



Ispas

Instituto Universitário
de Ciências Psicológicas,
Sociais e da Vida

PREDICTIVE ANTISOCIAL SPECTRUM QUESTIONNAIRE:
EXPLORING PSYCHOMETRIC PROPERTIES IN MALE INMATES

ALEXANDRA FARIA NEVES

Dissertation advisor:

PROFESSOR DR. MIGUEL BASTO-PEREIRA

Dissertation Seminar Professor:

PROFESSOR DR. MIGUEL BASTO-PEREIRA

Submitted as a partial requirement for:

MASTER IN PSYCHOLOGY

Specialization in Forensic Psychology

2023

Dissertation carried out under the guidance of Professor Miguel Basto-Pereira, Ph.D., presented at ISPA – Instituto Universitário as part of a master's degree specialization in forensic psychology.

Acknowledgements

First and foremost, I would like to express my gratitude to Professor Miguel Basto-Pereira, who opened doors which allowed this dissertation to take shape and encouraged me with patience and guidance.

I would like to extend my appreciation to all the researchers and colleagues at ISPA – Instituto Universitário who are part of the initiative research in which this dissertation is comprised.

To Direção Geral de Reinserção e Serviços Prisionais (DGRSP), prison warden, prison staff and correctional officers, thank you, for facilitating the data collection and making this research possible as well as always being accommodating and helpful.

A special thank you, to the people who gave up their free time to patiently answer our questionnaire, your input is key to improving the lives of others.

To my family, friends and Sérgio, I am grateful for the dedication, support, and encouragement during this journey. To Maria Ferreira, thank you for overcoming this with me.

Resumo

Os traços antissociais têm impacto considerável na vida de um indivíduo, no seu percurso académico e no mercado de trabalho, nas suas relações amorosas e familiares e na relação que estabelece com a sociedade. Para uma intervenção focada nas características do indivíduo é necessária a existência de instrumentos de avaliação robustos. Neste âmbito, a presente investigação teve como objetivos contribuir com: 1) uma revisão do Antisocial Spectrum, identificando itens preditivos considerando dois grupos (população forense e comunitária); 2) uma exploração das propriedades psicométricas desses itens numa amostra masculina da população prisional portuguesa. A amostra deste estudo é composta por 435 adultos, 205 homens ($M = 37.24$, $SD = 10.66$) que se encontravam em reclusão em 6 estabelecimentos prisionais na área da grande Lisboa e 230 homens na comunidade não condenados por crimes ($M = 43.73$, $SD = 19.09$). A amostra respondeu às medidas de autorrelato: Escala Antisocial Spectrum (AS Spectrum) e Escala de Crenças Criminógenas (CCS). Realizou-se uma análise fatorial exploratória que revelou uma estrutura de dois fatores (Impulsividade/Irresponsabilidade; Relação Interpessoal) com 10 itens que discriminam entre os dois grupos em análise. Os resultados indicam que o *Predictive Antisocial Spectrum Questionnaire* apresenta valores satisfatórios relativamente à sensibilidade dos itens e das dimensões, validade fatorial, validade convergente e fiabilidade, nomeadamente consistência interna. Este questionário apresenta-se como um instrumento de avaliação promissor para medir traços antissociais em reclusos do sexo masculino. Limitações, recomendações para investigações futuras e implicações clínicas e sociais são discutidas.

Palavras-chave: análise fatorial exploratória; perturbação de personalidade antissocial; população forense; traços antissociais.

Abstract

Antisocial traits have a significant impact on an individual's life, their academic and professional career, their romantic and family relationships, and their relationship with society. For an intervention focused on the individual's characteristics, it is necessary to have robust assessment instruments. In this context, this research aimed to contribute with: 1) a review of the Antisocial Spectrum, identifying predictive items considering two groups (forensic and community population); 2) an assessment of the psychometric properties considering only predictive items in a male sample of Portuguese inmate population. The sample for this study consisted of 435 adults, 205 males ($M = 37.24$, $SD = 10.66$) who were deprived of liberty in 6 prisons in the metropolitan area of Lisbon and 230 males ($M = 43.73$, $SD = 19.09$) in the community who had not been convicted of crimes. The sample answered to self-report measures: Antisocial Spectrum Scale (AS Spectrum) and Criminogenic Beliefs Scale (CCS). An exploratory factor analysis was carried out which revealed a two-factor structure (Impulsivity/Irresponsibility; Interpersonal Relationship) with 10 items that discriminate between the two groups under analysis. Results indicate that the Predictive Antisocial Spectrum Questionnaire has satisfactory results regarding sensitivity of the items and dimensions, factorial validity, convergent validity and reliability, in particular internal consistency. This questionnaire appears to be a promising assessment tool for measuring antisocial traits in male inmates. Limitations, recommendations for future research and clinical and social implications are discussed.

Keywords: exploratory factor analysis; antisocial personality disorder; forensic population; antisocial traits.

Contents

Introduction	1
Mental health and antisocial personality disorder	1
Antisocial Functioning and the Root of Criminal Thinking.....	5
Assessment tools.....	8
The current study	9
Methods	10
Participants	10
Measures	12
Sociodemographic Questionnaire	12
The Criminogenic Cognitions Scale (CCS) (Tangney et al., 2002).....	12
Antisocial Spectrum Scale (AS Spectrum) (Moisés et al., 2019).....	12
Procedure	13
Data analysis	13
Results	15
Empirical Analysis of Items Predicting Incarceration	15
Psychometric properties of Predictive AS Spectrum Questionnaire	19
Construct validity: Exploratory factorial analysis	19
Convergent Validity	21
Reliability: internal consistency.....	21
Sensitivity analysis.....	21
Predictive AS Spectrum Questionnaire total and subdimensions in percentiles.....	22
Discussion	23
Empirical Analysis of Items Predicting Incarceration	24
Psychometric properties of the Predictive Antisocial Spectrum Questionnaire	24
Psychopathy and Antisocial Spectrum	26
Limitations and future research	27

Implications	29
Conclusion.....	29
References	31
Annexes	38
Annex A – Informed Consent.....	39
Annex B – Sociodemographic Questionnaire	40
Annex C – Criminogenic Cognitions Scale.....	41
Annex C.1 – Criminogenic Cognitions Scale.....	42
Annex D – Antisocial Spectrum Scale	43
Annex E - Predictive Antisocial Spectrum Questionnaire.....	44

List of tables

Table 1 <i>Sociodemographic Characteristics of Study Participants</i>	11
Table 2.1 <i>Results of Roc Curve Analysis for AS Spectrum (Items 1 to 9)</i>	16
Table 2.2 <i>Results of Roc Curve Analysis for AS Spectrum (Cont. Items 10 to 16)</i>	17
Table 2.3 <i>Results of Roc Curve Analysis for AS Spectrum (Cont. Items 17 to 24)</i>	18
Table 3 <i>Two Factor Matrix of Predictive Antisocial Spectrum Questionnaire</i>	20
Table 4 <i>Pearson Correlation (r)</i>	21
Table 5 <i>Percentile scores of Predictive AS Spectrum Questionnaire dimensions</i>	22

List of figures

Figure 1	<i>Graphic representation of ROC Curve analysis of AS Spectrum.....</i>	15
-----------------	-------------------------------------------------------------------------	-----------

Introduction

Incarcerated population worldwide, in 2021, was about 11.5 million people, representing an increase of 24% since 2000 (Penal Reform International & Thailand Institute of Justice, 2023). The numbers vary between continents and countries, for example in the United States (U.S.) data from 2019 reports more than 2 million inmates, in Europe, data from 2020, details 1.4 million people (Fair & Walmsley, 2021). World Health Organization (WHO) (2023) reported 613,497 people were deprived of liberty in 36 European region countries, with average of 108.8 people per 100 000 inhabitants, ranging from 23.0 in San Marino to 246.0 in Georgia.

The Annual Report on Internal Security (RASI) for the year of 2022, reported 12.383 inmates in Portuguese prison establishments (EP). Although there was a 6% rise in inmates' population since 2021, the occupancy percentage is 96.3%, confirming that there is no overcrowding in Portuguese jails for the fifth year consecutively (General Directorate of Justice Policy [DGPJ] of the Ministry of Justice, 2023). Nevertheless, there is a need for more specific data and assessment instruments, which currently characterize Portugal's inmate population as predominantly Portuguese male citizens, with age ranging between 31 and 50 years old, with women representing only 7.1% of inmates. According to RASI 2020 (2021), most common crimes in 2020 were crimes against property (152,704) followed by crimes against people (77,243) (DGPJ, 2022).

Mental health and antisocial personality disorder

The Global Burden of Disease Study (2023) estimated that in 2019, about 970 million people, were living with a mental disorder. The WHO (2022) defines mental disorder as a clinically significant disturbance in an individual's cognition, emotional regulation, or behavior. Most significantly, factors such as overcrowding, violence, lack of meaningful activities and insecurity about prospects, are believed to have a negative effect on the inmates' mental health (WHO, 2001). Inmates have also increased risk of all-cause mortality, suicide, self-harm, and victimization (Fazel et al., 2016).

A prevalence study in Iowa, U.S., (Al-Rousan et al., 2017) found, in a sample of 8,574 inmates records, 48% had a history or a diagnosis of at least one mental illness.

Interestingly, the results showed that almost all mental illness diagnoses were first made during incarceration. Fazel and Danesh (2002), conducted a systematic review of 62 surveys (1966-2001) with a sample of 23 thousand inmates in 12 western countries. Results showed the most common disorder, within males, was personality disorder, specifically antisocial personality disorder (ASPD) (47%), followed by psychotic illnesses (37%) and 10% were diagnosed with major depression. Furthermore, comparing with the community, inmates were about ten times more likely to have antisocial personality disorder whereas, amongst the forensic population one in two males would have it. Mental illness among inmates not only affects the individuals and the prison officials, but also has social and economic implications for society (Al-Rousan et al., 2017).

The prevalence rate of antisocial personality disorder could be higher in samples of individuals affected by socioeconomic (e.g., poverty) or sociocultural (e.g., migration) adverse factors (American Psychiatric Association [APA], 2022). Some risk factors are considered environmental and include early family-related factors like childhood abuse and negligence, erratic and unstable parenthood, and biological factors such as genetic and physiological. ASPD is three times more common in males. In families with an ASPD diagnose, males have higher rates of ASPD and substance abuse disorders, while female individuals are more frequently diagnosed with somatic symptom disorder (APA, 2022; Basto-Pereira & Farrington, 2022)

According to the Portuguese Ministry of Health (2018), a study conducted in 2016, suggests Portugal is the European country with the highest rates of mental health disorders in the adult population, where one in five people, have a psychological disorder and half had one throughout their life. Literature shows (Brazão et al., 2015; Fazel & Danesh, 2002; Fazel et al., 2016; Penal Reform International & the Thailand Institute of Justice, 2022; Portuguese Ministry of Health, 2018; WHO, 2014) that the inmates' population is more likely to have higher prevalence of mental health disorders than the general community. A pioneer study (Brazão et al., 2015) carried out in Portugal that aimed the evaluation or screening of Personality Disorders in the nations' prisons, with 294 adult male inmates, revealed a prevalence with 79,9% of inmates that met the criteria for at least one personality disorder. Results show that, antisocial personality disorder was one of the most frequently diagnosed (58.2%). Regarding comorbidity rates, 42.8% of inmates presented enough criteria for the diagnosis of two or more personality disorders.

