less supportive environment for physical activity, and therefore, their children were less active than those of parents that were not concerned (Jackson et al., 2008).

Greater parental concern was also associated with more frequent parental report of internalizing behaviour problems of their children (Bos et al., 2007). Furthermore, when parental concerns were related to perfectionism, they may compromise the chances of academic success (Duchesne & Ratelle, 2010).

Parental concerns' influence on healthcare professionals

There are several studies addressing the influence of parental concerns on professionals' evaluation and related decisions. Parental concerns may influence medical decisions, even when the procedure is contrary to their initial judgement. Parental concerns influenced paediatric dentists (Zimmerman et al., 2009), dermatologists' decisions to remove benign skin lesions (Lucas et al., 2007), and otolaryngologists' decisions to insert tubes (McIsaac et al., 2000). In certain situations, parental concerns led clinicians to excessive testing and inadequate therapy (Davids et al., 1993; Edwards et al., 1994).

Parental concern and the severity of the child's illness were considered to be more important than social circumstances, in determining referral from general practitioners to specialist services, concerning psychiatric disorders in children (Chithiramohan et al., 1993). In another study, the majority of general practitioners made their referral to tertiary neurodisability, responding to parental concerns, in the absence of a medical diagnosis (Dale & Godsman, 2000).

Dulcan et al. (1990) verified that parental anxiety or depressive symptoms influenced paediatricians' identification of psychiatric problems in children. In addition, evidence indicates that physicians are more likely to identify children's psychiatric and/or psychosocial problems and make referrals for intervention when parents openly voice their

concerns about their children (Dulcan et al., 1990; Lynch et al., 1997; Wildman et al., 1999).

A study reported that more paediatricians considered their job less satisfying (46%), compared with physicians (21%), because of parental vaccine concerns (Kempe et al., 2011).

Parental concerns and intervention strategies

Research provided evidence of parental concerns accuracy compared with formal testing. They provide multiple advantages to health professionals, such as, being easy to elicit, taking few professional time, and providing a collaborative approach. The eliciting of parental concerns allows the clinician to decide the type of intervention the parents' and or the child need: the promotion of normal development, reassurance, referral, or routine monitoring (Glascoe, 1999). The information about the source, and the intensity, of parental concerns may also be helpful to better understand the concern parents report (Diamond, 1993; Lampard et al., 2008).

In spite of parents being considered reliable sources of information, some studies concluded that parents thought that health professionals failed to listen to their concerns (Restall & Borton, 2010), or adopted a "wait and see" approach, in speech and language delays (Lindsay & Dockrell 2004; Rannard et al., 2005), in developmental delays (Restall & Borton, 2010; Shevell et al., 2001), and in constipation (Farrell et al., 2003), which caused parental dissatisfaction. One of the major determinants of parental satisfaction with healthcare providers was the professional understanding of parental concerns, associated to directness, good communication, and receiving information (Hasnat & Graves, 2000; Restall & Borton, 2010). Even when the clinical impact of the problem is considered to be minor by the professional, parents need to perceive that their concerns are taken seriously (Farrell et al., 2003).

However, it was also found that there were parents who reported high levels of concern about enuresis (Inan et al., 2008), constipation (Inan et al., 2007), and behavioural problems (Ellingson et al., 2004; Glascoe, 1999), but did not voice their concerns to professionals. Studies addressing reasons why parents do not seek for professional assistance concluded that not knowing an appropriate care provider (Fujiwara et al., 2011), as well as confidence that the problem will resolve itself, difficulties experienced in asking for help, and the inability to judge the severity of children's problems, were the most

frequent reasons mentioned (Barbarin, 2007; Reijneveld et al., 2008). Moreover, according to Glascoe (1999), parents thought that if their children's problems were significant, professionals would detect them on their own.

Reijneveld et al. (2008) analyzed sociodemographic factors that could influence the help seeking process, and verified that labour immigrant families (62%), fathers with low (34%) or unknown (33%) educational level, income below poverty level (38%) or unknown (41%), and children aged between 7 and 12 years (36%), reported higher rates of not seeking help, in spite of presenting significant concerns.

Facing the difficulty of some parents to seek professional help, despite their high levels of parental concern, professionals should elicit their concerns using screening measures that rely on parental reports (Ellingson et al., 2004; Glascoe, 1999). According to Glascoe and Dworkin (1995) parental concerns and well standardized parent report measures should be used in combination and constitute an effective method for the early detection of behavioural and developmental problems in primary-care settings. Additionally, parents reported more concerns when a checklist was used than when they were asked to voice their own concerns (Kanoy & Schroeder, 1993; Triggs & Perrin, 1989). Similarly, when paediatricians used a checklist a higher number of concerns were discussed with parents (Triggs & Perrin, 1989). Regalado and Halfon (2001) reported that the use of validated approaches for the assessment of parental concerns and psychosocial risk factors seem to be more accurate in identifying developmental problems than clinicians' appraisals.

Considering the low positive predictive value of parental concerns, the referral based only on parental concerns would implicate excessive over-referral rates. According to Ford et al. (2005), when parents express concern about behavioural problems, they should be asked if the teacher is also concerned, which was reported as being more predictive of children's problems. For those parents that present unvalidated concerns, professionals are advised to make additional assessments before deciding if children should be referred or if parents should receive in-office counselling (Glascoe, 1997; Glascoe et al., 1991). Additionally, there is evidence to support that those parents who present unvalidated concerns are highly likely to respond quickly to early intervention (Glascoe & Dworkin, 1995).

In spite of the influence of parents' mental health problems on parental concerns, or other factors causing excessive concern, it is more likely that those parents will also have children with problems. According to Glascoe and Dworkin (1995), when parents are distressed and express concerns about their children, they are more likely to provide accurate clinical information. However, professionals should intervene differently, addressing parental concerns about their children, but also recommending health or social services for parents (Kulkarni, 2007).

Regarding adherence to treatment, studies reported that when parents concerns are heard and discussed, they are more likely to comply with the child's medical treatment (Chambers et al., 1997; Cuffwright, 2008; Fredrickson et al., 2004; Huang et al., 2001). Although parental concerns were associated to a lack of knowledge, there is evidence that it is not sufficient to educate and inform parents in order to achieve changes in their behaviour, or even to decrease parental concerns (Chan & DeBruyne, 2000; Franck et al., 2004; Huang et al., 2001; Stine, 1994). Therefore, it is fundamental to encourage parents to verbalize, rather than act, the concerns, fears, and conflicts that may lead to non-adherence to the medical treatments (Sadeh et al., 2007; Stine, 1994). Blanchard et al. (2006) suggested a change from a focus on a child's developmental and behavioural problems, to one that takes into account the influence of these problems on the family.

In spite of considering that effective parenting must be centred on the needs of the child, a professional focus on parental concerns, rather than on concerns about the child, may present an opportunity to express feelings, to offer care and encouragement that can then be used with the child. A study addressing the involvement of fathers in therapy, verified that both parents responded well to being offered extra therapy sessions that focus on their own personal concerns (Duhig et al., 2002).

Considering that parental concerns expressed by parents to healthcare professionals are mostly related to normal child development, parent education programs should include a multidisciplinary team, with professionals trained to answer the questions parents have, concerning multidisciplinary settings, specific children's ages, and childrearing problems (Mesibov et al., 1993). A multidisciplinary team will also be helpful to the help seeking process, by orienting parents to the appropriate care provider, and assisting with care coordination (Restall & Borton, 2010). Furthermore, active listening skills to understand parental concerns are supportive to parents, and may result in benefits to the parents-child relationship (Tomlin, 2003).

Discussion

Overall, evidence supports the fact that parental concerns are an expected and positive aspect of parenting. Parents' concerns about different aspects of parenting are highly prevalent in the general population, and are predictors of positive outcomes in children. Additionally, research reported that parental concerns should be considered as effective as formal testing because they were found to be highly sensitive to certain children's problems.

Parents need to perceive that their concerns are taken seriously by professionals, factor that promotes satisfaction with healthcare services, and may even prevent mental health disorders in children. Therefore, listening, and eliciting parental concerns are major issues in preventive healthcare, in the diagnostic process, and in the children's treatment.

Nevertheless, there are factors that might influence parental concerns, and also their possibility of being voiced, that could adversely affect parent-child relationships. Excessive concern or lack of concern may have an effect on parents' behaviour that will affect the child's well-being.

General parental concerns should be further studied, as well as the factors that predict lower or higher levels of parental concern, and that may be a risk factor for children's physical and mental health problems. Further research should also address the development of standardized instruments for the assessment of general parental concerns. Studies addressing healthcare professionals should be developed as well, to understand the difficulties they face when communicating with parents and their children about parental concerns.

Key messages

- Parental concerns are a positive aspect of parenting and are predictive of children's problems
- Excessive parental concern or lack of concern may have an adverse effect on the child's well-being
- Parental concerns should be addressed by health professionals
- Professionals should improve their skills/abilities to better communicate with parents
- Instruments must be developed to elicit parental concerns

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PART II

PARENTAL CONCERNS' SCALE VALIDATION STUDIES

Chapter 2

Parental concerns scale for parents of children from 3 to 10 years old

Abstract

Background: Evidence supports the importance of addressing parental concerns before a child intervention. The purpose of this study was to present the psychometric properties of a scale developed to assess parental concerns.

Methods: The Parental Concerns Scale is constituted by 21 items, divided into 5 concern dimensions: family and school problems; eating, sleep and physical complaints; preparation; fears; and negative behaviors.

Results: Results support the 5-factor structure of the scale, which showed construct related validity, as evaluated by a confirmatory factorial analysis, predictive validity, and a strong internal consistency.

Conclusions: This scale identifies parental concerns' intensity and areas of concern.

Keywords: Parental concerns; parental concerns scale; psychometric study; general parenting

Parental concerns scale for parents of children from 3 to 10 years old

Clinical practice and extensive research have consistently provided evidence for the importance of listening, eliciting and addressing parental concerns. These parental concerns have been recognized as highly sensitive of children's developmental delays (Coghlan, Kiing, & Wake, 2003; Diamond, 1993; Glascoe, Alteimer, & MacLean, 1989; Samms-Vaughan & Franklyn-Banton, 2008), and also about children's behavioral problems.

Nevertheless, parental concerns about child's behavior presented a low positive predictive value because parents expressed more concerns than the children had relevant problems (Glascoe, MacLean, & Stone, 1991; Malhi & Singhi, 2002; Mulhern, Dworkin, & Bernstein, 1994). Reijneveld et al. (2008) study reported that professional and parent agreement varied from 73.8% in behavioral problems to 87.5% in developmental delays. According to Ford et al. (2005) positive predictive power about children's conduct disorders increased when both the parent and the teacher were concerned.

Parental accuracy about the absence of significant problems was found to be high concerning the presence of psychiatric disorders in the child, and also about developmental delays (Ford, et al., 2005; Glascoe, 1997). Given parental concerns' high sensitivity to children's problems, they can be used as either a prescreening indicator (Diamond, 1993; Glascoe, 1991) or a screening measure, when systematically elicited (Glascoe, 1997). Additionally, Glascoe and Dworkin (1995) considered that concerns should be taken at face value, meaning that the type of concern expressed by the parents is usually an indicator of the type of problem children may have.

Prior studies also supported evidence that physicians were more likely to identify children's psychiatric and/or psychosocial problems, and make referrals for intervention when parents openly voiced their concerns about their children (Dulcan et al., 1990; Lynch, Wildman, & Smucker, 1997 ; Wildman, Kizilbash, & Smucker, 1999).

However, it is fundamental to distinguish parents' reports or checklists, concerning child's problems, from parental concerns. According to Glascoe and Dworkin (1995) they are both fundamental but distinct aspects of clinical information. Some parents may express concerns without reporting problems with their children or, on the contrary, may identify their children's problems without expressing concern about them (Glascoe & Dworkin, 1995; Matthey, 2001; Stallard, 1993). Stickler et al. (1991) found high rates of

parental concerns compared to actual risks, namely about the child's abduction. Moreover, there is evidence to support that excessive concern, as well as the lack of concern, may implicate the use of parenting practices that might have a negative effect on the parent-child's relationship, placing the child at risk for future psychopathological problems (Anhalt & Morris, 2008; Lampard et al., 2008; Lampe, Karazsia, & Wildman, 2009).

Parental concerns about their children's problems, which are not confirmed by a professional assessment, may as well reflect an underdiagnosis, representing a more sensitive evaluation from parents. Glascoe et al. (1991) verified that parents who were concerned about their child's behavior, which were not confirmed by a behavioral screening, had children with more behavioral problems than those parents who did not express any concerns.

