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Psychopathy and behavior problems: A comparison of incarcerated male and female juvenile delinquents

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ABSTRACT

The objective of the present study was to compare incarcerated male and female juvenile offenders regarding psychopathic traits, behavior problems, psychopathy taxon, conduct disorder, self-reported delinquent behavior, and crime seriousness. Within a total forensic sample of 261 detainee participants, subdivided in a male group ($n=217$) and a female group ($n=44$), statistically significant differences were found. Female juvenile offenders show less callous–unemotional traits, more emotional symptoms, more prosocial behaviors, less self-reported delinquent behavior, and lower crime seriousness. Conduct disorder prevalence was very high, but no statistically significant gender differences were found. The predictive importance of psychopathic traits, behavior problems, psychopathy taxon, and conduct disorder for the prediction of group membership (female versus male) was established by binary logistic regression.

1. Introduction

Until recently, the study of psychopathy in women, adolescents and children has been all but ignored by psychopathologists and forensic psychologists (Verona & Vitale, 2006). Researchers have drawn on the established nomological network of psychopathy in male offenders, looking to modify adult psychopathy assessment instruments in order to make them developmentally appropriate to apply to youths. The use of the psychopathy construct in children and adolescents remains controversial, as it was developed more specifically for adult male populations (Seagrave & Grisso, 2002).

The application of the psychopathy construct to adolescents in the context of juvenile delinquency has recently been gaining increasing importance in research, despite its long history in the biomedical and psychological sciences (Vaughn & Howard, 2005). There has been accumulating evidence for an association of this construct with greater stability and frequency of antisocial behaviors, more serious and violent delinquent behaviors, early onset of criminal activity, early arrests by police and early convictions (e.g., Forth & Book, 2010; Kruh, Frick, & Clements, 2005; Van Baardewijk, Vermeiren, Stegge, & Doreleijers, 2011).

Psychopathy is generally conceptualized as a syndrome that remains throughout life and encompasses a constellation of extreme interpersonal, emotional, behavioral and lifestyle traits. Psychopathic individuals tend to demonstrate proactive violent behaviors more frequently, motivated by instrumental reasons such as material gains and revenge (e.g., Serin, 1991). Psychopathic traits, which can be defined from the dimensional point of view, refer to a manipulative, deceitful, callous and remorseless pattern that has come to be associated with a more serious, persistent and violent early-onset type of antisocial behavior, with a preference for exciting and dangerous activities (e.g., Andershed, Gustafson, Kerr, & Stattin, 2002; Frick, Kimonis, Dandreaux, & Farrel, 2003; Vitacco, Neumann, Robertson, & Durrant, 2002).

In contrast with the literature relating to adults, research on the relative prevalence rates of psychopathic traits in boys and girls shows mixed results; some researchers noted overall higher psychopathic tendencies among boys than among girls, some found overall higher psychopathic tendencies among girls than among boys, and others found no gender differences. Other research reported gender differences only for certain aspects of psychopathy or fails to observe any significant gender differences at all (Verona, Sadeh, & Javdani, 2010). We will review some of these studies.

In a clinical sample of 95 children (age range 6 to 13 years), Frick, O'Brien, Wootton, and McBurnett (1994) found no differences between boys and girls regarding callous/unemotional traits (CU), but did find that boys scored significantly higher in the impulsivity/conduct problems

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(I/CP) dimension. Scores derived from the CU factor were only moderately associated with measures of conduct problems and exhibited a different pattern of association with several criteria that have been associated with psychopathy (e.g., sensation seeking) or childhood antisocial behavior (e.g., low intelligence).

Frick, Bodin, and Barry (2000b) examined the structure of psychopathic traits in a community ($n = 1136$) and in a clinical sample ($n = 160$) of children. They found that boys scored higher on CU traits and narcissism. Both the narcissism and impulsivity dimensions were strongly related to symptoms of conduct disorder, oppositional defiant disorder and attention deficit hyperactivity disorder. The CU traits were only weakly associated with these symptoms, after controlling for the other dimensions of psychopathy.