Usually, individuals linked to criminal behavior and mental health problems, have other vulnerabilities, the WHO (2014), highlights learning and relationship difficulties and substance misuse, among other health and social problems. Poor mental health has a great impact on individuals' employment, finances, housing as well in interpersonal relationships. Due to the challenges this population encounters, any intervention and support network should be targeted to specific needs.

The Portuguese prison system is based on a treatment strategy where social reintegration and recidivism prevention are accomplished by the availability of intervention programs targeting criminogenic needs in each inmate (DGRSP, 2021). Research on the topic, such as the present study, have been carried out with the goal of contributing to the development of efficient intervention programs, assessment instruments, and regulations within the judicial and prison systems. A greater understanding of the individuals and their mental health needs, while incarcerated, contributes to a process of law re-education, changes in criminogenic thinking, better decision making and behavior, as well as better adjustment to prison. Understanding and addressing mental health needs while incarcerated will also help with the successful preparation of re-entry into community, professional, and family life, upon release.

A systematic review and a meta-regression analysis (Yu et al., 2012) on personality disorders, violence, and antisocial behavior, found that offenders with personality disorders were two or three times more likely to reoffend than offenders with none or another type of mental health condition. These findings are consistent with the literature, which states that antisocial personality disorder is a strong predictor of repeat offending and intervening in the link between personality disorder and violence, could reduce further criminal behavior.

The International Classification of Diseases (ICD-11) defines personality: "as the individuals' characteristic way of behaving, experiencing life, and of perceiving and interpreting themselves, other people, events, and situations" (WHO, 2023, Personality disorders and related traits section). Personality Disorder, in turn, is characterized by considerable disruption in functioning in all aspects of the individuals' daily life. This could manifest in the way the person sees himself (e.g., self-worth) or relational skills (e.g., developing and maintaining close and mutually satisfying relationships) (WHO, 2023).

The American Psychiatric Association (2022) defines “personality traits as enduring patterns of perceiving, relating to and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts” (DSM 5-TR, 2022, p. 893). It is considered a personality disorder when maladaptive and inflexible personality traits cause significant functional impairment or distress to the individual and/or the relationship with others. Personality disorder is defined as a persistent pattern of experience and behavior that deviates blatantly from what is expected in the individual’s culture, beginning in adolescence or early adulthood, is stable and inflexible, causes disruptions in life as well as the individual’s relationships.

Antisocial personality disorder, belonging to cluster B of personality disorders, is considered a global pattern of disregard and violation of the rights of others, which begins in childhood or early adolescence (before 15 years) and continues into adulthood. It should meet three or more criteria that relate to the inability to conform to social norms, impulsiveness, irresponsibility, aggressiveness, lack of remorse, etc. This classification is only possible in individuals who have reached the age of 18 years. Characteristics such, lack of empathy, revealing insensitivity and disregard to feelings and rights of others, high self-esteem, and superficial charm, usually associated with individuals with ASPD, could be distinctive of the disorder and predictive of future recidivism in prison or other forensic contexts. It is imperative that ASPD be distinguished from criminal behavior undertaken for personal gain that is not caused by personality features characteristic of this disorder (APA, 2022).

Considering that symptoms may meet criteria for more than one personality disorders and there was a need to introduce an alternative approach that addresses the gaps in the existing personality theories. There was a shift in the ICD-11 that was guided by literature review and is similar to the DSM 5 alternative model of classification for personality disorders (AMPD) (Mulder, 2021). The AMPD, as the ICD-11, evaluates the level of personality functioning and pathological personality traits. First, general criteria for personality disorder classification are presented, if the disturbance meets the criteria for personality disorder, new criteria is considered for specific personality disorders which combines areas such as identity, involvement in risk behaviors, impulsivity, and irresponsibility (APA, 2022). Both models consider disturbance as determinant of severity due to the impact on most, if not all, areas of personality functioning, while when considering mild personality disorder, it is expected to only involve some areas (Mulder, 2021). APA (2023) refers this harmonization with the ICD comes from the need to unify the field of

mental health classifications. Considering the existence of two major classifications makes it difficult to collect, use and generalize statistical data, as well as to design clinical trials aimed at developing new treatments.

Antisocial Functioning and the Root of Criminal Thinking

The act of committing a crime depends on several factors. Before the 80s research sought to differentiate offenders and non-offenders. The need to comprehend what makes someone commit crimes led to research within the offender's population and this in turn led to the formulation of theories. These theories are connected to the root of criminal thinking, persistence and desistance, recidivism, etc., its predictors and the connection to mental health and psychological disorders. Today it is agreed within the scientific community, that biological, psychological, and social are key factors to the development and perpetuation of criminogenic behavior (DeLisi, 2009; DeLisi & Piquero, 2011; Moffit, 2018; Sampson & Laub, 2003; Siegel, 2011; Waters, 2019).

The association between criminal social identity and criminogenic thinking in inmates, appear to be moderated by personality traits (Pinheiro et al., 2021). Psychopathic traits, considered a strong predictor of violence, seem associated with misconduct, lower levels of emotional intelligence, difficult adjustment to prison (Pinheiro et al., 2021; Fix & Fix, 2015). Research has studied psychopathic traits and criminal thinking as criminogenic contributors. Results in a study conducted in a college sample by Fix and Fix (2015), suggests that psychological and interpersonal factors are associated with higher scores in psychopathic traits.

Psychopathy is an important clinical construct that has been studied for more than 200 years. Theory and research on the psychopathy construct have increased dramatically over the past few decades, moving from theories initially focused on the most extreme offenders to a more understanding view (DeLisi, 2009).

The Lifestyle Model of Criminal Conduct (Walters, 1990) considers three fundamental concepts on the development of the individual's lifestyle who commit criminal acts and that interact between them. These fundamental concepts include conditions (internal such as heredity, intelligence, external such as family and peers or interactive, person versus situation), choice and cognitions. The Model argues that choice of an antisocial lifestyle

depends on the formulation of cognitions. This supports the choices made and modifies the decision-making process and perception of living conditions, creating a hierarchical cognitive system that supports criminal behavior (Walters, 1998,1995). This author (Walters, 2022) proposed two streams of antisocial traits that could explain criminogenic thinking: 1) callous/unemotional behavioral traits and; 2) disinhibited temperament. Different types of criminogenic thinking could result from the overlap and influence of these two streams, contributing to cognitive insensitivity/proactive (calculated) and cognitive impulsivity or reactive (impulsive, irresponsible), respectively.

Although the literature emphasizes the pertinence of criminal patterns of thought and states that, there are differences between personal beliefs of individuals who commit crimes and individuals who do not, there is a continuous need of research focused on the comprehension of criminogenic attitudes and distortions. The Psychological Inventory of Criminal Thinking (PICTS; Walters, 1990, 2002), an 80-item self-report measure, developed based on the lifestyle theory concept: cognition, by understanding the criminal thought process, measures eight criminal thinking styles believed to support criminal lifestyle (Walters, 2012).

Criminogenic thinking is defined as a set of attitudes, beliefs, and rationalizations connected to criminal behavior that support and maintain the criminal lifestyle. Therefore, deconstructing criminal thinking in its content and processing the components through the questions: what the offender thinks and how the offender thinks, allows an insight on the offenders' behavior, which is crucial to comprehending criminal behavior. Proactive criminal thinking is organized and goal-directed, whereas reactive criminal thinking is emotion-driven characterized by impulsiveness and achieving gratification (Walters, 2019).

According to Tangney et al. (2012), criminogenic cognitions represent a pattern of thought and play a role in the initiation and perpetuation of criminal behavior. It is the individual's propensity to develop cognitive distortions, rationalizations and neutralization techniques, justifies the criminal behavior. Despite the emphasis on criminal thought patterns, Tangney et al. (2012), reflect on the need to measure criminogenic beliefs in individuals who commit crimes, especially those with criminal careers. These studies have focused on the assessment of individuals and the specialization of specific intervention processes. This matter would benefit from further research regarding the cognitive distortions present in criminal thinking (Walters, 2012).

The Risk-Need-Responsivity (RNR) model is a forensic assessment model used in the development of rehabilitation programs designed by Andrews and Bonta (1990), based on three principles: 1. The risk (who benefits most from the intervention) 2. The necessity (states that intervention should focus on dynamic risk factors) 3. Responsiveness, (models, theories and interventions are best suited to the individual and his criminogenic needs) (Mandracchia & Morgan, 2010). Risk factors can be distinguished between dynamic factors and static factors. Dynamic factors are those that intervention can effectively alter, such as social and psychological factors, criminogenic thinking, or criminal self-identification. Dynamic factors are the ones associated with recidivism. On the other hand, static factors, difficult of modifying, such as previous convictions or antisocial behavior records and enduring characteristics of the personality such as psychopathy or intelligence (Simoes et al., 2017; Tangney et al., 2012).

According Brazão et al. (2013), cognitive-behavioral psychoeducational programs, such as The Growing Pro-Social (GPS), are effective in reducing recidivism in youths and adults with antisocial behavior. The GPS focuses on cognitive and behavioral change. It is currently implemented in several Portuguese youth and adult justice facilities (Brazão et al., 2013).

A report (2003) on Portuguese prisons, highlights that 51% of male inmate population were a repeat offender, while the rate is 15% among female population. Recurrent criminal involvement affects both offenders and their social network. It is known that the frequency of programs meant to prevent criminal behavior prior to first time offending may reduce incarceration rates (Ombudsman, 2003). A study by Mandracchia and Morgan (2010) found that offenders with higher levels of criminal thinking usually do not receive any type of intervention treatment, have longer sentences and are more likely to reoffend. However, the relation between these variables and criminogenic thinking factors is not yet fully understood. Even though some of the offender's characteristics that contribute to criminal thinking are already defined, there is a lack of research which examines the association with sociodemographic characteristics (e.g., race and gender) and/or mental health and previous criminal behavior (Mandracchia & Morgan, 2010).