Understanding parental concerns was found to be a major determinant of parental satisfaction with services (Firth et al., 2000; Hasnat & Graves, 2000) which in turn may promote adherence to medical treatments (Sadeh et al., 2007; Stine, 1994). However, parents differ in their ability to express their concerns (Glascoe, 1999; Orrell-Valente et al., 2007). Evidence was found that parents reported more concerns when a checklist was used than when they were asked to voice their own concerns (Kanoy & Schroeder, 1993; Triggs & Perrin, 1989). Similarly, when pediatricians used a checklist, a higher number of concerns were discussed with parents (Triggs & Perrin, 1989). According to Glascoe and Dworkin (1995), parental concerns and well standardized parent report measures should be used in combination, and constitute an effective method for the early detection of behavioral and developmental problems in primary-care settings.

It is important to have a standardized instrument that allows the clinician to evaluate general parental concerns in a quick way, in order to decide whether those concerns should be further investigated. We developed a scale to measure parental concerns based on the study by Mesibov, Schroeder and Wesson (1993). These authors conducted a longitudinal study where they identified general parental concerns in a large number of parents, in a pediatric setting. The identification of areas of parental concern, as well as the intensity of concern, should be assessed. Even when the children do not present clinically relevant problems, parents may benefit from early intervention for the problems they express (Lampe, et al., 2009). The eliciting of parental concerns through a questionnaire that can be completed before meeting with the professional may provide the

parents with the opportunity to focus on their priorities, as well as it may offer a collaborative approach, essential for successful therapeutic changes.

Method

Participants

The parental concerns scale was completed by 3842 parents of children who attended public pre-schools and primary schools, in 820 schools from 18 Portuguese districts. Children were aged from 3 to 10 years old, with a mean age of 7.06 ($SD = 1.873$), with a similar proportion of boys and girls. Mothers were aged from 21 to 55 years, with a mean age of 36.2 ($SD = 5.063$), and fathers were aged from 23 to 72 years old, with a mean age of 38.8 ($SD = 5.739$) (Table 1).

Table 1

Participants' characteristics

Demographic characteristics of the sample		
	<i>N</i>	%
Child's gender (female)	2028	52.9
Siblings		
Only child	1127	29.6
One sibling	2119	55.7
Two siblings	425	11.2
Three or more siblings	133	3.5
Child's school attendance (preschool)	882	23.0
Respondent		
Mother	2481	64.9
Father	286	7.5
Parents	1025	26.8
Others	32	0.8
Parents' marital status		
Married	3240	85.3
Cohabitation	151	4.0
Divorced	255	6.7
Single	132	3.5
Widow	21	0.6
Mother's level of education		
More than high school	1162	30.5
High school graduate	922	24.2
Less than high school	1723	45.3
Father's level of education		
More than high school	681	18.4
High school graduate	803	21.7
Less than high school	2221	59.9

Procedure

In order to have a representative sample of the Portuguese population of parents with children attending public pre-school and primary school, we chose a 2-stage stratified design sample from a database of all public schools in Portugal. The sampling scheme selected 10% of the schools in each of the 18 Portuguese districts. From the 8200 schools, 820 were selected. After the ethical approval for the study by the Ministry of Education, a letter was sent to all school Directors, followed by a telephone call, explaining the study and asking for their participation. Schools that declined participating (three schools) were replaced with other schools from the same city. All the schools that accepted participating in the study received the questionnaires, each one with an open pre-paid envelope. Teachers explained the purpose of the study to parents, in a parents' meeting, and invited 10% of the parents in each school to participate in the study, i.e. to fill in the questionnaire and return it to us via mail. Data collected was anonymous. From a total of 820 schools we obtained an average return rate of 82% of the parents.

Instruments

Parents completed the parental concerns scale, a demographic questionnaire (see table 1), and two scales of the Portuguese version of the Child Behavior Checklist. In order to assess criterion-related validity, and given there were no other validated instruments to assess general parental concerns, we firstly decided to use the Eyberg Child Behavior Inventory, because in addition to assessing the frequency of the behavior problem, it also measures whether the parent considers the specific behavior as a problem. The publisher granted us the permission to conduct validation studies with a Portuguese sample of parents. However, when we explained the procedure of the study, permission was declined. The researchers had the necessary conditions to conduct the study but the teachers that were going to meet with the parents did not. Given the wide dimension of the study we could not find the means to have qualified professionals in the collecting procedures. For this reason, we decided to use the CBCL, already validated with a Portuguese sample of parents. Moreover, another reason that supported our choice was that prior research reported that parental concerns were highly sensitive of children's problems.

Parental Concerns Scale

Mesibov et al. (1993) presented a list of 22 categories of parental concern defined through 77 concerns expressed by parents, as a result of their longitudinal investigation.

These concerns were translated into Portuguese and back translated by two bilingual researchers, and organized into a questionnaire using a Likert-type scale with 5 response possibilities (1 – not concerned to 5 – extremely concerned).

A pre-test was filled in by 18 parents of children between 0 and 9 years old. We corrected some formal aspects of the questionnaire, such as the initial statement. In the pre-test we asked parents to indicate whether the items considered were a cause of concern. Parents felt confused and did not understand if they should indicate that they were concerned with the possibility of the problem's occurrence or only if it was an actual problem. For this reason, the initial statement was modified, to the following: «The following statements describe concerns about general parenting. Please indicate the level of concern you feel about your child's current problems by circling the correspondent level of concern. If you think that the problem does not relate to you or your child, leave a blank space».

A second version of the questionnaire was presented to 302 parents. From the results obtained, 37 questions were selected with the criteria of being cause of concern for more than 50% of the parents. To determine the factorial structure of the questionnaire, the results obtained were submitted to an exploratory factorial analysis, with a varimax rotation, that suggested 5 factors, which were also established by a confirmatory factorial analysis. Items that saturated in more than one subscale, or with correlated mensuration errors, were removed to improve model's fit, leading to a version of the scale with 21 items. These 21 items were divided into 5 factors of concern (Table 2).

Table 2

Construct, construct definition and scale items

Construct	Construct definition	Scale items
Family and school problems	Concerns related to parental conflict and outside home child relations that may affect child wellbeing	1. parents disagree on rules and discipline 2. if teacher understands child 3. parents argue a lot 4. child abuse 5. what should the child be told in case of separation
Eating, sleep and physical complaints	Concerns related to eating, sleep and physical complaints expressed by the child that may represent internalizing symptoms	6. what should the child eat 7. won't eat certain foods 8. troubled sleep 9. stomach aches 10. headaches
Preparation	Concerns over separation and loss issues that imply parents preparing the child for new situations	11. preparation for new home 12. understands death 13. understands death of someone who was close
Fears	Concerns related to fears expressed by the child	14. fears 15. fears dark 16. fears monsters
Negative behaviors	Concerns over negative behaviors expressed by the child	17. lacks self control 18. doesn't obey 19. has tantrums 20. won't go to bed 21. bossy and demanding

Child Behavior Checklist

The Child Behavior Checklist by Achenbach (1991) is an instrument used for the assessment of social competences and behavioral problems, reported by parents, in children and adolescents from 4 to 18 years old. Being our purpose to evaluate the criterion related validity of the parental concerns scale, we used two factors from the behavioral problems checklist of CBCL's Portuguese version (Albuquerque et al., 1999). These two factors, 'hyperactivity' and 'somatic complaints', were chosen because they comprised items that were considered to be more similar to the items of the 'negative behaviors'

subscale and of the 'eating, sleep and physical complaints' subscale (of the parental concerns scale). The hyperactivity factor of the Portuguese version of CBCL comprised items defined by Achenbach (1991) as aggressive behaviors, with a correlation of .73, and attention problems, with a correlation of .93. Parents' responses are scored on a 3-point scale ranging from "not true" to "often true", allowing the calculation of a total sum for each scale.

Data analysis

All data was analyzed with SPSS 18 (SPSS, An IBM Company, Chicago, IL) for statistical procedures. To analyze the psychometric properties of the scale, the scale and the item's sensitivity were evaluated through the measures of skewness and kurtosis. The Scale's Validity was assessed as construct related validity, criterion related validity, and predictive validity. Construct validity was assessed by a confirmatory factorial analysis with subsequent analysis of the convergent validity (using the average variance extracted - AVE) and discriminant validity (by comparing the AVE to the squared correlation between factors) (see Fornell & Larcker, 1981, for details). Criterion related validity was assessed by Pearson's correlation between the factors of the parental concerns scale, and two factors of the Portuguese version of CBCL. The predictive validity was assessed by comparing differences between defined groups with student's t-test with Welch correction for heterogeneity of variances, and one-way ANOVA with Post-Hoc Tests for more than 3 groups. Reliability was measured by Cronbach's alpha.

Results

Table 3 presents the median values (*Mdn*), skewness (*Sk*) and kurtosis (*Ku*), for the 21 items of the parental concerns scale. All items presented median values around the central points ($Mdn = 3 - 4$), skewness and kurtosis values were close to the normal distribution, except for item 4, child-abuse, which presented a leptokurtic deviating to high scoring ($Mdn = 5$). In table 3 we can observe that none of the items, except for item 4, presented any relevant sensitivity or normality problems.