Pardini, Lochman, and Frick (2003) sought to clarify the nature of the CU and I/CP factors and examine their relationship with social-cognitive problems in incarcerated adolescents. They found that girls scored higher on I/CP, but not on CU traits. Results suggested that CU traits were associated with lower emotional distress and a specific social information-processing pattern.

Campbell, Porter, and Santor (2004) evaluated the clinical, psychosocial and criminal correlates of psychopathic traits in a sample of 226 male and female incarcerated adolescent offenders. No significant differences were found between males and females regarding the PCL:YV scores. Only 9.4% exhibited a high level of psychopathic traits (PCL:YV ≥ 25) and, as is consistent with past research, higher PCL:YV scores were positively associated with self-reported delinquency and aggressive behavior and were unrelated to emotional difficulties.

Salekin, Leistico, Trobst, Schrum, and Lochman (2005) examined the construct related validity of psychopathy in a sample of 114 male and female young offenders. Psychopathy measures included the Antisocial Process Screening Device (APSD), the Child Psychopathy Scale (CPS), and Psychopathy Checklist: Youth Version (PCL:YV). Results showed substantial convergence between the three psychopathy measures. Two of the psychopathy scales correlated to a higher degree than expected with neuroticism, suggesting that worry and anxiety may accompany psychopathic features in earlier developmental stages. No significant differences were found between the male and female groups regarding psychopathy scores.

Dadds, Fraser, Frost, and Hawes (2005) assessed the psychometric and predictive validity of CU traits as an early precursor of conduct disorder and antisocial behavior in a community sample of children (4–9 years of age). CU traits contributed small but significant improvements to the 12-month prediction of antisocial behavior for boys and older girls. Boys scored higher than girls on the APSD total score.

Marsee, Silverthorn, and Frick (2005) investigated the association of psychopathic traits with aggression and delinquency in a non-referred sample of boys ($n = 86$) and girls ($n = 114$). There were no clear differences for the CU, narcissism, or impulsivity dimensions regarding their association with aggression and delinquency. Also, psychopathic traits predicted aggression and delinquency for both boys and girls. Boys had higher psychopathy scores as measured by the APSD.

Schrum and Salekin (2006) examined the applicability of the PCL:YV items to a sample of detained adolescent girls. Item response theory (IRT) was used to analyze test and item functioning of the PCL:YV. Although it has been previously found that affective features provide the most information regarding psychopathic traits, in this study interpersonal features of psychopathy, followed by affective features, provided greater levels of information. As compared to boys, girls scored lower on PCL:YV.

Penney and Moretti (2007) examined the relationship between psychopathy characteristics as measured by the tridimensional structure of the PCL:YV and aggressive and antisocial behavior in a sample of 142 high-risk adolescent girls and boys. Regression analyses showed that the relationships between psychopathic features and outcomes were equivalent for both boys and girls, and that differences observed were most consistently associated with aggression. Boys scored higher than girls on factors 1 and 2, but not on factor 3 of the PCL:YV.

Rucevic (2010) investigated the association of psychopathic traits with violent and non-violent delinquency, delinquency versatility, and risky sexual behavior in a Croatian sample of unspecified boys ($n = 226$) and girls ($n = 480$). Psychopathic traits were measured by the self-reported Youth Psychopathic Traits Inventory (YPI): boys scored significantly higher on the Grandiose–Manipulative (GM) and CU dimensions, but no differences were found regarding the Impulsive–Irresponsible dimension. Results from the regression analyses showed that the Impulsive–Irresponsible (II) behavioral style had a stronger association with non-violent delinquency and delinquency versatility for boys, for girls on the other hand it had a stronger influence on risky sexual behavior.