Assessment tools

Forensic assessment instruments with strong psychometric properties can outline crucial factors which can contribute to risk reduction and prevent future crime. The use of such instruments in a forensic evaluation context should be evidence-based (Simões et al., 2017). To study criminogenic cognitions and antisocial traits a few instruments have been developed. Some focus only on young people. Highlight here are some of the instruments validated to the adult Portuguese population related to the measure of antisocial traits and criminogenic cognitions:

1. How I Think Questionnaire (HIT- Questionnaire) (Barriga et al., 2001) This questionnaire evaluates self-serving cognitive distortions, related with the manifestation of antisocial behaviors. The Portuguese version (Velooso, 2013) is a self-reporting instrument with 54 items which evaluate 39 cognitions presented in a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). It's a bi-factorial structure with good internal consistency (Velooso, 2013);

2. The Criminogenic Cognitions Scale (CCS) (Tangney et al., 2002) is use by researchers to assess criminogenic cognitions function as mechanisms capable of explaining how intervention reduces recidivism (Tangney et al., 2012). The Portuguese version (Ramos et al., 2019) is a 16 items unifactorial structure instrument, which has demonstrated satisfactory internal consistency for the general population ($\alpha = .76$) (Santos, 2021);

3. The Psychopathy Checklist: Revised (PCL-R) (Hare, 1991) is a 20-item assessment tool initially designed to measure clinical psychopathy constructs and evaluated with resort to a semi structured interview. This checklists' ability to predict recidivism, violence and intervention outcome was later found. Nowadays, it is used in forensic assessments (Hare & Neumann, 2009). This instrument has been widely used for psychopathy assessment and tested in different contexts. A systematic review (Filho et al., 2014) found 11 distinct factorial structures, with the two-factor model, a hierarchical three-factor model, and a four-factor model, these being the factor structures more often found. The Portuguese version (Gonçalves, 1999) was validated in an adult forensic sample. Revealed four factors which concur with the Hare (2003) version with very satisfactory results regarding internal consistency: PCL-R Total ($\alpha = .91$); Interpersonal ($\alpha = .85$); Affective ($\alpha = .89$); Lifestyle ($\alpha = .72$); Antisocial ($\alpha = .69$) (Simões et al., 2017).

The current study

This study intends to contribute to the design of successful intervention programs focused on the reduction of dysfunctional personality traits (Brazão et al., 2015) and future recidivism. So through, the development of reliable forensic assessment tools in forensic contexts. Hence, it focusses on two major objectives: 1) Examining the AS Spectrum items capable of discriminating between individuals convicted of committing a crime and those from the general population; 2) Exploring the psychometric characteristics of the AS Spectrum (predictive items) for male inmates.

According to literature, antisocial traits are a risk factor to committing crime. It is expected that individuals in prison (forensic sample) would have higher prevalence of antisocial traits than individuals who have never been convicted of a crime (community sample). Since, the area under the ROC curve (AUC) is a methodological strategy to examine the ability of a measure to discriminate whether a specific outcome is present or not present (Hoo et al., 2017), the AUC was used to examine the discriminative ability of each item between the two groups (forensic and community).

When applied to the forensic population, it is expected that the AS Spectrum, will have similar psychometric results as the validity that was conducted to the community population (Moisés, 2020). Taking into account previous research (Filho et al., 2014; Moisés, 2020), it is predicted that a bifactorial structure would emerge and display good psychometric properties regarding construct validity, convergent validity, factorial validity, and internal consistency for this new version of the Antisocial Spectrum Scale.

Methods

Participants

Participants were 435 male adults with ages ranging between 18 and 88 years ($M = 40.67$, $SD = 16.01$). The participants were organized in two groups (community and forensic sample). Forensic data was collected in Portuguese prisons, as well prior to this study, in the community. From the initial sample, 31 participants were not contemplated in this data analysis due to reporting serious mental disorders ($n = 8$), were awaiting trial ($n = 2$) or not correctly completed all study measures ($n = 1$). Due to self-reported previous convictions 20 participants were excluded from the community sample. The community sample of 230 males was collected in Portuguese institutions. Predominantly married, with ages ranging from 18 to 88 years old, and 98.26% individuals who do not identify as belonging to an ethnic minority group.

The forensic sample ($n = 205$) is composed by convicted inmates in one of six prisons in the metropolitan area of Lisbon. This sample is mainly characterized by males with Portuguese nationality, without sense of belonging to an ethnic minority group, single and with age ranging between 21 and 83 years old. Sociodemographic characteristics, such as age, sense of belonging to ethnic group, marital status and education is detailed in Table 1.

Table 1*Sociodemographic Characteristics of Study Participants*

		Forensic (<i>n</i> = 205)		Community (<i>n</i> = 230)	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age		37.24	10.66	43.73	19.09
Years of Education		8.77	3.15	11.43	4.01
		<i>n</i>	%	<i>n</i>	%
Ethnic Minority	No	158	79.40	226	98.26
	Yes	41	20.60	4	1.74
Nationality	Portuguese	176	86.27	227	98.70
	Foreigner	27	13.24	3	1.30
	Dual nationality	1	0.49	0	0.00
Marital Status	Single	127	61.95	85	36.96
	Cohabitation	28	13.66	25	10.87
	Married	21	10.24	106	46.09
	Divorced/Separated	28	13.66	10	4.35
	Widowed	1	0.49	4	1.74

Measures

Sociodemographic Questionnaire

This questionnaire aims to collect sociodemographic information of the study respondents such as age, education, as well as health, family, and criminal behavior history.

The Criminogenic Cognitions Scale (CCS) (Tangney et al., 2002)

The Criminogenic Cognitions Scale (CCS) evaluates cognitive and moral aspects such as beliefs linked to criminal behavior. The original instrument comprises 25-items in a Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). The CCS evaluates five dimensions: failure to accept responsibility; notions of entitlement; short-term orientation; negative attitudes toward authority; insensitivity to impact of crime. Regarding the subscales, internal consistency ranged between low but acceptable to satisfactory (between $\alpha = .61$ and $\alpha = .75$) (Tangney et al., 2012). The Portuguese version (Ramos et al., 2019) was tested and validated to the general population. The analysis suggested a unifactorial solution with adequate internal consistency of $\alpha = .76$ and a final structure of 16 items (Santos, 2021).

Antisocial Spectrum Scale (AS Spectrum) (Moisés et al., 2019)

The Antisocial Spectrum Scale (AS Spectrum) is a self-report scale that was designed to assess patterns of thinking or behavior which characterize antisocial personality disorder, and usually persistent since the age of 15 years old. Its development was supported by the many dimensions of the diagnostic criteria presented in the DSM-5 and the CID 10 (Moisés et al., 2019). Responses were collected using a 24-item questionnaire with a four-point Likert scale ranging from 1= “strongly disagree” to 4= “strongly agree”. During its validity analysis to the general population, the scale was shortened to 8 items (Moisés, 2020). In this study, the analysis suggested a bifactorial solution with an acceptable internal consistency for the total scale ($\alpha = .76$), as well to each sub dimensions: Disrespect of Law and Norms ($\alpha = .75$) and Confrontational/Violent Norms ($\alpha = .66$) (Moisés, 2020).

Procedure

The present study is incorporated in the research initiative “Assessment for Effective Interventions: Reducing the Risk of Criminal Recidivism and Social Marginalization” which aim is to promote social integration of adults by evaluating protective and risk factors to criminal behavior. This project and its data collection was approved by the ISPA Ethics Committee (I/029/01/2020) and by the General Direction of Prison and Probation Services (DGRSP) of the Portuguese Ministry of Justice (Document nº49/CCCRE).

The data collection on this research project has been carried out in independent phases. Firstly, the protocol was answered by individuals in the community over 18 years old. Community sample was collected across Portugal’s Mainland in workplaces, universities, and social institutions. At the phase, which encompasses the present study, the protocol was applied by a group of investigators, to male inmates incarcerated in one of six prison establishments in the Lisbon metropolitan area: EP Carregueira (n = 41), EP Caxias (n = 29), EP Linhó (n = 33), EP Lisboa (n = 50), EP Montijo (n = 10), EP Sintra (n = 42). Following the disclosure of the exclusion criteria to each prison representative, the inmates were chosen randomly, as the database combines up to 10% of population in each prison establishment. Serious mental health problems, not understanding Portuguese and not being able to read or write were exclusion criteria for this study. After being explained the nature of this study, being informed it was non-mandatory and confidentiality being secured, the individuals willing to participate, signed the consent form and filled out the questionnaire, which were handled in separate. The protocol was applied preferably individually, however in groups if needed. The application took about 30 minutes for each participant with supervision of the team responsible for the data collection.

Data analysis

Concluded the data collection, a database with demographic data and the responses of the individuals to the instruments, was created in the statistics software IBM SPSS Statistics (SPSS) (Version 28), then added to the original database which comprised the community sample. After exclusions, two data bases were created. The one used to the descriptive statistics of the participants as well as the matching between groups, and the secondary database (n = 205), with only the forensic sample, used to investigate the structure and posterior exploration of the psychometric characteristics of the AS Spectrum.

Considering one goal of this dissertation is to develop a highly predictive instrument assessing antisocial traits, this analysis starts with a fine match between the two groups of males based on age and sense of belonging to a minority group. Hence, a ROC (Receiver Operating Characteristic) Curve was performed to identify items that discriminate between the inmates and the community sample. The program Factor (version 10.10.03), a program specifically designed for factor analysis, was used to conduct the Exploratory Factor Analysis (EFA) of the previously retained items (Lloret et al., 2017). The EFA was implemented using optimal performance with polychoric correlation matrix, chosen due to ordinal data, Robust Unweighted Least Squares as factor extraction method. The number of dimensions was determined using the optimal implementation of parallel analysis (Timmerman et al., 2011). Additionally, eigenvalues lower than one were excluded. The Promax rotation to achieve factor simplicity was used. As well, varimax was used to obtain a factorial structure which only one variable is associated with one factor. Regarding the factorial structure it was determined the successive exclusion of items with loadings inferior to .03 (Shrestha, 2021). The SPSS was used to explore the psychometrics properties such as reliability, validity, item sensitivity and to calculate percentiles for the scale (Pestana & Gageiro, 2020).

Results

The results are presented in two parts. Firstly, the results of the establishment of a highly predictive structure. Secondly, the psychometrics study of the new AS Spectrum structure for a forensic adult male sample are presented, such as psychometric properties, convergent validity, and internal consistency.

Empirical Analysis of Items Predicting Incarceration

To reach a highly predictive instrument, the first step in this analysis was to identify the items that distinguish between those incarcerated from the ones in the community sample, whom have never been convicted of a crime. To achieve this, a matching between the control group (community) and the participants in EP, was made, considering sex (only males), age and sense of belonging to a minority group. To discriminate between groups a ROC Curve analysis was conducted aiming the evaluation of the AS Spectrum 24 items. As shown in the Figure 1 and Tables 2.1 to 2.3, eleven items were distinctly predictive in discriminating between this groups ($AUC > .50$, $p < .05$). Based in this results, eleven items (see in Tables 2.1 to 2.3 highlighted in bold) were considered for the psychometric analysis.