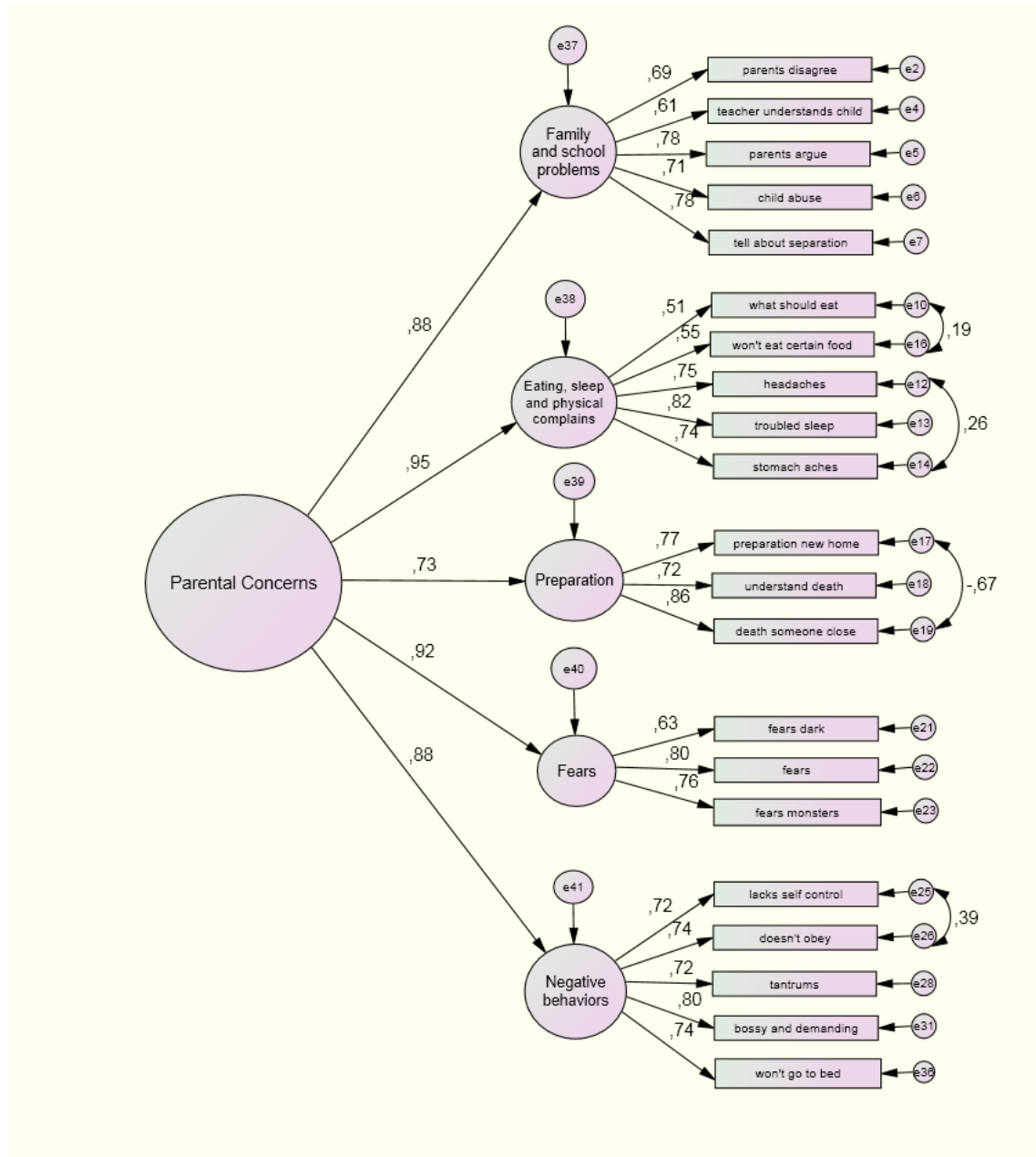
Table 3

Median values, skewness and kurtosis, minimum and maximum range of the 21 items

Item	<i>Mdn</i>	<i>Sk</i>	<i>Ku</i>	<i>Minimum</i>	<i>Maximum</i>
1. Parents disagree	4.00	-0.95	0.70	1	5
2. Teacher understands child	4.00	-1.06	1.28	1	5
3. Parents argue	4.00	-0.81	0.19	1	5
4. Child-abuse	5.00	-2.26	5.14	1	5
5. Tell about separation	4.00	-1.25	1.56	1	5
6. What should eat	4.00	-1.04	1.49	1	5
7. Won't eat certain food	4.00	-0.49	-0.10	1	5
8. Troubled sleep	4.00	-0.62	0.17	1	5
9. Stomach aches	3.90	-0.36	-0.09	1	5
10. Headaches	4.00	-1.05	1.01	1	5
11. Preparation new home	3.00	-0.09	-0.29	1	5
12. Understands death	3.00	-0.17	-0.36	1	5
13. Death of someone close	4.00	-0.56	0.23	1	5
14. Fears	4.00	-0.52	0.06	1	5
15. Fears dark	3.00	-0.03	-0.51	1	5
16. Fears monsters	3.00	-0.00	-0.32	1	5
17. Lacks self control	3.57	-0.47	-0.21	1	5
18. Doesn't obey	4.00	-0.62	-0.03	1	5
19. Tantrums	3.00	-0.29	-0.27	1	5
20. Refuses to go to bed	3.00	-0.20	-0.10	1	5
21. Bossy and demanding	3.11	-0.27	-0.35	1	5

The adjustment indices for Confirmatory Factor Analysis revealed factorial related validity for the 5 subscales defined ($\chi^2 = 2399.548$; $\chi^2/g1 = 13.331$; $p < .001$; NFI = .944; CFI = .948; GFI = .940; RMSEA = .057; $p < .001$). However, the high factorial weights of the total scale, as well as its high value of internal consistency, points to a second-order factor that would be the total scale and its construct parental concerns (Figure 1).

Figure 1. Structural weights for first-order construct and items factorial weight for each subscale, obtained by the confirmatory factorial analysis



Convergent validity was evaluated through AVE. Family and school problems subscale presented an AVE of .52; eating, sleep and physical complaints subscale, AVE = .47; preparation subscale, AVE = .58; fears subscale, AVE = .54; and negative behaviors subscale, AVE = .55. Since the AVE was greater than 0.5 for all the subscales, except for eating, sleep and physical complaints' subscale, we consider that they provide sufficient evidence of the subscales' convergent validity. Discriminant validity was verified between

subscale III – preparation, and all the other subscales; family and school problems, $r^2 = .44$; eating, sleep and physical complaints, $r^2 = .48$; fears, $r^2 = .46$; and negative behaviors, $r^2 = .40$.

Correlations between the chosen CBCL scales and the subscales of the parental concerns scale were significant ($p = .01$) but low. The highest correlation obtained was between CBCL's hyperactivity factor and the negative behaviors subscale ($r = .22$). The highest correlation obtained between CBCL's somatic complaints factor and the subscales of the parental concerns scale, was with eating, sleep and physical complaints' subscale ($r = .12$). All the factors of the parental concerns scale were strongly correlated, between $r = .75$ and $r = .88$ ($p < .01$) for each factor with the total score, and between $r = .55$ and $r = .71$ ($p < .01$), between factors.

We examined differences between groups to evaluate support for predictive validity. There were highly significant differences between fathers and mothers for the total scale ($t(2765) = -3.291$; $p = .001$), and in subscales family and school problems ($t(2765) = -2.389$; $p = .017$); preparation ($t(2765) = -5.498$; $p < .001$); fears ($t(2765) = -3.530$; $p < .001$); and negative behaviors ($t(2765) = -2.289$; $p = .022$). Gender differences between children were obtained in subscale IV - fears ($t(3830) = -2.606$; $p = .009$), and quasi-significant differences were obtained in subscale III - preparation ($t(3830) = -1.893$; $p = .058$). Comparing pre-school and primary school children, there were significant differences in subscale II - eating, sleep and physical complaints ($t(3834) = -2.253$; $p = .024$). Concerning the mothers' level of education, differences were highly significant for the total scale ($F(2, 3804) = 71.744$, $p < .001$), as well as for all the subscales. Concerning the fathers' schooling level, differences were also highly significant for the total scale ($F(2, 3702) = 54.495$, $p < .001$); and for all the subscales. Post-hoc analysis revealed that parents with lower education levels had a higher level of concern than highly educated parents.

In previous related studies using this scale, there were significant differences between normative parents and parents of children with autistic disorder, children born prematurely, and parents of children born as a result of in-vitro fertilization (Algarvio, Leal, & Maroco, 2007). Concerning our results, there were highly significant differences between normative parents and parents of autistic children for negative behaviors ($t(318) = 4.165$; $p < .001$); and quasi-significant differences for eating, sleeping and physical complaints ($t(314) = -1.850$; $p = .065$). The data analysis from normative parents and

parents of children born as a result of in-vitro fertilization, showed significant differences for subscales fears ($t(38.452) = -2.398$; $p = .021$); and negative behaviors ($t(29.042) = 2.702$; $p = .011$). The data on parents of children born prematurely only showed quasi-significant differences from the normative group for negative behaviors ($t(316) = 1.729$; $p = .085$).

The internal consistency of the total scale and of each subscale, were assessed by Cronbach's alpha. A very high result was obtained for the total scale, $\alpha = .94$, and all the subscales had high values of internal consistency: I - family and school problems, $\alpha = .84$; II - eating, sleep and physical complaints, $\alpha = .82$; III - preparation, $\alpha = .77$; IV - fears, $\alpha = .78$; and V - negative behaviors, $\alpha = .87$.

Despite the brevity and the high consistency of the scale, the analysis showed variability in item scores for each child, indicating that parents were able to distinguish specific areas of concern. The family and school problems subscale was the dimension that caused greater concern, with a mean value of 4.02. The lowest cause of concern was obtained in subscale IV, fears. In average, parents were reasonably concerned or very concerned about all the dimensions defined (Table 4).

Table 4

Mean values, standard deviation and decyclic values of the subscales of the parental concerns scale

Subscales and Total Scale						
Statistic	I	II	III	IV	V	Total
<i>M</i>	4.02	3.77	3.38	3.18	3.37	3.60
<i>SD</i>	0.76	0.73	0.83	0.85	0.83	0.67
Percentiles						
10	3.00	2.81	2.33	2.00	2.20	2.71
20	3.49	3.20	2.67	2.44	2.73	3.10
30	3.80	3.42	3.00	2.68	3.00	3.33
40	4.00	3.62	3.21	3.00	3.20	3.51
50	4.20	3.80	3.33	3.29	3.40	3.67
60	4.38	4.00	3.67	3.33	3.60	3.81
70	4.47	4.20	3.78	3.67	3.80	3.96
80	4.60	4.40	4.08	4.00	4.12	4.14
90	4.81	4.64	4.61	4.33	4.40	4.43

Discussion

This study reports the psychometric properties of a scale developed to assess parental concerns. The confirmatory factorial analysis presented a good factorial validity for the five constructs defined, and also showed good convergent validity. Nevertheless, discriminant validity was only observed between the preparation subscale and all the other subscales. The total scale was strongly correlated with all the subscales. The highest correlation between subscales was between family and school problems and eating, sleep, and physical complaints. Children's referral to mental health services because of family, schooling, behavioral and/or emotional problems, frequently manifests concurrent somatic symptoms, feeding or sleep problems (e.g. Alfano et al., 2009; Garralda & Bailey, 1987). These results pointed to a second-order factor that is parental concerns, which might indicate that the overall scale can be useful in scoring general parental concerns' intensity. However, the 5-factor dimensionality also proved to be pertinent as it allowed the differentiation of different groups of parents and children.

Low evidence of criterion-related validity, regarding the parental concerns subscales, with analogous domains on the CBCL, supports previous research findings that parents present more concerns than their children present relevant problems. Similar results were obtained in studies that addressed general parenting (e.g. Stickler, et al., 1991). Accordingly, Reijneveld et al. (2008) observed that parent reported problems were higher than professional assessed problems concerning the children's development and behavior.

Evidence was obtained for predictive validity. Although the scale supports the distinction between child's characteristics, such as gender or school attendance, it provides a more clear distinction, in all its subscales, for parents' characteristics such as gender or level of education. Parents with a lower educational level reported higher levels of concern, results consistent with prior research regarding more deprived parents (Long, Gurka, & Blackman, 2008; Reijneveld, et al., 2008; Stickler, et al., 1991).

Mothers reported higher levels of concern when compared to fathers. Our findings were consistent to those obtained by past research in infancy, about child's sleep problems, and about weight (Musher-Eizenman et al., 2007; Sadeh, et al., 2007; Swain et al., 2007). Mothers were also the majority of respondents, result consistent with studies addressing parenting dimensions (e.g. Lampard, et al., 2008), even though in our study there was a significant percentage of both parents responding. This result may indicate a shift in the

parenting process, reflecting a wider awareness of the importance of both parents for their child's education.

Parents were concerned, in a reasonable way, with all the issues addressed by this scale, and were mostly concerned with issues related to family and school problems. This result is consistent with the study by Stickler et al. (1991), who reported very high rates of parental concern in areas of general parenting, such as parental role, the child's protection, and the child's feeding and sleep.

This scale presents advantages as a research tool and also as a clinical tool: short administration time, reliability and validity, ability to quantify information, and minimal training required. It also revealed a good acceptability by parents, with an 82% return rate, considered to be a primary issue for any clinical assessment (Firth, et al., 2000). It can be used in a quantitative way for research purposes or as a pre-assessment routine for parental education groups, or in a qualitative way as a pre-screening for parent-child clinical evaluation, and to measure intervention outcomes.

The overall scale may be used as a screening of parental concerns' intensity pattern, and the five dimensions to assess specific areas of concern. Evaluating overall parental concerns' intensity may help clinicians to decide the type of intervention parents may need: educational strategies, the promotion of normal development, reassurance, referral for additional testing, or routine monitoring (Glascoe, 1999). The assessment of the five dimensions promotes the identification of specific areas of concern that might be addressed by the clinician.

One limitation for this study is that parents volunteered to participate in the study, possibly meaning that these parents were more concerned with their children than the parents that did not want to participate in the study. Another limitation could be the discrepancy verified between the number of mothers and fathers that participated in the study. Nevertheless, this difference consistently occurred in similar studies addressing parenting issues. Mothers are usually more involved with the health and educational issues of their children.

Further research should address the use of the scale in health settings, to assess its adequacy in clinical practice. It would also be important to conduct comparative studies between parents that report different levels of concern and the concomitant effects of different types of intervention. Additional correlational studies between parental concerns

and other parenting and marital variables, parental personality characteristics, mental health problems, and children's variables should also be considered.

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Chapter 3

Parental Stress Scale: validation study with a Portuguese population of parents of children from 3 to 10 years old

Abstract

The aim of this study was to validate the Parental Stress Scale for Portuguese parents, and to further investigate the scale's criterion-related validity. A two-stage stratified sample of the Portuguese population of parents, with children attending public preschools and primary schools, was obtained, totalizing 3842 parents of children between 3 and 10 years old. Parents completed a Parental Concerns Scale, and the Portuguese version of the Parental Stress Scale. Results support the 4-factor structure of the Portuguese version of the Parental Stress Scale. Higher levels of parental stress were reported by parents of boys, with lower educational levels, older, divorced or single parents; unemployed mothers, and with a higher number of children. Parental concerns and parental stress' comparative study reported very low correlations between the two constructs. This study supported evidence for the parental stress scale's validity with a stratified sample of Portuguese parents of children between 3 and 10 years old. Moreover, our findings reported the scale's divergent validity with a parental concerns scale. These results point to the importance of assessing both dimensions in family practice.