After reviewing studies on gender differences in the prevalence of psychopathic tendencies in youth, Verona et al. (2010) concluded that the evidence is mixed. The authors suggest that higher psychopathic trait scores for boys than for girls tend to arise in studies that measure these traits in children and young adolescents (under 13 years) from clinically-referred or community samples. According to Verona et al. (2010) gender differences in the prevalence of psychopathic tendencies seem to diminish in studies of adjudicated adolescents, and it is argued that this could potentially involve more severe manifestations of psychopathic traits among females than males placed in detention centers. As the existing research indicates that adult females demonstrate fewer psychopathic traits than adult males, even among incarcerated offenders, the authors consider this finding interesting and emphasize the need for more research with juvenile offenders.

Although sex differences in psychopathic traits (e.g., CU traits) are an important area of study, there is a lack of research on this topic, especially in European samples. This study aims to examine sex differences in the prevalence of psychopathic traits, behavior problems (which are related to psychopathic traits albeit distinct constructs), conduct disorder (CD), self-reported delinquency, and crime seriousness in Portuguese adolescents (13 years of age or older) incarcerated in detention centers. We hope to help elucidate the mixed and inconclusive evidence reported by Verona et al. (2010). Bearing in mind the theoretical framework mentioned above, this study aimed to test the following hypotheses: a) No statistically significant differences will be found between the female group and the male group regarding psychopathic traits, behavior problems, psychopathy taxon, and conduct disorder, b) Psychopathic traits, behavior problems, psychopathy taxon, and conduct disorder will not be statistically significant in predicting group membership (female versus male).

2. Method

2.1. Participants

The sample consisted of detainees recruited from the total population of incarcerated juvenile offenders in Portugal. A total of 261 participants (age range = 13–20 years, mean age = 15.83 years, $SD = 1.30$ years), male ($n = 217$, age range = 13–20 years, mean age = 15.85 years, $SD = 1.30$ years) and female ($n = 44$, age range = 13–18 years, mean age = 15.75 years, $SD = 1.31$ years), agreed to participate voluntarily in the study. They were detained by the court's decision.

The participants were mainly white Europeans (50%) from an urban background (96.4%). Their first criminal problems with the law had been early on in their lives (mean = 12.85 years, $SD = 1.784$ years), most were detained before they were 16 years old (mean = 14.94 years, $SD = 1.207$ years), and had been convicted to an average of 18 months detention (mean = 17.84 months, $SD = 6.57$ months). Most of them were convicted of having committed serious and violent crimes (83.5%).

2.2. Measures

The Antisocial Process Screening Device (APSD; Caputo, Frick, & Brosky, 1999; Frick & Hare, 2001; Muñoz & Frick, 2007) self-report is a 20-item measure designed to assess psychopathic-like traits

in adolescents. Originally called the Psychopathy Screening Device (PSD), it was modeled after the Psychopathy Checklist — Revised (PCL-R; Hare, 2003). Each item is scored on a 3-point ordinal scale labeled 0 (Not at all true), 1 (Sometimes true) or 2 (Definitely true). Higher scores mean an increased presence of the traits in question. The total score, as well as the score of each dimension, is obtained by adding the respective items. Some studies (Frick et al., 1994; Pechorro, Marôco, Poiares, & Vieira, in press) report two main factors: a CU factor containing 6 items (encompassing interpersonal and affective dimensions of psychopathy, such as lack of guilt and absence of empathy) and an impulsivity-conduct problems (I-CP) factor (containing 10 items encompassing overt behavioral dimensions of conduct problems and poor impulse control). Other studies (Frick, Barry, & Bodin, 2000a) report three main factors: the CU factor (practically the same as the one previously described), whereas the I-CP factor appeared to be subdivided into two further factors: narcissistic (Nar) and impulsive (Imp) traits. Higher scores mean higher presence of the characteristics associated with each factor. In the present study, the Portuguese validation of the APSD self-report (Pechorro et al., in press) was used. The internal consistency was: APSD-SR total = .72; APSD-SR I/CP = .77; and APSD-SR CU = .52.