Figure 1

Graphic representation of ROC Curve analysis of AS Spectrum

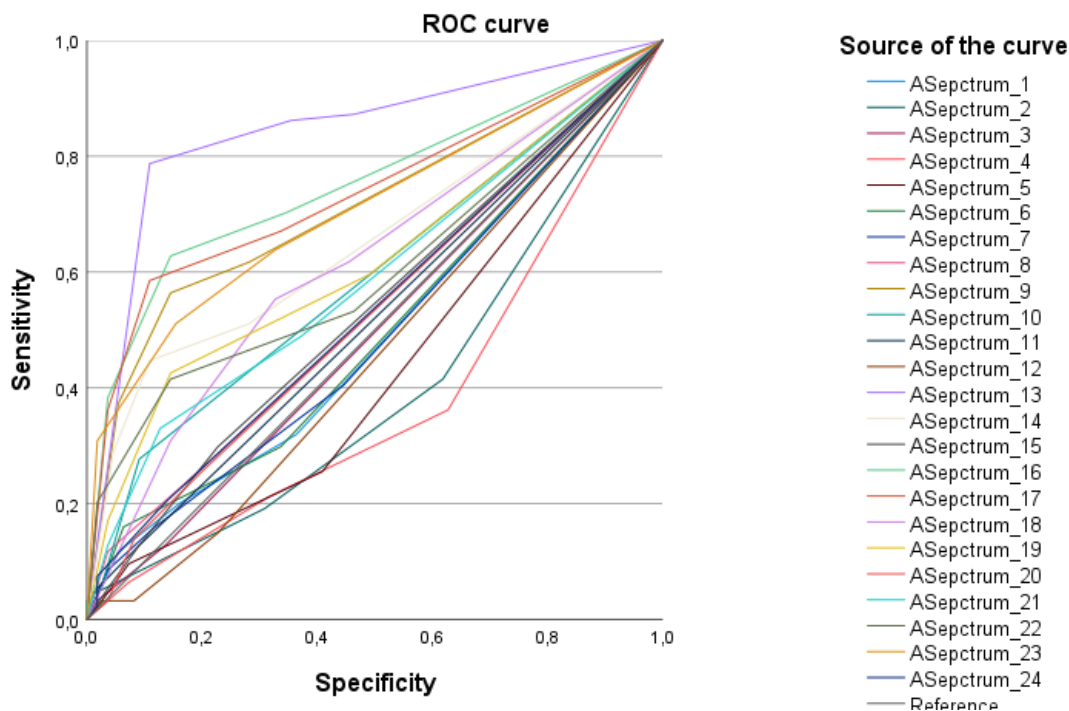


Table 2.1*Results of Roc Curve Analysis for AS Spectrum (Items 1 to 9)*

Item	AUC	Std. Error	Sig.	Lower CI	Upper CI
ASpectrum 1 - Not following the law is only a problem if you get caught. (Não cumprir a lei é um problema apenas se fores apanhado.)	.49	.04	.85	.41	.57
ASpectrum 2 - Sometimes lying can be the best way to solve the problem. (Por vezes mentir pode ser a melhor forma de resolver o problema.)	.40	.40	.01	.32	.48
ASpectrum 3 - When others irritate me, sometimes I must be aggressive or break things. (Quando os outros me irritam por vezes tenho de ser agressivo ou partir coisas.)	.50	.04	.95	.42	.58
ASpectrum 4 - There's no harm in taking some risks if it's fun or if you can get something out of it. (Não faz mal correr alguns riscos se isso for divertido ou se for possível tirar partido disso.)	.38	.04	<.001	.30	.46
ASpectrum 5 - We should always do what we want, even if it brings us problems. (Devemos fazer sempre o que nos apetece, mesmo que isso nos venha a trazer problemas.)	.43	.04	.10	.35	.51
ASpectrum 6 - Strong people do not feel remorse for their behavior. Pessoas fortes não sentem remorsos dos seus comportamentos).	.50	.04	.96	.42	.58
ASpectrum 7 - I have little admiration for people who feel the need to follow all the rules. (Tenho pouca admiração por pessoas que sentem necessidade de cumprir as regras todas.)	.49	.04	.87	.41	.57
ASpectrum_8 - It's as easy to lie as it is to tell the truth. (É tão fácil mentir como dizer a verdade.)	.54	.04	.37	.46	.62
ASpectrum 9 - I have gotten myself into trouble for fighting. (Já me meti em problemas por andar envolvido em lutas).	.71	.04	<.001	.64	.79

Note. Area Under Curve (AUC); Confidence Interval (CI); $p < .05$

Table 2.2*Results of Roc Curve Analysis for AS Spectrum (Cont. Items 10 to 16)*

Item	AUC	Std. Error	Sig.	Lower CI	Upper CI
ASpectrum 10 - Even though it is my fault, I don't care what happens to others. (Mesmo que eu seja o culpado, pouco me interessa o que acontece aos outros).	.59	.04	.02	.51	.67
ASpectrum 11 - I don't care if I fulfil my commitments or not. (Pouco me importa se cumpro ou não os meus compromissos.)	.52	.04	.63	.44	.60
ASpectrum 12 - I rarely or never feel remorse for what I have done to others. (Raramente ou nunca sinto remorsos pelo que fiz aos outros.)	.46	.04	.32	.38	.54
ASpectrum 13 - Not complying with the law has caused me trouble. (Não cumprir a lei já me trouxe chatices.)	.84	.03	<.001	.78	.90
ASpectrum 14 - Because of my lying I have lost friends. (As minhas mentiras já me fizeram perder amigos).	.66	.04	<.001	.58	.73
ASpectrum 15 - It doesn't bother me to confront another person, even if I have to be aggressive or have to break something. (Não me incomoda confrontar outra pessoa, mesmo que para isso tenha que ser agressivo ou tenha que lhe partir alguma coisa.)	.54	.04	.37	.46	.62
ASpectrum 16 - I have already gotten into trouble for risking my safety or that of others. (Já arranjei problemas por ter colocado em risco a minha segurança ou a de outros).	.75	.04	<.001	.68	.82

Note. Area Under Curve (AUC); Confidence Interval (CI); $p < .05$

Table 2.3*Results of Roc Curve Analysis for AS Spectrum (Cont. Items 17 to 24)*

Item	AUC	Std. Error	Sig.	Lower CI	Upper CI
ASpectrum 17 - I have gotten myself into trouble for not fulfilling my obligations (schedules, debts, etc.). (Já me meti em problemas por não cumprir as minhas obrigações (horários, dívidas, etc.).)	.74	.04	<.001	.67	.81
ASpectrum 18 - Not feeling remorse impacts my relationship with others. (Não sentir remorsos afeta a minha relação com os outros).	.61	.04	<.001	.54	.69
ASpectrum 19 - Even if I know I am doing something wrong, move ahead with no regards. (Mesmo que saiba que estou a fazer algo errado, às vezes avanço sem pensar).	.62	.04	<.001	.54	.70
ASpectrum 20 - Sometimes without realizing it I'm already lying. (Por vezes sem me aperceber já estou a mentir.)	.53	.04	.46	.45	.61
ASpectrum 21 - When I lose my cool, I completely lose my head. (Quando perco a cabeça "levo tudo a frente").	.59	.04	.03	.51	.67
ASpectrum 22 - If I need to take risks, I take them, even if it affects my safety. (Se tiver de correr riscos corro, mesmo que afete a minha segurança).	.60	.04	.01	.52	.68
ASpectrum 23 - My personal relationships have been affected by my inability to fulfil commitments. (As minhas relações pessoais já foram afetadas por não cumprir os meus compromissos).	.71	.04	<.001	.64	.78
ASpectrum 24 - I don't feel bad when I act impulsively and harm other people with my actions. (Não me sinto mal quando ajo impulsivamente e prejudico outras pessoas com os meus atos.)	.54	.04	.38	.46	.62

Note. Area Under Curve (AUC); Confidence Interval (CI); $p < .05$

Psychometric properties of Predictive AS Spectrum Questionnaire

Construct validity: Exploratory factorial analysis

To examine the factorial structure of the Predictive AS Spectrum Questionnaire (PASQ), exploratory factorial analyses were conducted in a subbase with only the forensic sample. Initially, 11 discriminative items (between community and forensic populations) were found through ROC Curve analysis. Ultimately, the exploratory factorial analysis confirmed 10 highly predictive items with loadings and communalities higher than .30 and .37, respectively. The bifactorial structure found, was obtained when considering, for each dimension, eigenvalue over one ($F_1 = 4.12$ and $F_2 = 1.32$). From the initial 11 items, one item (n° 13) was excluded due to communality lower than .30 (Shrestha, 2021). The bifactorial model revealed the value of Kaiser-Meyer-Olkin (KMO) $KMO = .80$ (95% CI = [.50, .81]) and the Bartlett's test of sphericity ($X^2 = 969.2$, $df = 45$, $p < 0.001$) as good indicators of correlation between variables, justifying the exploratory factorial analysis (Pestana & Gageiro, 2020; Simões et al., 2017). The two factor finding explain 63% of total variance indicating their substantial influence on ASPD, with Impulsivity/Irresponsibility explaining about 45%

The final predictive items, the dimensions, communalities are displayed bellow in Table 3. Regarding the two dimensions found, the items associated to each dimension were initially analysed in a linguistic manner. Dimension 1 is composed of four items (10,19,21,22). Dimension 2 is composed of six items (9,14,16,17,18,23). The dimensions were named based on their items content. Items 10,19,21 and 22 (F_1) are related with disregard for consequences and acting without thinking. Thus, the label Impulsivity/Irresponsibility was attributed (e.g., item 10: Even though it is my fault, I don't care what happens to others; item 19: Even if I know I am doing something wrong, move ahead with no regards). Similarly, to items 9,14,16,17,18,23 (F_2), was named Interpersonal Relationships, after the connection with the way the individual relates to others and feelings of others (e.g., item 18: Not feeling remorse impacts my relationship with others; item 23: My personal relationships have been affected by my inability to fulfil commitments).