Key words: Parental stress; parenting; validation study

Parental Stress Scale: validation study with a Portuguese population of parents of children from 3 to 10 years old

Parental stress assessment is a major issue in family and child clinical practice. However, parental stress has been predominantly studied with clinical groups of children. Despite the importance of these studies, they mostly reported the impact of the child's illness on parenting stress. Few studies explored the stress resultant from the parental role in the general population of parents (Berry & Jones, 1995).

The Parental Stress Scale, by Berry and Jones (1995), was designed to assess the stress related with the parental role. The scale's validation study reported good psychometric properties, the scale's reliability, and its correlation with parental stress, general stress, role satisfaction, and other measures of relevant emotions. Divergent validity was supported by comparing mothers of children in treatment for emotional/behavioral problems and developmental disabilities, with mothers of children not receiving treatment. According to Lessenberry and Rehfeldt (2004), this scale presents the advantage of evaluating stress as a result of the parenting role, without confounding those results with marital, financial, or other general life stressors. In addition, Berry and Jones (1995) also reported the advantage of its appropriateness for both mothers and fathers.

The present study had two main goals, to analyze some critical issues reported by Berry and Jones in their validation study of the Parental Stress Scale, and to perform the validation study of the Parental Stress Scale, with a representative sample of Portuguese parents of children between 3 and 10 years old. According to Berry and Jones (1995) it would be important to further investigate the adequacy of the Parental Stress Scale for parents from different sociodemographic backgrounds, and also to collect more data on fathers of children with a typical development, to confirm its validity for both fathers and mothers. In addition, the scale's authors considered that its covariation with other relevant interpersonal functioning measures should be assessed.

More recent research addressing this scale reported a correlation of the Parental Stress Scale with measures of child behavior and parenting stress, in a Chinese group of parents (Leung & Tsang, 2010). Moreover, the Spanish validation study reported evidence for criterion-related validity by means of correlations with parents' anxiety and depressive symptoms (Oronoz, Alonso-Arbiol, & Balluerka, 2007).

Method

Participants

The participants were 3842 parents of children from 820 schools, from the 18 Portuguese districts. The children were aged from 3 to 10 years ($M = 7.06$; $SD = 1.873$). The majority of the respondents were mothers (64.9%), 26.8% were both parents and, 7.5% were fathers. Mothers were aged from 21 to 55 years ($M = 36.2$; $SD = 5.063$) and, fathers from 23 to 72 years ($M = 38.8$; $SD = 5.739$). Mothers presented higher levels of education, 30.6% of the mothers had completed University, compared to 18.4% of the fathers. This data was consistent with Portuguese Official Statistics (2010) that reported a percentage of 12% of man and 21% of women, in the Portuguese active population, who had completed higher education. The majority of parents were married (85.3%) (see table 1).

Table 1

Participants' characteristics

Demographic characteristics		
	<i>N</i>	%
Child's gender (male)	1804	47.1
Siblings		
Only child	1127	29.6
One sibling	2119	55.7
Two siblings	425	11.2
Three or more siblings	133	3.5
Child's school attendance (primary school)	2954	77.0
Respondent		
Mother	2481	64.9
Father	286	7.5
Parents	1025	26.8
Others	32	0.8
Parents' marital status		
Married	3240	85.3
Cohabitation	151	4.0
Divorced	255	6.7
Single	132	3.5
Widow	21	0.6
Mother's level of education		
More than high school	1162	30.5
High school graduate	922	24.2
Less than high school	1723	45.3
Father's level of education		
More than high school	681	18.4
High school graduate	803	21.7
Less than high school	2221	59.9
Mothers' employment status (employed)	3080	81.4
Father's employment status (employed)	3581	97.2

Procedure

In order to have a nationally representative sample of the Portuguese parents' population, with children attending public pre-school and primary school, we chose a 2-stage stratified design sample from a data base of all public schools in Portugal. The sampling scheme selected 10% of the schools in each of the 18 Portuguese districts. From a total of 8200 schools, 820 were selected. Ethical approval for the study was given by the Portuguese Ministry of Education. A letter was sent to all school Directors, followed by a telephone call, explaining the study and asking for their collaboration. All the schools received the questionnaires by mail, along with an open pre-paid return envelope. The

purpose of the study was explained to the parents by teachers in a parents' meeting, and 10% of parents from each school, who agreed to participate, were asked to fill in the questionnaire, and return it via mail. From a total of 820 schools we obtained an average return rate of 82%.

Instruments

Parents completed a demographic questionnaire (see table 1), the Parental stress scale (Berry & Jones, 1995), and a Parental Concerns Scale (Algarvio, Leal, & Maroco, 2010).

Parental stress scale

The scale was originally composed by 18 items, and responses ranged from 1 – strongly disagree, to 5 – strongly agree. The psychometric studies revealed a high reliability of .83, measured by Cronbach's alpha, and a test-retest of .81. Factor analysis suggested a 4-factor structure of the scale.

For this study, we used the Portuguese version of the scale (Mixão et al., 2010), developed with a convenience sample of 416 parents of children from 1 month to 15 years old, who went to a pediatric emergency department of a general hospital in Lisbon. The authors conducted an exploratory factorial analysis with the 18 original items which yielded 4 factors: factor I – parental stressors; factor II – parental satisfaction; factor III – lack of control; and factor IV – fears and anxieties. The reliability value for the total scale was of .76, and the factors ranged from .57, obtained in the parental satisfaction factor, to .78, in the parental stressors factor, measured with Cronbach's alpha.

Parental concerns scale

The Parental concerns scale measures the level of parental concern. It comprises 21 items, divided into 5 subscales: family and school problems; eating, sleeping and physical complaints; preparation; fears; and negative behaviors. Parents' responses are scored on a 5-point Likert-type scale, ranging from 1 – not concerned to 5 – extremely concerned, allowing the calculation of a mean value for the total scale, and for each of the subscales.

The validation study of this instrument presented good psychometric properties and a confirmatory factorial analysis reported construct validity for the 5 subscales defined (Algarvio, Leal, & Maroco, 2010). In this study, reliability measured by Cronbach's alpha was .94 for the total scale; subscale I – family and school problems, $\alpha = .84$; subscale II –

eating, sleep and physical complains, $\alpha = .82$; subscale III – preparation, $\alpha = .77$; subscale IV – fears, $\alpha = .78$; and subscale V – negative behaviors, $\alpha = .87$.

Parental concerns scale was chosen to assess the parental stress scale's divergent validity. In spite of some studies considering parental stress as a parental concern, we hypothesized that in general parenting we might expect low levels of parental stress and high levels of parental concern. Stickler, Salter, Broughton, and Alario (1991), in their study addressing general parenting, found that mothers with high vs. low levels of external stress were equally and highly concerned about abstract parenting values, such as the ability to provide appropriate discipline, affection and values to their children.

Data analysis

Data was analyzed with SPSS 18 (SPSS, An IBM Company, Chicago, IL). Being our purpose to analyze the psychometric properties of the parental stress scale, the scale and item's distribution were assessed through the measures of skewness and kurtosis. Validation studies of the parental stress scale were conducted, assessing construct related validity, and criterion related validity. Construct validity was assessed by a confirmatory factorial analysis with subsequent analysis of the convergent validity (using the average variance extracted - AVE), and discriminant validity (by comparing the AVE to the squared correlation between factors) as defined by Fornell and Larcker (1981). Reliability was measured by the Cronbach's alpha. The criterion related validity was assessed by comparing differences between defined groups with Student's t-test with Welch correction for heterogeneity of variances, and one-way ANOVA with Post-Hoc Tests for more than 3 groups. For the comparison study, Pearson's correlations between the factors of the parental concerns scale, and the factors of the parental stress scale, were assessed.

Results

Considering scale and item sensitivity of the parental stress scale, table 2 reports the median values (*Mdn*), skewness (*Sk*) and kurtosis (*Ku*), for the 14 items of the validation sample. The majority of the items did not present any relevant sensitivity or normality problems, except for items 6 and 13.

Table 2

Median values, skewness and kurtosis, minimum and maximum range of the 14 items in the validation sample (N = 3843, SD_{Sk} = 0.04, SD_{Ku} = 0.08)

Item	<i>Me</i>	<i>Sk</i>	<i>Ku</i>	<i>Minimum</i>	<i>Maximum</i>
1. Caring for my child(ren) sometimes takes more time and energy than I have to give	4.00	-1.19	0.68	1	5
2. I sometimes worry whether I am doing enough for my child(ren)	4.00	-1.14	0.76	1	5
3. I feel close to my child(ren)	1.00	1.80	3.78	1	5
4. I enjoy spending time with my child(ren)	1.00	2.44	6.54	1	5
5. My child(ren) is an important source of affection for me	1.00	3.26	13.82	1	5
6. Having child(ren) gives me a more certain and optimistic view for the future	1.00	1.33	0.54	1	3
7. The major source of stress in my life is my child(ren)	2.00	1.28	0.86	1	5
8. Having child(ren) leaves little time and flexibility in my life.	2.00	0.68	-0.62	1	5
9. Having child(ren) has been a financial burden	2.00	0.56	-0.89	1	5
10. It is difficult to balance different responsibilities because of my child(ren)	2.00	0.52	-0.65	1	5
11. The behavior of my child(ren) is often embarrassing or stressful to me	2.00	0.84	-0.21	1	5
12. If I had to do it over again, I might decide not to have child(ren)	1.00	3.93	17.68	1	5
13. I feel overwhelmed by the responsibility of being a parent	1.00	2.62	7.94	1	5
14. Having child(ren) has meant having too few choices and too little control over my life	1.00	1.90	3.82	1	5

The fit indices for the Confirmatory Factor Analysis revealed factorial validity for the 4 factors suggested in previous research ($\chi^2(71) = 805.725$; $p < .001$; $\chi^2/df = 11.348$; CFI = .944; GFI = .969; RMSEA = .052; $p = .162$). Item factorial weights for each factor are presented in table 3. Two items, item 2 (“There is little or nothing I wouldn’t do for my child(ren)”) if it was necessary, and item 18 (“I find my child(ren) enjoyable”), presented distribution problems and were removed. Other two items, item 1 (“I am happy in my role

as a parent”), and item 17 (“I am satisfied as a parent”), presented correlated mensuration errors in the CFA, and were also removed to improve the model’s fit.

Convergent validity was assessed by the AVE (average variance extracted) (see table 3). Since the AVE was greater than .5 for all the subscales, we consider that they provided sufficient evidence of the factors’ convergent validity. Discriminant validity was also reported for all the factors of the scale. The squared correlation between factors was lower than each factor’s AVE for the four factors defined in the confirmatory factorial analysis giving evidence of discriminant validity.

The internal consistency estimates of the overall scale and the subscales were measured by Cronbach’s alpha. The overall scale reported a Cronbach’s alpha of .78; factor I - parental stressors, $\alpha = .78$; factor II - parental satisfaction, $\alpha = .73$; factor III - lack of control, $\alpha = .71$; and factor IV - fears and anxieties, $\alpha = .57$ (Table 3).

Table 3

Items factorial weight for each factor obtained by the confirmatory factorial analysis, average variance extracted and internal consistency (Cronbach's alpha)

Item factorial weights	Parental stressors	Parental satisfaction	Lack of control	Fears and anxiety
1. Caring for my child(ren) sometimes takes more time and energy than I have to give				.80
2. I sometimes worry whether I am doing enough for my child(ren)				.49
3. I feel close to my child(ren)		.60		
4. I enjoy spending time with my child(ren)		.70		
5. My child(ren) is an important source of affection for me		.63		
6. Having child(ren) gives me a more certain and optimistic view for the future		.63		
7. The major source of stress in my life is my child(ren)	.61			
8. Having child(ren) leaves little time and flexibility in my life.	.71			
9. Having child(ren) has been a financial burden	.63			
10. It is difficult to balance different responsibilities because of my child(ren)	.71			
11. The behavior of my child(ren) is often embarrassing or stressful to me	.66			
12. If I had to do it over again, I might decide not to have child(ren)			.53	
13. I feel overwhelmed by the responsibility of being a parent			.70	
14. Having child(ren) has meant having too few choices and too little control over my life			.78	
Average variance extracted	.61	.61	.59	.60
Cronbach's alpha subscales	.78	.73	.71	.57
Cronbach's alpha total scale	.78			

The criterion validity was assessed by comparing the subgroups of the Portuguese sample of parents. Concerning the child's gender, parents of boys reported higher levels of parental stress compared with parents of girls. There were significant differences in the

parental stressors factor ($t(3724,441) = 2.337$; $p = .019$), and quasi-significant differences for the total scale ($t(3830) = 1.726$; $p = .084$).