The Strengths and Difficulties Questionnaire (SDQ-SR; Goodman, 2001; Goodman, Meltzer, & Bailey, 1998) self-response version is a short questionnaire on behavioral problems that assesses children and adolescents aged between 11 and 16 years. The 25 ordinal items reflect five dimensions: Emotional Symptoms (ES), Conduct Problems (CP), Hyperactivity (H), Peer Problems (PP) and Prosocial Behavior (P). Responses are scored as 0 (Not at all true), 1 (Sometimes true) or 2 (Definitely true). Each dimension's score is obtained by adding the respective items. Internal consistency for the present study, estimated by Cronbach's alpha, was: ES = .54; CP = .49; H .56; PP .52; P = .68. Such values are low, but still acceptable for research purposes (DeVellis, 1991). The official Portuguese translation (http://www.sdqinfo.org) of the SDQ-SR was used (Pechorro, 2011).

The Adapted Self-Reported Delinquency Scale (ASDS; Carroll, Durkin, Houghton, & Hattie, 1996) is a 38-item measure that assesses juvenile criminal behaviors scored on a 3-point scale 0 (Never), 1 (Sometimes), or 2 (Frequently). The total score is obtained by adding the items. Higher scores mean higher frequency of criminal activity. Internal consistency reliability for the present study, estimated by Cronbach's alpha, was very high at .93. A Portuguese version of the ASDS was used (Pechorro, 2011).

The Child and Adolescent Taxon Scale (CATS; Harris, Rice, & Quinsey, 1994; Quinsey, Harris, Rice, & Cormier, 2006) is an actuarial rating scale developed from variables related to childhood and adolescent antisocial and aggressive characteristics (e.g., childhood aggression problem, arrested below the age of 16). This scale has eight items scored either 0 (No) or 1 (Yes). The total score is obtained by adding the items. Higher scores mean higher psychopathic characteristics. Because this is an actuarial scale, no internal consistency reliability was estimated.

The Marlowe–Crowne Social Desirability Scale — Short Form (MCSDS-SF; Ballard, 1992) was developed from the original MCSDS (Crowne & Marlowe, 1960) scale. It has 13 items scored either 0 (No) or Yes (1). The total score is obtained by adding the items. Higher scores mean higher social desirability. Internal consistency for the present study, estimated by Kuder–Richardson, was .60. A Portuguese version of the MCSDS-SF was used (Pechorro, 2011).

The delinquency seriousness classification of official reports was guided by the Index of Crime Seriousness (ICS; White et al., 1994; Wolfgang, Figlio, Tracey, & Singer, 1985). Level 0 consisted of no delinquency. Level 1 consisted of minor delinquency committed at home, such as stealing minor amounts of money from mother's purse. Level 2 consisted of minor delinquency outside the home including shoplifting something worth less than €5, vandalism and minor fraud (e.g., not paying bus fare). Level 3 consisted of moderately serious delinquency such as any theft over €5, gang fighting, carrying weapons, and joyriding. Level 4 consisted of serious delinquency such as car theft and breaking and entering. Level 5 consisted of having performed at least two of each of the behaviors in level 4.

In addition, a questionnaire was constructed to describe the sociodemographic and criminal characteristics of the participants and to analyze the moderating effect of these variables. This questionnaire includes questions about participants' age, nationality, ethnic group, gender, rural versus urban origin, level of schooling completed, parents' socio-economic status, parents' marital status, engagement in illegal activities, etc.

2.3. Procedures

The age range for youth participation in the study was previously set between 12 and 20 years since this is the age range when young people are amenable to interventions under the Portuguese judicial system's Educational Guardianship Act (*Lei Tutelar-Educativa*). All the detainees from the six existing juvenile Detention Centers managed by the Portuguese Ministry of Justice (*Ministério da Justiça*) were informed about the nature of the study and asked to participate. The main author of this study collaborated personally with the directors of each Detention Center in order to motivate young people to participate in the study, clarifying any questions that arose regarding participation. No incentives to encourage participation were given, but the fact that Detention Centers directors were personally involved in encouraging participation might have contributed to increase the participation rate, given that in the Portuguese cultural reality detained youths hold director figures in high regard.