Table 3*Two Factor Matrix of Predictive Antisocial Spectrum Questionnaire*

Predictive Item	Impulsivity Irresponsibility (F1)	Interpersonal Relationships (F2)	Communality
22. If I need to take risks, I take them, even if it affects my safety. (Se tiver de correr riscos corro, mesmo que afete a minha segurança).	.50	.23	.41
21. When I lose my cool, I completely lose my head. (Quando perco a cabeça "levo tudo a frente").	.58	.20	.49
19. Even if I know I am doing something wrong, move ahead with no regards. (Mesmo que saiba que estou a fazer algo errado, às vezes avanço sem pensar).	.78	.08	.67
10. Even though it is my fault, I don't care what happens to others. (Mesmo que eu seja o culpado, pouco me interessa o que acontece aos outros).	.82	-.33	.50
9. I have gotten myself into trouble for fighting. (Já me meti em problemas por andar envolvido em lutas).	.22	.54	.48
18. Not feeling remorse impacts my relationship with others. (Não sentir remorsos afeta a minha relação com os outros).	-.19	.67	.37
16. I have already gotten into trouble for risking my safety or that of others. (Já arranjei problemas por ter colocado em risco a minha segurança ou a de outros).	.06	.74	.59
14. Because of my lying I have lost friends. (As minhas mentiras já me fizeram perder amigos).	.04	.75	.59
17. I have gotten myself into trouble for not fulfilling my obligations (schedules, debts, etc.). (Já me meti em problemas por não cumprir as minhas obrigações (horários, dívidas, etc.)).	.06	.83	.73
23. My personal relationships have been affected by my inability to fulfil commitments. (As minhas relações pessoais já foram afetadas por não cumprir os meus compromissos).	-.16	.83	.60

Note. Extraction method Promax with polychoric correlation matrix

Convergent Validity

To investigate validity, a Pearson correlation (r) between the CCS (CCSTotal) and the Predictive Antisocial Spectrum Questionnaire, was conducted. The values (see Table 4) revealed a moderate positive correlation ($r > .30$) (Brydges, 2019), as expected once this instrument assess distinct concepts however related. With the Irresponsibility/Impulsivity factor suggesting a higher positive correlation with criminogenic cognitions ($r = .52$).

Table 4
Pearson Correlation (r)

Predictive Antisocial Spectrum Questionnaire	CCSTotal
Total	.48**
Irresponsibility/Impulsivity	.52**
Interpersonal Relationships	.36**

Note. ** $p < .01$

Reliability: internal consistency

Cronbach's alpha coefficient was used to measure the internal consistency of the scale and its subdimensions. The Total to Predictive AS Spectrum Questionnaire showed good internal consistency ($\alpha = .81$) (Pestana & Gageiro, 2020). The Cronbach's alpha for Irresponsibility/Impulsivity ($\alpha = .68$) and for the Interpersonal Relationship ($\alpha = .81$) subdimensions of antisocial traits were consistently above the minimum threshold for acceptance ($\alpha > .60$) (Pestana & Gageiro, 2020).

Sensitivity analysis

Resorting to the frequency analysis of the 10 items, available in the exploratory factorial analysis, the response to every item suggests appropriated sensibility of items. The observed frequencies in Factor output, show responses at the two extremes of the scale (0 = totally disagree; 1 = totally agree) which suggests discrimination between the groups.

Predictive AS Spectrum Questionnaire total and subdimensions in percentiles

To understand distribution of scores within the Predictive AS Spectrum Questionnaire total and subdimensions, percentiles were calculated. Results presented in percentiles allow to understand whether a given score aligns in the expected. In the ensuing section, in Table 5, the score for the total scale and subdimensions in percentiles (10, 20, 30, 40, 50, 60, 70, 80, and 90) are presented. Results show distribution across all percentiles revealing sensitivity of the total scale and the two subscales.

Table 5
Percentile scores of Predictive AS Spectrum Questionnaire dimensions

	Total	Impulsivity/ Irresponsibility	Interpersonal Relationship
M	12.68	3.68	9.04
SD	7.27	2.97	5.51
	10	1.50	.00
	20	6.00	3.40
	30	8.00	6.00
	40	11.00	7.00
Percentiles	50	13.00	9.00
	60	15.00	11.00
	70	18.00	12.00
	80	19.00	15.00
	90	22.00	17.00

Discussion

Despite the many studies on personality and psychopathy over the years, few studies have been focused in ASPD in adults. This disorder has significant impact on diagnosed and undiagnosed individuals, their families, victims and consequently to society. This work on the Predictive Antisocial Spectrum Questionnaire (PASQ) aims to facilitate the measure of antisocial traits, as it contributes to more specific intervention and aims to mitigate negative impacts cause by antisocial traits. This work gives continuity to the development of the instrument (Moisés et al, 2019) and the validation for community sample initiated by Moisés (2020). The purpose of the study was to find a highly predictive structure of the Antisocial Spectrum Scale, capable of discriminating between forensic and the community, with focus on the ability of measure antisocial traits and predicting incarceration. This dissertation represents the first attempt to explore the psychometric characteristics of the AS Spectrum for the adult forensic population. It aims to be a specific, relevant and useful tool for forensic psychological assessment in professional and practical psychology. The Ethics Code of the Portuguese Psychologists' Association (OPP) which regulates the practice of psychology in Portugal, stresses the psychologists' responsibility for selecting and making appropriate use of sufficiently valid, up-to-date and scientifically based assessment protocols and instruments. The assessment tools must be subject to prior substantiated scientific research, which include psychometric studies on the validity and reliability of results within specific and representative populations (Decreto-Lei n.º 637/2021, 2021). The Predictive Antisocial Spectrum Questionnaire (a revised version of the AS Spectrum) was developed from the initial 24 items based on the DSM-5 and ICD-10 diagnosis criteria (Ramos et al., 2019). This work resulted in a 10 items assessment instrument with results suggesting a two factor dimension structure, simply written and with promising psychometric properties. Because it is a self-reporting instrument, it has applicability to large samples (Simões et al., 2017), and so has greater relevance when considering individuals in forensic contexts.

Empirical Analysis of Items Predicting Incarceration

There is a need for short and reliable assessment instruments in forensic contexts, hence the idea for a shorter yet highly predictive revision of the Antisocial Spectrum emerged. The ROC Curve analysis revealed differences between the two samples (community and forensic samples matched for age and ethnicity) for a large number of items (11 items). Across the 11 items, 10 of those items showed discriminative ability between both samples ranging from fair (AUC = .60) to good (AUC = .75) (see Tables 2.1 to 2.3) (Pestana & Gageiro, 2020). Since, factor analysis studies help to examine conceptual structure of the psychometric tools and validate different levels of analysis and interpretation of the results (Simões et al., 2017) an exploratory factor analyses were conducted to assess psychometric properties for the Predictive Antisocial Spectrum Questionnaire.

Psychometric properties of the Predictive Antisocial Spectrum Questionnaire

The Predictive Antisocial Spectrum Questionnaire (PASQ) is a 10 items tool, with two dimensions associated: Impulsivity/Irresponsibility and Interpersonal Relationship. Although one of the dimensions (Irresponsibility/Impulsivity) showed lower internal consistence than expected, generally satisfactory levels of validity and reliability were found for different psychometric indicators. As regards to explained variance, the two factor structure explain 63% of total variance indicating their substantial influence on ASPD, with Impulsivity/Irresponsibility explaining about 45%. Considering criminogenic cognitions represent a pattern of thought that plays a role in the initiation and perpetuation of criminal behavior (Tangney et al., 2012), convergent validity of the Predictive Antisocial Spectrum Questionnaire, was tested resorting to the one factor structure (CCS Total) of the Portuguese version of the CCS (Santos, 2021). As expected, significant positive moderate correlations (Brydges, 2019) were revealed in the global scale and the two subdimensions, the highest correlation obtained with the Impulsivity/Irresponsibility dimension.

Results suggest as criminogenic cognitions increase, antisocial traits also increase, with major impact on Impulsivity/Irresponsibility. These findings are supported by the

literature, which states that criminogenic cognitions appear to have significant impact on criminal outcomes, with individuals with antisocial personality traits reporting heightened levels of criminogenic thinking styles (Mandracchia & Morgan, 2010; Tangney et al. 2012; Walters, 2019; Zeigler-Hill, 2017).

Regarding the two dimensions found, the items associated to each dimension were analysed. Based on a preliminary linguistic analysis on their item content, dimensions were named. Items representing Impulsivity/Irresponsibility, are related to the disregard for consequences and acting without thinking. Impulsivity refers to rash actions that occur in the moment without premeditation and with a high potential for harm to the person or others. It can reflect a desire for immediate rewards or an inability to delay gratification. Impulsive behavior can manifest itself in social intrusion or making important decisions without considering the long-term consequences for oneself or others (APA 2023). In turn, irresponsibility is defined as a disregard for obligations, which can be financial, work, family, commitments and neglecting the property of others. Whereas interpersonal relationships refers to the individual's ability to relate to other individuals (APA, 2023). In this dimension items related to poor interpersonal connections, lack of remorse, reckless behavior, are considered.

This bifactorial structure is similar to the one found by Moisés (2020) in the community sample. Similarly, the two factor structure found is consistent with the initial factorial structure of the PCL-R found by Hare et al. (1990) in which two correlated dimensions, were labeled Factor 1 (Interpersonal/Affective) and Factor 2 (Lifestyle/Antisocial). Factor 1 (Interpersonal/Affective) in the Interpersonal includes items which indicate: glibness/superficial charm, grandiose sense of self-worth, pathological lying, conning/manipulation. The Affective indicates lack of remorse, lack of guilt, shallow affect, callous/lack of empathy and failure to accept responsibility. Factor 2 (Lifestyle/Antisocial) included in lifestyle: need for stimulation, parasitic lifestyle, no realistic long-term goals, impulsivity, and irresponsibility. The Antisocial component, identify items which indicate early and/or poor behavioral problems, juvenile delinquency, revoked conditional release and criminal versatility (Hare, 2016). Additionally, Hare (2016) mention literature commonly finds that Factor 2 (Lifestyle/Antisocial), especially the antisocial component, is more predictive of individuals reoffending than is Factor 1(Interpersonal/Affective). Furthermore, the factor structure found in the present work is supported by the systematic literature review (Filho et al., 2014) on the factor structure of the PCL-R instrument, which found three models

avored by the results of the studies analysed, reporting 11 studies that found two oblique factors. In the current study, Impulsivity/Irresponsibility dimension showed a higher correlation with criminogenic cognitions than the other subdimension and the total scale.

Psychopathy and Antisocial Spectrum

Whitin the literature that encompasses subjects such personality disorders, antisocial traits and psychopathy, many authors argue that ASPD and psychopathy have similarities, but they are not exactly the same construct (Abdalla-Filho & Völlm, 2020). A systematic review and meta-analysis (Sanz-García et al., 2021) estimates the prevalence rate of psychopathy in the general adult population at 4.5% contrasting with the 1.2% considered when using the PCL-R. Regarding individuals with ASPD, only one third in the general population, meet the criteria for psychopathy. According Abdalla-Filho and Völlm (2020), these statistics raise questions in whether these concepts are intrinsic.