There were significant differences between respondents, for the overall scale ($F(3, 3820) = 12.011$; $p < .001$); for parental stressors ($F(3, 3820) = 6.788$; $p < .001$); for parental satisfaction ($F(3, 3820) = 35.580$; $p < .001$); and lack of control ($F(3, 3820) = 16.277$; $p < .001$). Post-hoc analysis revealed significant differences between fathers and mothers, for parental satisfaction. Mothers were more satisfied with parenting than fathers. When the respondents were both parents, levels of parental stress decreased compared to when only the father or the mother answered.

Concerning the mothers' level of education, there were significant differences for the total scale ($F(2, 3804) = 20.767$; $p < .001$); parental stressors ($F(2, 3804) = 7.154$; $p = .001$); lack of control ($F(2, 3804) = 30.455$; $p < .001$); and fears and anxiety ($F(2, 3804) = 10.946$; $p < .001$). Post-hoc analysis indicated that mothers with a lower level of education reported higher levels of parental stress.

Regarding the fathers' level of education, the overall scale reported significant differences ($F(2, 3702) = 5.458$; $p = .004$); as well as, lack of control factor ($F(2, 3702) = 10.286$; $p < .001$); and fears and anxieties ($F(2, 3702) = 11.805$; $p < .001$). Fathers with a lower level of education reported higher rates of parental stress compared with the other two groups of fathers. Moreover, parents with a higher level of education revealed less fears and anxieties, than the two other groups of parents.

As for the parents' marital status, there were only significant differences for lack of control ($F(4, 3794) = 7.036$; $p < .001$). Divorced and single parents presented higher scores in this factor when compared to married and to cohabiting parents.

There were significant differences in all the factors considering the number of siblings. For the total scale ($F(3, 3800) = 32.873$; $p < .001$); parental stressors ($F(3, 3800) = 26.945$; $p < .001$); parental satisfaction ($F(3, 3800) = 8.203$; $p < .001$); lack of control ($F(3, 3800) = 15.775$; $p < .001$); and fears and anxieties ($F(3, 3800) = 7.120$; $p < .001$). An increase in parental stress was related to an increase in the number of siblings.

Concerning mothers' employment status, there were marginally significant differences between employed and unemployed mothers for the fears and anxieties factor ($t(1008.395) = 1.890$; $p = .059$). There were significant differences for the total scale ($t(937.718) = -1.967$; $p = .049$), for parental stressors ($t(961.989) = -2.076$; $p = 0.038$), and

lack of control ($t(880.979) = -3.925$; $p < .001$). Unemployed mothers reported higher levels of parental stressors, and lack of control, than employed mothers. However, for fears and anxieties factor, employed mothers reported a higher result when compared with unemployed mothers. Results regarding fathers' employment status did not present significant differences for neither of the scales' factors.

There were significant differences for mothers' age at childbirth regarding parental satisfaction ($F(2, 3812) = 3.758$; $p = .023$), and lack of control ($F(2, 3812) = 7.795$; $p < .001$). Similarly, for the fathers' age at childbirth there were significant differences concerning lack of control ($F(2, 3736) = 6.510$; $p = .002$), and marginally significant differences for the total scale ($F(2, 3736) = 2.449$; $p = .087$), and for parental satisfaction ($F(2, 3736) = 2.782$; $p = .062$). Families with older mothers and older fathers reported higher levels of lack of control, as well as higher levels of parental satisfaction.

The following table (table 4) presents the results obtained in the Parental Stress Scale in the Portuguese sample of parents.

Table 4

Mean values, standard deviation and decylic values of the factors of the Parental Stress Scale

Total scale and factors					
Statistic	Parental Stress Scale	Parental Stressors	Parental Satisfaction	Lack of Control	Fears and anxieties
<i>M</i>	27.78	11.01	4.78	4.12	7.88
<i>SD</i>	6.28	4.12	1.61	1.75	1.78
Percentiles					
10	20.00	5.00	4.00	3.00	5.00
20	22.00	7.00	4.00	3.00	6.00
30	24.00	9.00	4.00	3.00	8.00
40	26.00	10.00	4.00	3.00	8.00
50	27.00	11.00	4.00	3.00	8.00
60	29.00	12.00	4.00	4.00	8.00
70	30.00	13.00	5.00	4.00	9.00
80	33.00	14.00	6.00	5.00	9.00
90	36.00	17.00	7.00	6.00	10.00

Correlations between the factors of the parental stress scale and the factors of the parental concerns scale were very low although statistically significant which can be explained by the large sample size. The parental stress scale was correlated with the parental concerns scale ($r = .06$; $p < .001$), with the subscale “fears” ($r = .06$; $p < .001$), and with the subscale “negative behaviors” ($r = .12$; $p < .001$). The factors parental stressors ($r = .09$; $p < .001$) and lack of control ($r = .05$; $p < .001$) were positively correlated with parental concerns about the child’s negative behaviors. The parental satisfaction factor was negatively correlated with the parental concerns scale ($r = -.09$; $p < .001$), and with family and school problems ($r = -.11$; $p < .001$); eating, sleep and physical complaints ($r = -.10$; $p < .001$); preparation ($r = -.10$; $p < .001$); and fears ($r = -.05$; $p < .001$). Moreover, the fears and anxiety factor was positively correlated with the parental concerns scale ($r = .18$; $p < .001$), and also with all the subscales of this scale ($.13 < r < .17$; $p < .001$).

Discussion

The results obtained support the evidence for construct validity of the parental stress scale, and confirmed the four factors defined in the initial Portuguese study (Mixão et al., 2010), with a wider and representative sample of Portuguese parents. Despite the poor reliability in the fears and anxieties factor, that may be attributed to its low number of items, we consider reliability acceptable for the total scale and for the other three factors that were confirmed in the factorial analysis. Previous studies reported reliability values, for the total scale, similar to the one we obtained (Berry & Jones, 1995; Oronoz et al., 2007).

Higher levels of parental stress were reported by parents of boys, with lower educational levels, older, and divorced or single parents; as well as by unemployed mothers, and with a higher number of children. Accordingly, the Chinese study reported differences concerning mother’s level of education and family income (Leung & Tsang, 2010). Fathers and mothers, from our sample, presented differences only in the parental satisfaction factor, being mothers more satisfied with parenting than fathers. Previous studies using this scale did not report differences between mothers and fathers (Berry & Jones, 1995; Oronoz et al., 2007). Nevertheless, they did not consider the study of these differences using the factors suggested in the factorial analysis, but rather the total scale. For the overall scale we also did not observe significant differences.

There was a decrease in parental stress when both parents responded, compared to when only the father or the mother answered. This result may be explained by a more satisfying marital relationship that might produce a buffer effect on parental stress, or conversely, by a social desirability bias produced by the presence of the spouse. These results should be further investigated considering other factors of influence, such as marital satisfaction, as well as differences in the perception fathers and mothers have of positive aspects of parenting.

The comparative study between parental concerns and parental stress reported very low correlations, pointing to the independence of the constructs in general parenting. Additionally, these parents presented high levels of concern and low levels of parental stress. These results were consistent with the study by Stickler et al. (1991).

These findings provide evidence for the importance of considering both dimensions for clinical practice as well as for research. Theoretically, stress is a concept with a potential mental health component, and the parental stress scale associates this component with the parental role. Parental concerns focus on the concept of need, which, despite stress, may affect the way parents feel about these problems (Sheppard, McDonald, & Welbourne, 2010). The preoccupation with the child will promote the response to the child's needs (Dix, 1992), allowing the formation of strong interpersonal bonds (Swain et al., 2007), and it is predictive of positive outcomes for childhood and adolescent behaviour (e.g. Lampard, et al., 2008; Duchesne & Ratelle, 2010). One of the major determinants of parental satisfaction with healthcare providers was the professional's understanding of parental concerns, associated to directness, good communication, and receiving information (Hasnat & Graves, 2000; Restall & Borton, 2010).

The strengths of this study include its wider sample, when compared to previous research, and the analysis of a stratified sample of normative parents. Other strengths regard its high response rates and the sample's diversity in terms of sociodemographic characteristics. One limitation of this study is the low percentage of fathers compared to that of mothers. Nevertheless, this discrepancy was consistently verified in similar studies concerning parenting issues (e.g. Stickler et al., 1991). Mothers, compared to fathers, are usually more involved with the educational and health issues of their children. Another limitation is that parents volunteered to participate in the study. These parents may present specific personality characteristics that were not considered in the analysis.

Further research should analyze parents' personality characteristics, marital satisfaction and other marital and family factors.

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PART III

PARENTAL CONCERNS' PREVALENCE IN GENERAL PARENTING

Chapter 4

Parental concerns' prevalence and sociodemographic variables in general parenting

The present chapter is based on a paper that was accepted for publication in the *Journal of Child Health Care*

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Abstract

Objective: The aim of this study was to evaluate parental concerns in general parenting. **Methods:** The participants were 3842 parents of children between 3 and 10 years old, attending public preschools and primary schools, from a stratified random sample of Portuguese parents. Parents completed a parental concerns' scale that comprises 5 subscales: family and school problems; eating, sleep and physical complaints; preparation; fears; and negative behaviors. **Results:** The results reported that 93.4% of parents expressed some concern about the issues presented in the scale. Comparative analysis reported significant differences between mothers and fathers; child's gender; child's schooling level; mothers' and fathers' level of education, age at childbirth, marital status, and employment status. **Conclusions:** These results may indicate that parental concerns are an expected aspect of parenting, and that they should be addressed in family practice. Moreover, the reported differences between groups pointed to the need to develop specific intervention strategies.

Key words: general parenting; parental concerns; parental concerns' scale

Parental concerns' prevalence and sociodemographic variables in general parenting

Prior research addressing parental concerns about general parenting reinforced the importance for health professionals to be guided by parents' needs. Parental concerns about their children's problems should be attended at their onset otherwise they may result in impaired family functioning and relationships (e.g. Lampe, 2009).

Previous studies addressing parental concerns reported high frequencies of concern about the parents' own contribution to their child's wellbeing (Slater et al., 2010; Stickler et al., 1991), family relations, the child's negative behaviors (Akister & Johnson, 2002; Mesibov et al., 1993; O'Brien, 1996), and feeding and sleep (Stickler et al., 1991). According to Stickler et al. (1991) parental worries were much higher than actual risks.

Considering the prevalence of parental concerns in the general population, Ford et al. (2005), in Great Britain, found rates of 5.5% and 4.1% of behavioral and emotional problems, respectively. Ellingson et al. (2004), in the United States, obtained a prevalence of 18% of parental concerns regarding behavioral, emotional and social problems in children between 1 and 3 years old. Blanchard et al. (2006) reported that concerns about learning problems, depression and anxiety were highly prevalent in American parents of children between 6 and 17 years old, 41% and 36% respectively.

Reijneveld and colleagues (2008) prevalence study with Dutch parents, reported that approximately half the parents (49.3%) expressed some concerns, and 8.7% frequent concerns, mostly about child behavior. Frequent concerns were mostly reported by parents of younger children, from labor immigrant families, low income, single parent families, families with a single child, and fathers with a medium educational level. Parent reported problems were higher than professional assessed parenting problems. Given the high rates of the concerns expressed, these authors considered that parental concerns must be a general aspect of parenting.

The National Survey of Early Childhood Health, conducted in the United States with parents of children under 3 years old, reported high parental concerns regarding child's behavior (48%), language (45%) and getting along with others (41%) (Halfon et al., 2002). Long et al. (2008), based on the American 2003 National Survey of Children's Health, found a total of 9.9% of parents who expressed a lot of concerns about their child's language development, and 6.6% about behavior. Parents with a lower socioeconomic

level or lower educational level, and single parents expressed overall more concern, as well as parents of boys, compared to parents of girls.

We decided to study parental concerns' prevalence in general parenting by family and child background, given the few studies reported to this date. Moreover, we considered that the intensity of concern should be assessed, as prior research reported on the negative effects of excessive parental concern on parent-child relationships (Lampard et al., 2008; Lampe, 2009).