Psychopathy theories were initially focused on the most extreme and exceptional offenders. Currently, psychopathic traits are viewed as an indicator for antisocial behavior in general, even though it is still agreed that psychopathy is a risk factor for violent criminal conduct. Literature has been exploring dimensional/continuous understanding of psychopathy and related forms, such as antisocial personality disorder (DeLisi, 2009). While other authors consider psychopathy as a trait which could be related to other personality disorders which share similar characteristics with ASPD (Abdalla-Filho & Völlm, 2020).

In fact, more recent studies suggest that the interpersonal dimension of psychopathic traits might be of advantage to achieving professional success (for example being promoted within corporate contexts), while also causing individuals to exhibit more counterproductive workplace behaviors and workplace conflicts (Wallace et al, 2022; Halle et al., 2020; Hare, 2016; Siegel, 2011; DeLisi, 2009; Ullrich et al., 2008).

Authors such as Van den Bosch et al., (2018), have been reflecting on the need for more specialized research into methods of intervention and treatment in ASPD. Nonetheless there is no strong empirical support for intervention for ASPD which are well established. Some of the most promising therapies are cognitive behavioral therapy, schema focused

therapy, person centered psychotherapy and psychodynamic psychotherapy (Van den Bosch et al., 2018). Brazão et al., (2013) reinforces the need to focus on modification of dysfunctional beliefs promoting antisocial behavior.

The bifactorial structure found is consistent with this shift in the understanding of antisocial and psychopathic traits. Bredenoort et al. (2022), argues that therapeutic intervention helps patients to gain insight about their mental illness and how it affects their criminal behavior. This corroborates the notion of intervention focused on specific needs. With this review of Antisocial Spectrum, this study would like to draw attention to the importance of standardized screening of antisocial traits especially in a forensic context. It should also be emphasized that these findings suggest that a multi-dimensional approach is crucial in comprehensively understanding the various facets that contribute to antisocial traits and the negative consequences in individuals' lives. The Predictive Antisocial Spectrum Questionnaire appears to be a short, reliable, and valid assessment instrument to measure antisocial traits which can be used in many forensic settings.

Limitations and future research

In this study, some limitations must be considered. First, the analysed sample has limited representation considering it is only convicted male inmates from a specific geographic area. Once it was collected in only six prison establishments in the Lisbon metropolitan area, future research should consider data collection in all Portuguese territory including the autonomous regions of archipelagos of Madeira and Azores. The World Female Imprisonment List reports worldwide female inmate population is increasing at a faster rate than male prison population with nearly a 60% increase since 2000 (Fair and Walmsley, 2022). Since the sample was composed only of males, adding the female inmate population to consider the generalization of data would be essential, moving forward. Regarding diversity of sample, is important to collect more from different cultural, social, and ethnic contexts, to obtain more representativity and test the impact of sociodemographic characteristics in ASPD and criminogenic cognitions. Additionally, future research should focus on people who were convicted to sentences in the community such as community service, probation, and suspended sentences.

Another limitation is associated with the type of study. Since this is not a longitudinal study, it is not possible to predict with certainty if the individuals belonging to the community sample will engage in future criminal activities. Cross-sectional studies evaluate a point in time, however, because the instruments used were self-report, and no other sources were consulted (e.g., medical, or criminal reports, other similar instruments), additional testing such a test-retest reliability would be beneficial to confirm if similar results would be found throughout time.

Thirdly, the Predictive Antisocial Spectrum Questionnaire is a self-report assessment instrument. Although self-report has numerous advantages such as practicality, motivation to report and applicability to larger samples, which is especially important in prison context due to restrictions of space and time, some limitations are associated with self-report scales such as socially desirable responding (Paulhus et al., 2007). American Psychological Association (2023) defines social desirability as: “the bias or tendency of individuals to present themselves in a manner that will be viewed favorably by others” (APA, 2023, APA Dictionary of Psychology section). In investigation/evaluation contexts the individuals tend to “give answers that are in accordance with social norms or the perceived desires of the researcher rather than genuinely representative of their views” (APA, 2023, APA Dictionary of Psychology section). Even after it was explained that it was an independent study from the Portuguese judicial system and the prison establishment and that in nothing would influence their judicial situation, this limitation should still be considered.

Finally, the psychometric properties were tested through exploratory factorial analyses, although the results were satisfactory, this is an initial evaluation of the assessment instrument, which needs to be further tested. Future research should considerer a confirmatory factorial analysis, as well as finding cutting points for result interpretation of antisocial traits, considering sociocultural characteristics and specificities of Portuguese population.

Implications

Although data reflects a decline in inmate population worldwide since 2000, the number of individuals living incarcerated is still alarming. Among prison population, mental health conditions remain high with data suggesting is increasing. This growth could be explained by low investment in sufficient and qualified mental health professionals and services (Penal Reform International & Thailand Institute of Justice, 2023; WHO, 2023). The Covid-19 pandemic or the Black Lives Matter (BLM) movement have recently influenced international discussion about crime policies, how criminality is viewed and managed, as well for those who commit it. As awareness of racial disparities, ethnic and gender discrimination are addressed, and technological evolution come to light, new investigations and approaches emerge underlining the need for criminal reforms, decriminalization of certain offenses and highlighting the importance of approaches focused on rehabilitation, mental health disorders and substance abuse. This shift is not possible without the necessary tools to assess individuals and use data to develop more robust instruments, theories, and public policies.

This study aims to contribute to forensic evaluation and intervention settings, specifically regarding antisocial traits and the evolution on its viewing and treatment focus. Further research on ASPD and antisocial traits will facilitate new perspectives on to improve the life of individuals with antisocial traits and in the forensic context, their victims and community. The information it provides could be used to choose intervention programs and sentencing considering individual characteristics. On the other hand, because antisocial traits are a significant risk factor, usually associated with violence (Yu et al., 2012) this instrument could be use as complement when screening for recidivism risk.

Conclusion

The concepts of personality and personality disorders have come a long way since it first started being studied. Nowadays, personality disorders are viewed with the same importance as other mental health disorders. However, for individuals with ASPD there is a need for specialized intervention focused on individuals' characteristics (Van den Bosch et al.,

2018). This underlines the importance of assessing individuals globally and having available data to conduct further research on antisocial traits and ASPD. The preliminary findings from this exploratory study suggests that the Predictive Antisocial Spectrum Questionnaire exhibits promising validity and reliability indicators to measure relevant antisocial traits in adults of the general Portuguese population as well as for male forensic population.

References

Abdalla-Filho, E., & Völlm, B. (2020). Does every psychopath have an antisocial personality disorder? *Brazilian Journal of Psychiatry*, 42, 241-242. doi:10.1590/1516-4446-2019-0762

Al-Rousan, T., Rubenstein, L., Sieleni, B., Deol, H., & Wallace, R. B. (2017). Inside the nation's largest mental health institution: A prevalence study in a state prison system. *BMC public health*, 17(1), 1-9. DOI 10.1186/s12889-017-4257-0

American Psychological Association (APA) (2023). Social desirability. In *APA dictionary of psychology*. Retrieved from: <https://dictionary.apa.org/social-desirability>

American Psychiatric Association (APA). (2022). *Diagnostic and statistical manual of mental disorders (5th ed., text rev.)*.

American Psychiatric Association (APA). (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*.

Basto-Pereira, M., & Farrington, D. P. (2022). Developmental predictors of offending and persistence in crime: A systematic review of meta-analyses. *Aggression and violent behavior*, 101761. <https://doi.org/10.1016/j.avb.2022.101761>

Brazão, N., Motta, C., Rijo, D., & Pinto-Gouveia, J. (2015). The prevalence of personality disorders in portuguese male prison inmates: Implications for penitentiary treatment. *Análise Psicológica*, 33(3), 279-290. doi: 10.14417/ap.975

Brazão, N., da Motta, C., & Rijo, D. (2013). From multimodal programs to a new cognitive–interpersonal approach in the rehabilitation of offenders. *Aggression and Violent Behavior*, 18(6), 636-643. <http://dx.doi.org/10.1016/j.avb.2013.07.018>

Bredenoort, M., Roeg, D. P. K., & van Vugt, M. D. (2022). A shifting paradigm? A scoping review of the factors influencing recovery and rehabilitation in recent forensic research. *International Journal of Law and Psychiatry*, 83, 101812. <https://doi.org/10.1016/j.ijlp.2022.101812>

Brydges, CR (2019). Effect size guidelines, sample size calculations, and statistical power in gerontology. *Innovation in Aging*, 3 (4), igz036. doi: 10.1093/geroni/igz036.

Campos, C., Pasion, R., Azeredo, A., Ramião, E., Mazer, P., Macedo, I., & Barbosa, F. (2022). Refining the link between psychopathy, antisocial behavior, and empathy: A meta-analytical approach across different conceptual frameworks. *Clinical Psychology Review*, 94, 102145. <https://doi.org/10.1016/j.cpr.2022.102145>

Decreto-Lei nº 637/2021 de 13 julho (2021) Regulamento n.º 637/2021 Código Deontológico da Ordem dos Psicólogos Portugueses — versão consolidada. Diário da República: 2º série, nº 134. Retrieved from: https://www.ordemdospsicologos.pt/ficheiros/documentos/regulamento_ao_637_2021.pdf

DeLisi, M. (2009). Psychopathy is the unified theory of crime. *Youth Violence and Juvenile Justice*, 7(3), 256-273. <https://doi.org/10.1177/1541204009333834>

DeLisi, M., & Piquero, A. R. (2011). New frontiers in criminal careers research, 2000–2011: A state-of-the-art review. *Journal of Criminal Justice*, 39(4), 289-301. <https://doi.org/10.1016/j.jcrimjus.2011.05.001>

Direção Geral de Reinserção e Serviços Prisionais, DGRSP (2021) Relatório de Atividades e Autoavaliação 2021. Ministério da Justiça. Retrieved from: <https://dgrsp.justica.gov.pt/Portals/16/Instrumentos%20de%20Planeamento%20e%20Gest%C3%A3o/Relat%C3%B3rio%20de%20atividades/2021/RA-2021.pdf?ver=7Jny1G1-7liSqH1Fhx3PQ%3D%3D>

Fair, H. & Walmsley, R. (2022) World Female Imprisonment List (5th edition). Institute for Crime & Justice Policy Research (ICPR). Retrieved from: https://www.prisonstudies.org/sites/default/files/resources/downloads/world_female_imprisonment_list_5th_edition.pdf

Fair, H. & Walmsley, R. (2021). World Prison Population List thirteenth edition. Institute for Crime & Justice Policy Research (ICPR). Retrieved from: https://www.prisonstudies.org/sites/default/files/resources/downloads/world_prison_population_list_13th_edition.pdf

Fazel, S., & Danesh, J. (2002). Serious mental disorder in 23 000 prisoners: a systematic review of 62 surveys. *The Lancet*, 359(9306), 545-550. doi: 10.1016/S0140-6736(02)07740-1

Fazel, S., Hayes, A. J., Bartellas, K., Clerici, M., & Trestman, R. (2016). Mental health of prisoners: prevalence, adverse outcomes, and interventions. *The Lancet Psychiatry*, 3(9), 871-881. DOI: 10.1016/S2215-0366(16)30142-0

Filho, N. H., Teixeira, M. A. P., & de Almeida, R. M. M. (2014). Estrutura fatorial da escala Psychopathy Checklist-Revised (PCL-R): uma revisão sistemática. *Avaliação Psicológica: Interamerican Journal of Psychological Assessment*, 13(2), 247-256.

Fix, R. L., & Fix, S. T. (2015). Trait psychopathy, emotional intelligence, and criminal thinking: Predicting illegal behavior among college students. *International journal of law and psychiatry*, 42, 183-188. <http://dx.doi.org/10.1016/j.ijlp.2015.08.024>

Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (2023). <https://vizhub.healthdata.org/gbd-results?params=gbd-api-2019-permalink/fl1b4a47e3fa7c7a7a9c355520046894d>

Halle, C., Tzani-Pepelasi, C., Pylarinou, N. R., & Fumagalli, A. (2020). The link between mental health, crime and violence. *New Ideas in Psychology*, 58, 100779. <https://doi.org/10.1016/j.newideapsych.2020.100779>

Hare, R. D. (2016). Psychopathy, the PCL-R, and criminal justice: Some new findings and current issues. *Canadian Psychology/psychologie canadienne*, 57(1), 21. <http://dx.doi.org/10.1037/cap0000041>

Hare, R. D., & Neumann, C. S. (2009). Psychopathy: Assessment and forensic implications. *The Canadian Journal of Psychiatry*, 54(12), 791-802. <https://doi.org/10.1177/070674370905401202>

Hoo, Z. H., Candlish, J., & Teare, D. (2017). What is an ROC curve?. *Emergency Medicine Journal*, 34(6), 357-359. <http://dx.doi.org/10.1136/emmermed-2017-206735>

Lloret, S., Ferreres, A., Hernández, A., & Tomás, I. (2017). The exploratory factor analysis of items: guided analysis based on empirical data and software. *Anales de psicología*, 33(2), 417-432. <http://dx.doi.org/10.6018/analesps.33.2.270211>

Mandracchia, J. T., & Morgan, R. D. (2010). The relationship between status variables and criminal thinking in an offender population. *Psychological Services*, 7(1), 27. DOI: 10.1037/a0016194

Ministério da Saúde (2018), Retrato da Saúde, Portugal. ISBN 978-989-99480-1-3. Retrieved from: https://www.sns.gov.pt/wp-content/uploads/2018/04/RETRATO-DA-SAUDE_2018_compressed.pdf

Moffitt, T. E. (2018). Male antisocial behaviour in adolescence and beyond. *Nature Human Behaviour*, 2(3), 177-186. <https://doi.org/10.1038/s41562-018-0309-4>

Moisés, C. (2020). Construção E Estudo Exploratório Das Propriedades Psicométricas De Um Instrumento Breve Para Avaliar O Espetro Antissocial: Antissocial Spectrum. (dissertação de mestrado não editada) ISPA – Instituto Universitário, Lisboa

Mulder, R. T. (2021). ICD-11 personality disorders: utility and implications of the new model. *Frontiers in psychiatry*, 12, 655548. doi: 10.3389/fpsyt.2021.655548

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). The Guilford Press. Retrieved from: <https://www2.psych.ubc.ca/~dpaulhus/research/SDR/downloads/CHAPTERS/2008%20Handbook%20Research%20Methods/paulhus-vazire%2007%20chap.pdf>

Penal Reform International & Thailand Institute of Justice. (2023). *Global Prison Trends 2022* (8th ed.). <https://www.penalreform.org/global-prison-trends-2023/>

Pestana, M. H., & Gageiro, J. N. (2020). *Análise de dados para ciências sociais: a complementaridade do SPSS*.

Pinheiro, M., Gonçalves, R. A., & Cunha, O. (2021). Criminal lifestyle, psychopathy, and prison adjustment among female inmates. *Journal of Criminal Justice*, 76, 101849. <https://doi.org/10.1016/j.jcrimjus.2021.101849>

Provedoria de Justiça (2003) *As Nossas Prisões – III Relatório Editor*. Retrieved from: https://www.provedor-jus.pt/documentos/AsNossas_Prisoes_IIIRelatorio.pdf

Sampson, R. J., & Laub, J. H. (2003). Life-course desisters? Trajectories of crime among delinquent boys followed to age 70. *Criminology*, 41(3), 555-592. <https://doi.org/10.1111/j.1745-9125.2003.tb00997>

Santos, C. (2021). *Crenças Criminógenas No Ciclo De Vida: Um Estudo Em Adultos Da População Geral* (2021) Catarina Fernandes Santos (dissertação de mestrado não publicada) ISPA – Instituto Universitário, Lisboa

Sanz-García, A., Gesteira, C., Sanz, J., & García-Vera, M. P. (2021). Prevalence of psychopathy in the general adult population: A systematic review and meta-analysis. *Frontiers in Psychology*, 12, 3278. <https://doi.org/10.3389/fpsyg.2021.661044>

Schnittker, J., Larimore, S. H., & Lee, H. (2020). Neither mad nor bad? The classification of antisocial personality disorder among formerly incarcerated adults. *Social Science & Medicine*, 264, 113288. <https://doi.org/10.1016/j.socscimed.2020.113288>

Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11. DOI:10.12691/ajams-9-1-2

Siegel, L. (2011). *Criminology*, Eleventh Edition. California, Wadsworth Cengage Learning.

Simões, M. R., Almeida, L. S., & Gonçalves, M. M. (2017). *Psicologia forense: instrumentos de avaliação*. Pactor.

Sistema de Segurança Interna, (2023). Relatório de Segurança Interna 2022. Retrieve from: <https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=%3d%3d%BQAAAB%2bLCAAAAAAABAAzNDazMAQAhxRa3gUAAAA%3d>

Sistema de Segurança Interna, (2021). Relatório de Segurança Interna 2020. Retrieve from: <https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=%3D%3DBQAAAB%2BLCAAAAAAABAAzNDQ1NAUABR26oAUAAAA%3D>

Tangney, J., Stuewig, J., Furukawa, E., Kopelovich, S., Meyer, P. & Cosby, B. (2012) Reliability, Validity, and Predictive Utility of the 25-Item Criminogenic Cognitions Scale (CCS). *Crim Justice Behav.* 2012 October; 39(10): 1340–1360. Doi:10.1177/0093854812451092

Timmerman, M. E., & Lorenzo-Seva, U. (2011). Dimensionality assessment of ordered polytomous items with parallel analysis. *Psychological Methods*, 16(2), 209–220. <https://doi.org/10.1037/a0023353>

Ullrich, S., Farrington, D. P., & Coid, J. W. (2008). Psychopathic personality traits and life-success. *Personality and Individual Differences*, 44(5), 1162-1171. <https://doi.org/10.1016/j.paid.2007.11.008>

Van den Bosch, L. M. C., Rijckmans, M. J. N., Decoene, S., & Chapman, A. L. (2018). Treatment of antisocial personality disorder: Development of a practice focused framework. *International journal of law and psychiatry*, 58, 72-78.
<https://doi.org/10.1016/j.ijlp.2018.03.002>

Veloso, A. C. C. (2013). Validação do How I Think: Questionnaire para a população adulta portuguesa (Tese de Doutoramento, Instituto Superior de Ciências da Saúde Egas Moniz).

Wallace, L., Fido, D., Sumich, A. L., & Heym, N. (2022). A systematic review on the current conceptualisations of successful psychopathy. *Forensic Science International: Mind and Law*, 3, 100076. <https://doi.org/10.1016/j.fsimpl.2022.100076>

Walters, G. D. (2022). Firesetting, cognitive impulsivity, and the antisocial spectrum. *Psychology, Crime & Law*, 1-16. <https://doi.org/10.1080/1068316X.2022.2049777>

Walters, G. D. (2019) *Criminal Thinking: Theory and Practice* in Devon L. L. P., Andrew D. & Clive R. H. (Eds.) *The Wiley International Handbook of Correctional Psychology* (1st ed., Chapter 40, pp. 637-653) Wiley & Sons Ltd.
<https://doi.org/10.1002/9781119139980.ch40>

Walters, G. (2012). Criminal thinking and recidivism: Meta-analytic evidence on the predictive and incremental validity of the Psychological Inventory of Criminal Thinking Styles (PICTS). *Aggression and Violent Behavior* 17 (3), 272-278.
[doi:10.1016/j.avb.2012.02.010](https://doi.org/10.1016/j.avb.2012.02.010)

Walters, G. D. (2002). The psychological inventory of criminal thinking styles (PICTS) A review and meta-analysis. *Assessment*, 9(3), 278-291.
<https://doi.org/10.1177/1073191102009003007>

Walters, G. D. (1998). Three Existential Contributions to a Theory of Lifestyles. *Journal of humanistic psychology*, 38(4), 25-40. <https://doi.org/10.1177/00221678980384003>

Walters, G. D. (1995). The psychological inventory of criminal thinking styles: Part I: Reliability and preliminary validity. *Criminal Justice and Behavior*, 22(3), 307-325.
[Doi:10.1177/0093854895022003008](https://doi.org/10.1177/0093854895022003008)

World Health Organization (2014). *Prisons and Health Chapter 11: Mental health in prison*. Retrieved from:
https://www.euro.who.int/__data/assets/pdf_file/0005/249188/Prisons-and-Health.pdf

World Health Organization (2023) International Statistical Classification of Diseases and Related Health Problems, ICD-11 (11th ed.; Chapter 6) Mental, behavioural or neurodevelopmental disorders. Retrieved from: <https://icd.who.int/dev11/l-m/en#/http%3a%2f%2fid.who.int%2fcd%2fentity%2f37291724>

World Health Organization (2023). Status report on prison health in the WHO European Region 2022. Copenhagen: WHO Regional Office for Europe. <https://www.who.int/europe/publications/i/item/9789289058674>

World Health Organization (2022). Mental disorders. Retrieved from: <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>

World Health Organization. (2001). The World Health Report 2001: Mental Health: New Understanding, New Hope.

Yu, R., Geddes, J. R., & Fazel, S. (2012). Personality disorders, violence, and antisocial behavior: a systematic review and meta-regression analysis. *Journal of personality disorders, 26*(5), 775-792. <https://doi.org/10.1521/pedi.2012.26.5.775>

Zeigler-Hill, V., Mandracchia, J. T., Dahlen, E. R., Shango, R., & Vrabel, J. K. (2017). Pathological personality traits and criminogenic thinking styles. *Personality and Individual Differences, 110*, 41-48. <http://dx.doi.org/10.1016/j.paid.2017.01.021>

Annexes

Annex A – Informed Consent

CONSENTIMENTO INFORMADO

O projeto de investigação científica *“Avaliar para intervir eficazmente: Reduzindo o risco de reincidência criminal e marginalização social”*, é conduzido por uma equipa de 3 investigadores, englobando só em 2019/2020, 6 dissertações de mestrado.