Method

Participants

The participants were 3842 parents of children between 3 and 10 years old ($M=7.06$, $SD=1.873$), with a similar proportion of boys (47.1%) and girls (52.9%). Mothers were aged from 21 to 55 years ($M=36.2$, $SD=5.063$) and fathers were aged from 23 to 72 years ($M=38.8$, $SD=5.739$). Mothers had a higher educational level, 30.6% of the mothers had completed University, compared to 18.4% of the fathers. According to Portuguese Official Statistics (2010), in the Portuguese active population there were 12% of man and 21% of female that completed higher education. The majority of the parents were married or cohabited (89.3%), and were both currently employed (Table 1).

Table 1

Participants' characteristics

Demographic characteristics		
	<i>N</i>	%
Child's gender (female)	2028	52.9
Siblings		
Only child	1127	29.6
One sibling	2119	55.7
Two siblings	425	11.2
Three or more siblings	133	3.5
Child's school attendance (primary school)	2954	77.0
Respondent		
Mother	2481	64.9
Father	286	7.5
Parents	1025	26.8
Others	32	0.8
Parents' marital status		
Married	3240	85.3
De facto union	151	4.0
Divorced	255	6.7
Single	132	3.5
Widow	21	0.6
Mother's level of education		
More than high school	1162	30.5
High school graduate	922	24.2
Less than high school	1723	45.3
Father's level of education		
More than high school	681	18.4
High school graduate	803	21.7
Less than high school	2221	59.9
Mothers' employment status (employed)	3080	81.4
Father's employment status (employed)	3581	97.2
Mother's age at childbirth		
≤ 20 years	158	4.1
21-34 years	3134	82.1
≥ 35 years	523	13.7
Father's age at childbirth		
≤ 20 years	33	0.9
21-34 years	2690	71.9
≥ 35 years	1016	27.2

Procedure

In order to study parental concerns in a nationally representative sample of the Portuguese population of parents, with children attending public preschools and primary schools, we obtained ethical approval for the study by the Ministry of Education. The

majority of children in Portugal attend public schools; in 2009/2010 there were 88.5% of children attending public primary schools, and 51.4% attending public preschools (GEPE, 2010). We selected a 2-stage stratified design sample from a data base of all public schools in Portugal. The sampling scheme selected 10% of the schools in each of the 18 Portuguese districts; 820 schools were selected from a total of 8200. A letter was sent to all school Directors, followed by a telephone call, explaining the study and asking for their collaboration. All the schools that accepted to participate in the study received the questionnaires by post mail, each one with an open pre-paid envelope for an easy return of the filled questionnaires. Teachers explained the purpose of the study, and that the data collected would be anonymous and confidential, to the parents in a parents' meeting, and asked for the participation of 10% of the parents in each school. Those who agreed to participate filled in the questionnaire, and returned it via post mail. From the total of the 820 schools participating, the average return rate was 82%.

Instruments

Parents completed a socio-demographic questionnaire (see table 1), and a parental concerns' scale, based on Mesibov's et al. (1993) study, developed in a previous related study (Algarvio et al., 2010).

The Parental concerns' scale assesses parental concerns in parents of children between 3 and 10 years old. The scale is divided into 5 subscales, family and school problems; eating, sleep and physical complains; preparation; fears; and negative behaviors; comprising 21 items. Parents' responses are scored on a 5-point Likert-type scale ranging from 1 – not concerned, to 5 – extremely concerned, allowing the calculation of a mean value for the total scale, and for each of the subscales (see table 2).

Table 2

Parental concerns' scale subscales and items

Parental concerns' scale	
Subscales	Items
I. Family and school problems	1. parents disagree on rules and discipline 2. if teacher understands child 3. parents argue a lot 4. child abuse 5. what should the child be told in case of separation
II. Eating, sleep and physical complaints	6. what should the child eat 7. won't eat certain foods 8. troubled sleep 9. stomach aches 10. headaches
III. Preparation	11. preparation for new home 12. understands death 13. understands death of someone who was close
IV. Fears	14. fears 15. fears dark 16. fears monsters
V. Negative behaviors	17. lacks self control 18. doesn't obey 19. has tantrums 20. won't go to bed 21. bossy and demanding

The validation study of this instrument reported good psychometric properties. The confirmatory factorial analysis reported construct validity for the 5 subscales defined. The present study reported a strong reliability assessed with Cronbach's alpha; $\alpha=.94$, for the total scale; subscale I – family and school problems, $\alpha=.84$; subscale II – eating, sleep and physical complains, $\alpha=.82$; subscale III – preparation, $\alpha=.77$; subscale IV – fears, $\alpha=.78$; and subscale V – negative behaviors, $\alpha=.87$.

Data Analysis

Data was analyzed with SPSS 18 (SPSS, An IBM Company, Chicago, IL), for statistical procedures. Descriptive statistics were conducted to calculate means and standard deviation for the subscales, and Pearson's correlation to analyze the correlation between subscales. Responses were analyzed for socio-demographic differences with Student's t-test with Welch's correction for heterogeneity of variances, and MANOVA

followed by one-way ANOVA with Post-Hoc Tests for more than 3 groups. Statistical significance was assumed for $p < .05$.

Results

Parents expressed an overall concern about all the items in the scale; 93.4% of the parents reported to be from reasonably to extremely concerned. The highest percentage of concern was obtained in subscale I – family and school problems, 95%, and the lowest percentage in subscale IV – fears, 78.9%. In family and school problems 79.7% of the parents reported high to extreme concern, 29.2% being extremely concerned, the highest result obtained. Concerning the eating, sleep and physical complaints subscale, 95% of the parents expressed concern, from which 68.6% expressed to be from highly to extremely concerned. Preparation concerned 85.4% of the parents, 44% of the parents considered it to be a matter of high to extreme concern. Even though fears were the issue of less concern for parents, when compared to the other areas, it was cause for concern in 78.9% of the parents, being 35.6% from highly to extremely concerned. Finally, negative behaviors caused concern in 85.1% of parents, and 45.9% highly to extremely concerned.

Table 3

Mean values and standard deviation of the subscales of the parental concerns scale

Statistic	Subscales and Total Scale					
	Family and school problems	Eating, sleeping and physical complaints	Preparation	Fears	Negative behaviors	Total Scale
<i>M</i>	4.02	3.77	3.38	3.18	3.37	3.60
<i>SD</i>	0.76	0.73	0.83	0.85	0.83	0.67

All the subscales were positively correlated. The highest correlations were obtained between the total scale and all the subscales, especially with subscale I - Family and school problems, $r=.86$, $p<.01$; subscale II – Eating, sleep and physical complaints, $r=.88$, $p<.01$; subscale IV- Fears, $r=.82$, $p<.01$; and subscale V – Negative behaviours, $r=.87$, $p<.01$. The family and school problems' subscale and eating, sleep and physical complaints' subscale reported a correlation of $.71$, $p<.01$, the highest value obtained between subscales (see table 4).

Table 4

Correlations between the Parental Concerns subscales and the total scale

	Total Scale	Subscale I	Subscale II	Subscale III	Subscale IV	Subscale V
Total Scale		.86**	.88**	.75**	.82**	.87**
Subscale I			.71**	.56**	.62**	.67**
Subscale II				.59**	.68**	.68**
Subscale III					.57**	.55**
Subscale IV						.67**
Subscale V						

Note: Subscale I – Family and school problems; subscale II – Eating, sleeping and physical complaints; III – Preparation; IV – Fears; V – Negative behaviors

** $p < .01$

The comparative studies reported several significant socio-demographic differences. Gender differences between children were obtained in the subscale fears ($t(3830)=-2.606, p=.009$), and quasi-significant differences were obtained in the subscale preparation ($t(3830)=-1.893, p=.058$). Parents of girls presented higher concerns when compared to parents of boys.

Regarding the child's schooling level, there were significant differences in subscale eating, sleep and physical complaints ($t(3834)=-2.253, p=.024$). Parents of primary school children presented higher levels of concern about eating, sleep and physical complaints than parents of preschool children.

The MANOVA showed significant differences between respondents for all the subscales ($F(3, 3820)=7.631, p<.0005$; Wilk's $\Lambda=.97$; partial $\eta^2=.010$). Mothers alone were more concerned than fathers alone or than both parents, for the total scale, for the subscales preparation and fears. Mothers were more concerned than fathers about family and school problems, and eating, sleep and physical complaints, and more concerned than both parents with negative behaviors.

There were significant differences for the mothers' level of education in the MANOVA ($F(2, 3804)=19.299, p<.0005$; Wilk's $\Lambda=.95$; partial $\eta^2=.025$), as well as for the fathers' level of education ($F(2, 3702)=15.835, p<.0005$; Wilk's $\Lambda=.96$; partial $\eta^2=.021$). Post-hoc analysis revealed that parents with a lower educational level had higher levels of concern than parents with a higher level of education, for all the subscales.

The mothers' age at childbirth reported significant differences in the MANOVA ($F(2, 3812)=6.793, p<.0005$; Wilk's $\Lambda=.98$; partial $\eta^2=.009$), as well as fathers' age at childbirth ($F(2, 3736)=3.750, p<.0005$; Wilk's $\Lambda=.99$; partial $\eta^2=.005$). The level of parental concern decreased with the increase of parents' age at childbirth. Older parents at childbirth presented lower levels of parental concerns.

The MANOVA showed significant differences for parents' marital status ($F(4, 3794)=3.750, p<.0005$; Wilk's $\Lambda=.99$; partial $\eta^2=.005$). Widowed parents were the most highly concerned parents, followed by single parents, for the total scale, and for the subscales feeding, sleep and physical complaints, preparation and negative behaviors. There were no significant differences for the siblings' number.

Regarding mothers' employment status, there were significant differences for the total scale ($t(3783)=-4.638, p<.001$), for family and school problems ($t(3783)=-3.627, p<.001$), feeding, sleep and physical complaints ($t(3783)=-5.574, p<.001$), preparation ($t(3783)=-3.991, p<.001$), fears ($t(3783)=-3.488, p<.001$), and negative behaviors ($t(3783)=-2.969, p=.003$). Unemployed mothers were more concerned than employed mothers. The fathers' employment status only reported marginally significant differences for negative behaviors ($t(3683)=-1.780, p=.075$). Unemployed fathers reported higher levels of concern about the child's negative behaviors than employed fathers.

Discussion

Overall, in this study parents expressed concern about all the areas considered. These results confirm the idea expressed by Reijneveld et al. (2008) that parental concerns are a general aspect of parenting, and that parents want to know more about the task of parenting. The prevalence of concern was extremely high when compared to past research. One reason might be that prior studies addressed mostly parental concerns about child's developmental and behavioral problems, while this scale assessed general issues about parenting, and the child's normal development. Moreover, we assessed the intensity of concern, while previous studies only considered the presence of concern or the problem's report. However, our results were consistent with those obtained by Stickler et al. (1991) who reported very high results in areas of general parenting, such as the child's security, feeding and sleep, and about the parental role.

Our findings were consistent with prior research regarding parental concerns about family relations, child abuse, the child's safety, feeding, sleep, and negative behaviors

(Akister & Johnson, 2002; Halfon et al., 2002; Mesibov et al., 1993; O'Brien, 1996; Reijneveld et al., 2008; Stickler et al., 1991).

The total scale was strongly correlated with all the subscales, confirming the pertinence of considering parental concerns a parenting dimension by itself, not only caused by the child's symptoms. The highest correlation between subscales was between family and school problems, and eating, sleep, and physical complaints. There is evidence to support that children who are referred to mental health services because of family and schooling problems frequently have concomitant somatic symptoms, feeding or sleeping problems (e.g. Garralda & Bailey, 1987; Alfano et al., 2009).

Our study reported several socio-demographic differences. Parents of girls expressed more concern about their child's fears than parents of boys. Studies about the prevalence of fears in childhood indicate that girls usually reported more fears than boys (e.g. Burnham & Lomax, 2009). Parents of older children presented higher levels of concern about eating, sleep and physical complaints. Accordingly, Wald et al. (2007) reported that parental perceptions about weight were more often correct for parents of older children, when compared to those of younger children.

Overall, our results reported that mothers were more concerned than fathers. These results were confirmed in prior research in infancy (Swain et al., 2007), and about sleep problems (Sadeh et al., 2007). The percentage of respondents was also higher for mothers, which is in accordance with similar studies (e.g. Stickler et al., 1991).

Parents with a lower educational level reported higher levels of concern, result consistent with that by Stickler et al. (1991) and Long et al. (2008). Younger parents, widows, single parents, and unemployed parents reported higher levels of concern, results that were also reported in prior research (Long et al., 2008; Reijneveld et al., 2008). The fact that more deprived parents reported higher levels of concern has been previously reported, however, their interest in participating in the study also reflects their willingness to face these concerns, and their possible openness to an intervention.