Pretende-se estudar os fatores de risco e de proteção para o comportamento pró/antissocial, bem como para a integração social em adultos, tanto da comunidade como da população prisional.

A sua participação não lhe trará risco ou despesa e pode a qualquer momento recusar a continuidade da participação. A aplicação do questionário é realizada a várias pessoas e o consentimento informado será separado das suas respostas, tornando impossível associar as suas respostas à sua identificação, **garantindo-lhe por isso, o máximo de confidencialidade**. Os resultados deste projeto poderão ajudar a moldar políticas públicas mais eficazes. **A sua participação é voluntária e os dados fornecidos são absolutamente confidenciais e usados para fins científicos. Nesse sentido, por favor seja sincero.**

Caso aceite participar, pedimos de seguida o seu consentimento informado. Os investigadores disponibilizam-se para esclarecer quaisquer dúvidas, informações adicionais poderão ser obtidas através do e-mail: *projetoispaprosocial@gmail.com*. Muito Obrigado!

Eu, _____ (nome completo), li e compreendi este documento e aceito participar no projeto científico: *“Avaliar para intervir eficazmente: Reduzindo o risco de reincidência criminal e marginalização social”*, dando o meu consentimento informado e tendo a garantia que todos os meus dados permanecerão confidenciais.

O/A participante

(Assinatura)

Annex B – Sociodemographic Questionnaire

QUESTIONÁRIO SOCIODEMOGRÁFICO

Dados dos EP's? (a preencher pela investigadora – Sim/Não): _____ Se sim, qual? _____

1. Sexo: Masculino Feminino

2. Idade: _____

3. Escolaridade: _____ (número máximo de anos de escola concluídos com sucesso)

4. Profissão _____ (se está neste momento num estabelecimento prisional, indique a profissão que tinha na altura que foi condenado)

5. Nacionalidade: _____

6. Considera-se parte de um grupo étnico minoritário?

Não Sim

7. Estado Civil:

Solteiro União de Facto Casado Divorciado/Separado Viúvo

8. Se não é financeiramente independente indique a escolaridade e profissão de quem o suporte financeiramente (se é mais que uma pessoa, indique a profissão e escolaridade de quem ganha mais ao fim do mês).

8.1. Escolaridade _____

8.2. Profissão _____

9. Tem filhos? Não Sim

10. Quantos? _____

11. Pratica regularmente desporto? Não Sim

12. Tem algum problema grave de saúde mental? Não Sim

13. Na sua infância e adolescência viveu sempre com os seus pais? Não Sim

14. Já alguma vez viveu num centro educativo? Não Sim

15. Já alguma vez foi condenado (por exemplo, pena suspensa, pena de prisão, trabalho comunitário, etc.)? Não Sim

16. Se respondeu sim, indique quantas vezes (se está preso, contando com esta vez) _____

17. Já alguma vez esteve preso/a ou detido? Não Sim

18. Se sim, qual o crime/s? _____

19. Qual o tempo de pena? _____

20. Quantos dos seus amigos já estiveram presos (Se nenhum, escreva apenas "0") _____

21. Se está neste momento num estabelecimento prisional, indique se já frequentou um programa de intervenção dentro do estabelecimento: Não Sim

22. Se sim, que tipo(s) de intervenção? _____

Annex C – Criminogenic Cognitions Scale

CCS

(Tangney J.P., Meyer P., Furukawa E., & Cosby B., 2002;

Versão Portuguesa: C. Ramos, T. S. Almeida, & M. Basto Pereira, 2019)

No conjunto de afirmações por favor, indique como poderá ser descrito o seu pensamento atual, utilizando a escala:

1 = Discordo totalmente; 2 = Discordo; 3 = Concordo; 4 = Concordo totalmente.

Algumas das perguntas têm uma opção adicional de "NA", que é utilizada para indicar que a frase não é aplicável à sua situação.

1. Quando quero algo, espero que as pessoas o forneçam/façam.	1	2	3	4		
2. As más experiências vivenciadas na minha infância são parcialmente responsáveis pela minha situação atual.	1	2	3	4		
3. O futuro é imprevisível e, por isso, não faz qualquer sentido planejar/fazer planos.	1	2	3	4		
4. O(s) crime (s) que cometi, na realidade, não prejudicou(aram) ninguém.	1	2	3	4	NA	<i>Eu nunca pratiquei atos que pudessem ser considerados criminosos</i>
5. Sinto que o que acontece na minha vida, é principalmente determinado por pessoas poderosas.	1	2	3	4		
6. Nunca ficarei satisfeito até conseguir tudo o que mereço.	1	2	3	4		
7. Um roubo é aceitável desde que a vítima não seja ferida fisicamente.	1	2	3	4		
8. Mesmo tendo sido detido(a), valeu a pena correr o risco.	1	2	3	4	NA	<i>Eu nunca pratiquei atos que pudessem ser considerados criminosos</i>
9. Devido ao meu passado, sou culpabilizado(a) de muitas coisas que não fiz.	1	2	3	4		
10. A maioria das leis são boas.	1	2	3	4		
11. Normalmente, com o passar do tempo, as vítimas de crimes conseguem ultrapassá-los.	1	2	3	4		
12. Quando se comete um crime o único afetado é a vítima.	1	2	3	4		
13. A maioria dos polícias/guardas abusam do seu poder.	1	2	3	4		
14. A sociedade atribui grande importância ao(s) meu(s) crime(s).	1	2	3	4	NA	<i>Eu nunca pratiquei atos que pudessem ser considerados criminosos</i>
15. Às vezes não consigo controlar-me.	1	2	3	4		
16. Espero que as pessoas me tratem melhor do que tratam as outras pessoas.	1	2	3	4		<i>considerados criminosos</i>

Annex C.1 – Criminogenic Cognitions Scale

17. As pessoas com autoridade, normalmente procuram fazer o melhor em prol do meu interesse.	1	2	3	4
18. Para quê poupar para obter algo, se o podemos obter no imediato/agora?	1	2	3	4
19. Não abdicó de obter o respeito que me é devido.	1	2	3	4
20. Se um polícia/guarda me ordena que faça algo, geralmente há um bom motivo para o fazer.	1	2	3	4
21. As pessoas que ocupam posições de autoridade geralmente aproveitam-se das outras.	1	2	3	4
22. Simplesmente nasci criminoso. (sou meramente um "criminoso natural")	1	2	3	4
23. Mereço mais do que as outras pessoas.	1	2	3	4
24. Sou da opinião que é melhor desfrutar o dia de hoje, do que preocupar-me com o dia de amanhã.	1	2	3	4
25. Não gosto de estar preso/ (cumprir com) a um horário fixo de trabalho.	1	2	3	4

Annex D – Antisocial Spectrum Scale

AS Spectrum

(C. Moisés, A. Castro, & M. Basto-Pereira, 2019)

INSTRUÇÕES: Indique com uma (X) até que ponto concorda que as seguintes afirmações caracterizam a sua maneira de pensar ou agir habitualmente, pelo menos desde o início da adolescência (antes dos 15 anos).

Itens	Discordo totalmente	Discordo parcialmente	Concordo parcialmente	Concordo totalmente
1. Não cumprir a lei é um problema apenas se fores apanhado.				
2. Por vezes mentir pode ser a melhor forma de resolver o problema.				
3. Quando os outros me irritam por vezes tenho de ser agressivo ou partir coisas.				
4. Não faz mal correr alguns riscos se isso for divertido ou se for possível tirar partido disso.				
5. Devemos fazer sempre o que nos apetece, mesmo que isso nos venha a trazer problemas.				
6. Pessoas fortes não sentem remorsos dos seus comportamentos.				
7. Tenho pouca admiração por pessoas que sentem necessidade de cumprir as regras todas.				
8. É tão fácil mentir como dizer a verdade.				
9. Já me meti em problemas por andar envolvido em lutas.				
10. Mesmo que eu seja o culpado, pouco me interessa o que acontece aos outros.				
11. Pouco me importa se cumpro ou não os meus compromissos.				
12. Raramente ou nunca sinto remorsos pelo que fiz aos outros.				
13. Não cumprir a lei já me trouxe chatices.				
14. As minhas mentiras já me fizeram perder amigos.				
15. Não me incomoda confrontar outra pessoa, mesmo que para isso tenha que ser agressivo ou tenha que lhe partir alguma coisa.				
16. Já arranjei problemas por ter colocado em risco a minha segurança ou a de outros.				
17. Já me meti em problemas por não cumprir as minhas obrigações (horários, dívidas, etc.).				
18. Não sentir remorsos afecta a minha relação com os outros.				
19. Mesmo que saiba que estou a fazer algo errado, às vezes avanço sem pensar.				
20. Por vezes sem me aperceber já estou a mentir.				
21. Quando perco a cabeça <i>"Tenho tudo à frente"</i> .				
22. Se tiver de correr riscos corro, mesmo que afete a minha segurança.				
23. As minhas relações pessoais já foram afetadas por não cumprir os meus compromissos.				
24. Não me sinto mal quando ajo impulsivamente e prejudico outras pessoas com os meus atos.				

Annex E - Predictive Antisocial Spectrum Questionnaire

Predictive Antisocial Spectrum Questionnaire

(PASQ) (C. Moisés, A. Castro, & M. Basto-Pereira, 2019)

INSTRUÇÕES: Indique com uma (X) até que ponto concorda que as seguintes afirmações caracterizam a sua maneira de pensar ou agir habitualmente, pelo menos desde o início da adolescência (antes dos 15 anos).

Itens	Discordo totalmente	Discordo parcialmente	Concordo parcialmente	Concordo totalmente
1. Se tiver de correr riscos corro, mesmo que afete a minha segurança.				
2. Quando perco a cabeça "levo tudo à frente".				
3. Mesmo que saiba que estou a fazer algo errado, às vezes avanço sem pensar.				
4. Mesmo que eu seja o culpado, pouco me interessa o que acontece aos outros.				
5. Já me meti em problemas por andar envolvido em lutas.				
6. Não sentir remorsos afeta a minha relação com os outros.				
7. Já arranjei problemas por ter colocado em risco a minha segurança ou a de outros.				
8. As minhas mentiras já me fizeram perder amigos.				
9. Já me meti em problemas por não cumprir as minhas obrigações (horários, dívidas, etc.).				
10. As minhas relações pessoais já foram afetadas por não cumprir os meus compromissos.				