One limitation for this study is that parents volunteered to participate in the study, which may eventually indicate that these parents expressed more concern about their children than the parents who did not consider participating in the study.

This study provided additional information about the parenting process. Parental concerns are a general aspect of the parenting process, and enhance parents' ability to take

care of their children. The high rates of response obtained may indicate that parents are interested in thinking and sharing their concerns with professionals.

Future research should further investigate children and parents' individual and marital variables that might affect the intensity of concern, variables affecting the help seeking process, and strategies to improve parent-professional's communication.

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GENERAL DISCUSSION

The parental concerns scale, developed in this study, reported good psychometric properties, and a good acceptability by parents. Overall, results supported evidence for the scale's validity. The confirmatory factorial analysis showed a good factorial validity for the five subscales defined: family and school problems; eating, sleep and physical complaints; preparation; fears; and negative behaviors. There was evidence of the subscales' convergent validity, and discriminant validity between the preparation subscale and the other subscales. Results also supported evidence for internal consistency and reliability, being the highest value obtained for the total score.

These results pointed to a second-order factor which is the construct parental concerns. All the subscales were positively correlated, and each one was highly correlated with the total score. Prior studies reported similar correlations concerning children's mental health problems. For example, anxiety disorders in children reported concurrent somatic complaints, irritability and sleep disturbances (Fox, Halpern & Forsyth, 2008; Nyame et al., 2010). These sleep disturbances were related to school problems, and disruptions in the family functioning (Smaldone, Honig, & Byrne, 2007). Moreover, bedtime noncompliance associated to chronic insufficient sleep, may lead to physical, emotional, behavioral, and cognitive problems in children (see Ortiz, & McCormick, 2007, for a review).

The highest correlation between subscales was between family and school problems and eating, sleep, and physical complaints. Children's referral to mental health services because of family, schooling, behavioral and/or emotional problems, frequently manifest concurrent somatic symptoms, feeding or sleep problems (e.g. Garralda & Bailey, 1987; Alfano, Zakem, Costa, Taylor, & Weems, 2009).

The lower correlations, observed in this study, were between the preparation subscale and all the other subscales, even though all the correlations were positively significant. This subscale addresses items related with death and moving, that involve the child's preparation for separation. Nevertheless, those items may represent issues that might be more distant from the child's current problems than the items comprised in the other subscales. Previous research about death observed that parents want to protect their children from the emotional aspects of death, believing the belief that the child will not be able to understand it or to deal with it in an emotional way (Schoen, Burgoyne, & Schoen, 2004). Parents usually feel less confident or even reluctant in discussing death with their children (McNeil, 1983). Additionally, these concerns may collide with the parents' own

difficulties when facing those issues. There are also certain life stressors like threatening events that are linked to the child's anxiety, such as a serious injury or terminal illness of a parent, and loss events that predict depression, such as the death of a parent (see Fox, et al., 2008 for a review).

There was low evidence of criterion-related validity, regarding the Parental Concerns Scale with the Parental Stress Scale and with analogous domains on the Child Behavior Checklist. In spite of the observed correlation between the Parental Concerns' negative behaviors subscale and the CBCL's hyperactivity factor; and between the Parental Concerns' eating, sleep and physical complaints subscale and the CBCL's somatic complaints factor, these correlations were very low and may be attributed to the wide sample's size. Parents expressed more concerns about their children than the actual reported problems. Similar results were obtained in studies that addressed normative parenting. Stickler, Broughton, and Alario (1991) reported very high rates of parental worries when compared to actual risks, namely about the risk of the child being abducted. Accordingly, Reijneveld, De Meer, Wiefferink, and Crone (2008) observed that parent reported problems were higher than professionally assessed problems concerning the children's development and behavior.

The Parental Stress Scale's validation study supported evidence for the 4-factor structure, defined by the exploratory factorial analysis conducted in the Portuguese version of the scale (Mixão, Leal, & Maroco, 2010). Moreover, there was evidence of all the factors' convergent and discriminant validity. The internal consistency and reliability was satisfactory, except for the factor fears and anxieties that reported a low rate of internal consistency. Previous validation studies with American and Spanish parents reported similar values of internal consistency for the total score (Berry & Jones, 1995; Oronoz, Alonso-Arbiol, & Balluerka, 2007), while the studies conducted with Chinese parents reported higher rates of reliability (Cheung, 2000; Leung & Tsang, 2010).

Parental stress was analyzed by child and family background. Our results pointed to higher levels of parental stress in parents of boys, with a higher number of children; parents with a lower educational level, older, divorced or single; and in unemployed mothers. Accordingly, a study with Chinese parents reported significant differences concerning mother's level of education and family income (Leung & Tsang, 2010). Additionally, in our study there were significant differences between mothers and fathers in the parental satisfaction factor, more specifically mothers were more satisfied with

parenting than fathers. Prior research did not report differences between mothers and fathers (Berry & Jones, 1995; Oronoz et al., 2007). However, to our knowledge, this factor had never been assessed before. Previous studies only considered the scale's total score for the comparative study. Moreover, when both parents completed the scale, we verified a decrease in parental stress, compared to when only the mother or the father responded. A possible explanation for this result is that a more satisfying marital relationship might produce a buffer effect on parental stress (Miller, Cate, Watson, & Geronemus, 1999), or conversely, a social desirability bias might occur due to the presence of the spouse.

The low reliability rate observed in the fears and anxieties factor of the Parental Stress Scale might be due to the reduced number of items comprising the subscale. However, we decided to maintain this subscale, because the validity studies supported evidence for this factor, and it presented the highest positive correlation with the Parental Concerns Scale.

The observed correlations between the Parental Concerns Scale and the Parental Stress Scale were very low and might be attributed to the wide sample size. These findings provide evidence for divergent validity, possibly demonstrating the independence of the constructs in general parenting. In addition, Leung and Tsang (2010) observed that the Parental Stress Scale did not differentiate parents with lower levels of stress. However it is a suitable test for parents with higher levels of parenting stress. Being stress a mental health component, lower rates in general parenting were expected. Furthermore, Sheppard, McDonald and Welbourne (2010), obtained similar results by comparing the results obtained in a Parental Concerns Questionnaire, oriented towards family psychosocial problems, with the Parental Stress Index, by Abidin (1997). The data on the Parental Concerns Questionnaire reported a higher frequency of severe problems than the level of parenting stress observed. The authors considered that the parental concerns questionnaire identified minorities of parents reporting family and environmental needs while the parenting stress index only differentiated parents from larger families, but not other vulnerability factors, such as family income or single parenthood.

The prevalence study with the Portuguese population of parents reported very high rates of concern, possibly reflecting the pertinence of the considered dimensions to general parenting. Accordingly, the study by Reijneveld et al. (2008) supported evidence to affirm that parental concerns must be a general aspect of parenting. The concern rates obtained in our study were particularly high, when compared to past research. It is possible that this

difference is due to the variables studied. Prior prevalence studies addressed specifically parental concerns about the child's developmental, emotional and behavioral problems, while this study regarded general parental concerns about the child's normal development. These results were more similar to those obtained by Stickler et al. (1991), who reported very high rates of parental concern in areas of general parenting, such as the child's protection, feeding and sleep, and about the parental role.

Another possible reason for this high result could be that this study was conducted in an educational setting, differently from the other studies that were conducted in health settings. Moreover, parents completed the questionnaire at home which might be considered a friendlier environment, where parents had the opportunity to think without fearing professional criticism or diagnosis.

A third reason might be that the scale elicited parental concerns. Past research concluded that the use of checklists stimulated parents to express more concerns about their child's problems, compared with when a checklist was not used (Triggs & Perrin, 1989; Kanoy & Schroeder, 1993).

Past research also found that high family conflict may prevent parents from distinguishing their children's needs from their own (e.g. Campbell & Johnston, 1986). Considering our results, the high parental concern rates about family problems may reflect parents' awareness about their children's needs.

Eating, sleep and physical complaints were the second most mentioned dimension. Prior research reported that problems concerning these areas are highly prevalent in typically developing children (Kuhn, Mayfield, & Kuhn, 1999; Linscheid, Budd, & Rasnake, 1995; Nyame et al., 2010). Child sleep disturbances were related with negative parent-child interactions, marital tension, and parental fatigue, stress, and dysphoria. Concerning the children's overweight, extensive literature supported evidence for the negative effects of both too little and excessive parental concern (e.g. Lampard, Byrne, Zubrick, & Davis, 2008). However, consistent with our findings, parents expressed a desire of having healthier families, and expected health professionals to help them achieve the necessary behavioral changes (McKee, Maher, Deen, & Blank, 2010). Prior research reported that parents' reports underestimated child headaches (e.g. Lundqvist, Clench-Aas, Hofoss, & Bartonova, 2006), but eventually our results show that they are concerned about the possibility of their occurrence.

Parents were also reasonably concerned about death and moving, in spite of being issues that might not be a current problem to their children. Death is usually a difficult issue for parents to discuss with their children, arousing parents' own anxieties when dealing with it (McNeil, 1983). Moving implies separation from the community where the family lives, and evolves several changes besides changing home, such as going to a different school, adapting to a new teacher and getting to know new peers, as well as separating from the former friends and reference adults.

In spite of the child's fears being the least concerning dimension for parents, the majority of the parents were reasonably concerned about their occurrence. Anxiety disorders are the most common mental health problem in childhood, and may have a chronic course if untreated, reason why they should be addressed on their onset. Studies addressing the transmission process of anxiety in parent-child relationships, reported that parent-child, but also child-parent, as well as bi-directional influences may be possible (see Fisak Jr., & Grills-Taquechel, 2007, for a review). Anhalt and Morris (2008) found that parenting styles defined by low levels of care and high levels of protection were related with high internalizing symptoms in children.

Our findings were consistent with prior research about the child's negative behaviors. All the studies that addressed parental concerns reported high frequencies of concern about the child's negative behaviors (Akister & Johnston, 2002; Halfon et al., 2002; Mesibov, Schroeder, & Wesson, 1993; O'Brien, 1996; Reijneveld et al., 2008).

Overall, the results obtained reinforce the previous idea that parental concerns are a general aspect of parenting, and that parents are willing to be clarified about parenting issues. However, if these concerns are not addressed, there is a risk of becoming excessive, leading to a more controlling and restrictive behavior by parents, or to the transmission of parental anxiety, that might negatively influence the child's health, autonomy, emotional and social development (Glascoe & Dworkin, 1995; Pain, 2006; Williams, et al. 2000). Furthermore, these results confirm the importance of assessing parental concerns besides the child's symptoms or current problems. According to Winnicott (1993) professionals should listen to parents and let them express their own fears, even when they are not validated by a professional assessment. This way they can bring to consciousness their internal conflicts, between inner impulses and the ego's ideal and, thus, widen their internal space reserved for the child. The child will be seen in a more realistic way by parents who promote the child's investment as an external object with his/her own

characteristics. Blanchard, Gurka, and Blackman (2006) having obtained results of parents' over-reporting of emotional, developmental and behavioral problems in children with chronic problems, suggested a change in treatment from a focus on a child's developmental and behavioral problems to one that addresses the influence of these problems on the family. Lampard et al. (2008) also refer the importance, for clinical practice, to identify the parents expressing high levels of concern.

The study of the child and the family's background showed higher levels of concern in mothers when compared to fathers; in parents of girls concerning the fears dimension; parents of older children concerning eating, sleep and physical complaints; and in parents with a lower educational level, younger, widows, single, and unemployed. These results brought evidence for the scale's predictive validity. Our results were consistent with prior research concerning more deprived parents (Long, Gurka, & Blackman, 2008; Reijneveld et al., 2008; Stickler et al., 1991). Additionally, prior research in infancy, about sleep problems and about weight, also reported that mothers were more concerned than fathers (Swain, Loberbaum, Kose, & Strathearn, 2007; Sadeh, Flint-Ofir, Tirosh, Tikotzky, 2007; Musher-Eizenman, Holub, Hauser, & Young, 2007). Mothers were also the majority of respondents, result consistent with studies addressing parenting dimensions, even though there were a significant percentage of both parents responding. This result may indicate a shift in the parenting process, reflecting a wider awareness of the importance both parents for their child's education.

General parental concerns' prevalence in this population of parents adds relevance to the construct definition. Considering parental concern as a sign of interest and care for the child, these results confirm the concerns' continuity over the child's development. Therefore, parental concerns might be a dimension in general parenting, endorsing a positive relationship between the parents and their children. Moreover, the high results obtained may reflect that parents are interested in sharing their concerns with professionals and are possibly open to interventions, especially in educational settings. The strong correlation between subscales confirms the pertinence of considering parental concerns a parenting dimension on its own, not only caused by the child's symptoms or current problems.

This study provided a new instrument that presents several advantages, such as, short administration time, reliability and validity, ability to quantify information, and minimal training required. It is adequate for research purposes, assessing parental concerns

about specific parenting dimensions, and also allowing the distinction between different groups of parents regarding their level of general concern.

Concerning the clinical practice, the Parental Concerns Scale may be used as a pre-screening for specific areas of parental concern in parent-child clinical evaluation. It also brings the possibility to differentiate parents regarding their level of general parenting concern. This piece of information will be fundamental to decide between the type of intervention that may be more adequate: counseling, referring, or additional assessment. Moreover, this scale may also be used to assess outcomes and changes after intervention. The scale revealed a good acceptability by parents, reflected in its high return rate, considered to be a primary issue for any clinical assessment (Firth, Grimes, Poppleton, Hall, & Richold, 2000). Furthermore, the scale can also be used as a pre-assessment routine for parental education groups.

The strengths of this study include the wider sample of parents considered when compared to past research regarding parental concerns in general parenting. Moreover, it considered a stratified sample of Portuguese parents, being representative of Portuguese parents of children between 3 and 10 years old attending public schools. Other strengths include its high response rate, indicator of the parents' interest about this dimension.

One limitation of this study is that parents volunteered to participate in the study, possibly meaning that these parents were more concerned with their children than the parents that did not want to participate in the study. Moreover, this study was limited to parents who had children attending public school. Another limitation could be the discrepancy verified between the number of mothers and fathers that participated in the study. Nevertheless, this discrepancy consistently occurred in similar studies addressing parenting issues (e.g. Stickler et al., 1991; Lampard et al., 2008). Mothers are usually more involved with the health and educational issues of their children. Finally, another limitation is that we did not measure the parent-report of all problems, we asked about parental concerns.

Future research with the Parental Concerns Scale should include correlational studies with other important variables, such as the parents' personality, mental health problems, and marital variables. Other child and family background comparative studies should also be conducted, namely with parents of children attending private schools, and children younger than 3 years old.

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Appendix A.

**Authorization to conduct the study from Direcção Geral da Inovação e do
Desenvolvimento curricular**

De: mime-noreply@gepe.min-edu.pt [mailto:mime-noreply@gepe.min-edu.pt]
Enviada: ter 20-01-2009 18:32
Para: Susana I. Miranda Algarvio Castro
Assunto: Monotorização de Inquéritos em Meio Escolar: Inquérito nº 0021000001

Exmo(a)s. Sr(a)s.

O pedido de autorização do inquérito n.º 0021000001, com a designação *Estudo Nacional sobre Preocupações Parentais*, registado em 26-11-2008, foi aprovado.

Avaliação do inquérito:

Exma. Senhora Prof^a. Doutora Dra. Susana Algarvio
Informo por este meio que o pedido de aplicação de inquérito em meio escolar é autorizado uma vez que o questionário submetido a análise cumpre os requisitos de qualidade técnico-metodológica para tal.

Com os melhores cumprimentos

Joana Brocardo
Directora-Geral
DGIDC

Observações:

Pode consultar na Internet toda a informação referente a este pedido no endereço <http://mime.gepe.min-edu.pt>. Para tal terá de se autenticar fornecendo os dados de acesso da entidade.

Appendix B.
Sociodemographic questionnaire

Este questionário integra-se num estudo de investigação sobre Preocupações Parentais que está a ser realizado à população Portuguesa, co-financiado pelo Programa Operacional da Ciência e Inovação 2010 e pelo Fundo Social Europeu.

Todos os dados recolhidos são anónimos e confidenciais e serão utilizados meramente para fins estatísticos.

Obrigada pela sua colaboração,

Susana Algarvio

(Psicóloga, Assistente no ISPA, Doutoranda em Psicologia da Saúde)

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Quem responde ao questionário: Mãe ____ Pai ____ Ambos ____

Outro ____ Quem? _____

Data de Nascimento da Criança ____/____/____ **Idade** ____ anos

Sexo da Criança _____

A criança frequenta a escola? Sim ____ Não ____

Se respondeu Não, quem cuida da criança? _____

Se respondeu Sim, indique o nome da Escola _____

Ano de escolaridade da criança _____

Naturalidade: Mãe _____

Pai _____

Zona de Residência (Concelho): Mãe _____ Pai _____

Idade: Mãe ____ Pai ____

Nível Escolaridade: Mãe _____

Pai _____

Profissão: Mãe _____

Pai _____

Estado Civil dos Pais _____

Nº de irmãos da criança ____ **Idades** _____

Appendix C.
Parental Concerns' Scale
(Portuguese version)

Escala de Preocupações Parentais

As questões que se seguem pedem-lhe a sua opinião acerca do que o/a preocupa actualmente em relação ao seu filho/a. Responda, por favor, a cada uma das questões fazendo um círculo à volta da opção que considera mais adequada à sua situação. Se achar que a questão não lhe diz respeito, não preencha, deixando o espaço em branco.

	Nada	Pouco	Razoavelmente	Bastante	Muitíssimo
1. Preocupa-me o meu filho ter medo do escuro	1	2	3	4	5
2. Preocupa-me o meu filho controlar dificilmente os seus comportamentos	1	2	3	4	5
3. Preocupa-me o meu filho não me obedecer	1	2	3	4	5
4. Preocupa-me o que o meu filho deve comer	1	2	3	4	5
5. Preocupa-me os pais não estarem de acordo quanto às regras e disciplina	1	2	3	4	5
6. Preocupa-me saber como preparar o meu filho para mudar de casa	1	2	3	4	5
7. Preocupa-me o meu filho entender o que é a Morte	1	2	3	4	5
8. Preocupa-me o meu filho queixar-se de dores de cabeça	1	2	3	4	5
9. Preocupa-me o meu filho ter o sono agitado	1	2	3	4	5
10. Preocupa-me o meu filho fazer birras	1	2	3	4	5
11. Preocupa-me a educadora/professora entender o meu filho	1	2	3	4	5
12. Preocupa-me os pais discutirem muito	1	2	3	4	5
13. Preocupa-me o meu filho não querer ir para a cama	1	2	3	4	5
14. Preocupa-me o meu filho ser mandão e Exigente	1	2	3	4	5

	Nada	Pouco	Razoavelmente	Bastante	Muitíssimo
15. Preocupa-me o meu filho ser sujeito a maus-tratos	1	2	3	4	5
16. Preocupa-me o que deve ser dito à criança em caso de separação dos pais	1	2	3	4	5
17. Preocupa-me o meu filho ter medos	1	2	3	4	5
18. Preocupa-me o meu filho queixar-se de dores de barriga	1	2	3	4	5
19. Preocupa-me o meu filho entender a morte de alguém próximo	1	2	3	4	5
20. Preocupa-me o meu filho não comer certos Alimentos	1	2	3	4	5
21. Preocupa-me o meu filho ter medo do papão ou de monstros	1	2	3	4	5

Appendix D.
Parental Stress Scale
(Portuguese version)

Escala de Stress Parental

As seguintes afirmações descrevem sentimentos e percepções acerca da experiência de ser pai/mãe. Pense em cada um dos itens em termos de como é tipicamente a sua relação com o seu filho(a) ou filhos. Por favor, indique até que ponto concorda ou discorda dos seguintes itens, fazendo um círculo à volta do respectivo número, de acordo com a grelha seguinte:

	Discordo totalmente	Discordo	Indeciso	Concordo	Concordo Totalmente
1. Estou contente no meu papel de pai (mãe)	1	2	3	4	5
2. Faço tudo o que for preciso pelo(s) meu(s) filho(s)	1	2	3	4	5
3. Cuidar do(s) meu(s) filho(s) por vezes exige mais tempo e energia do que aquele que tenho para dar	1	2	3	4	5
4. As vezes penso se faço o suficiente pelo(s) meu(s) filho(s)	1	2	3	4	5
5. Sinto-me próximo do(s) meu(s) filho(s)	1	2	3	4	5
6. Gosto de passar tempo com o(s) meu(s) filho	1	2	3	4	5
7. O(s) meu(s) filho(s) é uma importante fonte de afecto para mim	1	2	3	4	5
8. A maior fonte de stress na minha vida é o meu(s) filho(s)	1	2	3	4	5
9. Ter um filho(s) deixa-me pouco tempo e não me permite uma grande flexibilidade na minha vida	1	2	3	4	5
10. Ter um filho(s) tem sido um peso financeiro	1	2	3	4	5
11. É difícil contrabalançar diferentes responsabilidades por causa do(s) meu(s) filho(s)	1	2	3	4	5

	Discordo totalmente	Discordo	Indeciso	Concordo	Concordo Totalmente
12. O comportamento do(s) meu(s) filho(s) é muitas vezes embaraçante ou stressante para Mim	1	2	3	4	5
13. Se fizesse tudo de novo decidia não ter filho(s)	1	2	3	4	5
14. Eu sinto-me oprimido(a) pela responsabilidade de ser pai (mãe)	1	2	3	4	5
15. Ter um filho(s) significa ter poucas escolhas e pouco controlo sobre a minha vida	1	2	3	4	5
16. Sinto-me satisfeito(a) como pai (mãe)	1	2	3	4	5
17. Acho o(s) meu(s) filho(s) adorável	1	2	3	4	5

Appendix E.**Child Behaviour Checklist subscales****(Portuguese version)**

Apresenta-se a seguir uma lista de frases que se utilizam para descrever características de crianças e jovens. Leia cada uma delas e indique até que ponto elas descrevem a maneira como o seu filho(a) é actualmente ou tem sido durante os últimos 6 meses. Coloque um círculo à volta do 2 se, tanto quanto é do seu conhecimento, essa descrição é muitas vezes verdadeira. Se a descrição só às vezes for verdadeira, coloque o círculo à volta do 1. Se a descrição não for verdadeira, coloque o círculo à volta do 0. Por favor, responda o melhor que puder a todas as questões, ainda que lhe pareça que algumas não se aplicam ao seu filho(a).

0 = Não verdadeira
1 = Às vezes verdadeira
2 = Muitas vezes verdadeira

- | | | | |
|---|---|---|---|
| 1. Discute por tudo e por nada | 0 | 1 | 2 |
| 2. Não consegue concentrar-se, é incapaz de estar atento(a) durante muito tempo | 0 | 1 | 2 |
| 3. Não é capaz de se manter sentado(a), é irrequieto(a) ou hiperactivo(a) | 0 | 1 | 2 |
| 4. É desobediente em casa | 0 | 1 | 2 |
| 5. É desobediente na escola | 0 | 1 | 2 |
| 6. É invejoso(a) por tudo e por nada | 0 | 1 | 2 |
| 7. Ouve sons ou vozes que não existem (descreva): | 0 | 1 | 2 |
| 8. É impulsivo ou age sem pensar | 0 | 1 | 2 |
| 9. É nervoso(a), excitável ou tenso(a) | 0 | 1 | 2 |
| 10. Tem tonturas | 0 | 1 | 2 |
| 11. Apresenta problemas físicos sem causa médica conhecida: | | | |
| a. Dores (sem ser dores de cabeça) | 0 | 1 | 2 |
| b. Dores de cabeça | 0 | 1 | 2 |
| c. Náuseas, enjoos | 0 | 1 | 2 |
| d. Dores de estômago ou câibras | 0 | 1 | 2 |
| e. Vômitos | 0 | 1 | 2 |
| 12. Agride fisicamente as pessoas | 0 | 1 | 2 |
| 13. Prefere andar com crianças mais velhas | 0 | 1 | 2 |
| 14. Grita muito | 0 | 1 | 2 |
| 15. Gosta de se exhibir ou de fazer palhaçadas | 0 | 1 | 2 |
| 16. É teimoso(a), carrancudo(a) ou irritável | 0 | 1 | 2 |
| 17. O seu humor ou os seus sentimentos mudam bruscamente | 0 | 1 | 2 |
| 18. Fala demasiado | 0 | 1 | 2 |
| 19. Arrelia muito os outros | 0 | 1 | 2 |
| 20. Tem birras, exalta-se facilmente | 0 | 1 | 2 |
| 21. É invulgarmente barulhento(a) | 0 | 1 | 2 |

Appendix F.
Statistical Outputs