Collection of questionnaires was carried out individually after obtaining authorization from the General Directorate of Social Reintegration — Ministry of Justice (*Direcção-Geral de Reinserção Social — Ministério da Justiça*), to conduct the study in all the existing Portuguese Juvenile Detention Centers (*Centros Educativos do Ministério da Justiça*). The questionnaires were individually applied to the youths by the main author of the study, who also made the diagnosis of DSM-IV-TR Conduct Disorder (APA, 2000). Each questionnaire was preceded by an informed consent form, in which participants were explicitly informed of the voluntary and confidential nature of participation in the study.

Not all the detainees agreed or were able to participate; reasons included refusal to participate, inability to participate due to not understanding the language (some detainees did not speak fluent Portuguese) and inability to participate due to security issues (e.g., solitary confinement). All questionnaires of those who participated were considered valid. Since there was a very high participation rate, corresponding to the large majority of the Portuguese juvenile inmate population detained at that moment in time, it was considered there was little or no selection bias present.

The data was analyzed using IBM SPSS Statistics v20 (IBM SPSS, 2011). ANOVA was used to compare groups when the assumptions of normality (skewness and kurtosis between −2 and 2) and homogeneity of variance were validated; Welch's ANOVA was used when the assumptions of normality were validated but the group variances were heterocedastic. Mann–Whitney *U* test was used when the data clearly violated the assumption of normality and homogeneity of variance (Tabachnick & Fidell, 2007). The chi-square test was used to compare nominal variables. Point biserial correlations were used to analyze the association between nominal dichotomous variables and scale variables (Marôco, 2011). A binary logistic regression model was used to analyze the importance of some predictive variables in distinguishing between members of the male and female groups; the dependent variable (DV) group was coded 0 (female group) or 1 (male group).

3. Results

No statistically significant differences were found between boys and girls regarding age ($F = 2.516$; $p = .114$), ethnicity ($\chi^2 = .46$; $p = .952$),

parents' socioeconomic status ($U = 2058.5$; $p = .174$), and parents' marital status ($\chi^2 = .819$; $p = .96$), but the girls had successfully completed more years of education ($F = 4.82$; $p \leq .05$). Boys had committed crimes earlier in their lives than girls ($F_W = 15.429$, $p \leq .001$), but no sex differences were found regarding the average length of detention ($F = 2.274$, $p = .133$).

Statistically significant differences were found between the male and female groups (see Table 1) regarding the APSD-SR CU factor (effect size $\eta_p^2 = .034$; power = .856). No statistically significant differences were found regarding the APSD-SR total (effect size $\eta_p^2 = .006$; power = .249) and the APSD-SR I/CP factor (effect size $\eta_p^2 = .000$; power = .050).

Statistically significant differences were found between the male and female groups (see Table 2) regarding the Emotional Symptoms factor (effect size $\eta_p^2 = .031$; power = .817), and the Prosocial factor (effect size $r = .215$; power = .888). No statistically significant differences were found regarding the Conduct Problems factor (effect size $r = .089$; power = .482), the Hyperactivity factor (effect size $\eta_p^2 = .001$; power = .095), and the Peer Problems factor (effect size $\eta_p^2 = .007$; power = .277).

No statistically significant differences were found between the male and female groups (see Table 3) regarding the CATS (effect size $\eta_p^2 = .012$; power = .426) and the MCSDS-SF score (effect size $\eta_p^2 = .001$; power = .089). Statistically significant differences were found regarding the ASDS (effect size $\eta_p^2 = .052$; power = .963) and the ICS (effect size $r = .215$; power = .901).

No statistically significant differences were found between the male and female groups regarding the DSM-IV-TR Conduct Disorder (CD) diagnostic ($\chi^2 = 1.859$; $p = .228$; effect size = .07; power = .280). CD prevalence rates found were 92.6% for boys and 86.4% for girls. Point biserial correlations between the DSM-IV-TR CD diagnosis, the APSD-SR total score and dimensions of psychopathy were also calculated for both genders. For the male group statistically significant correlations were found in all variables: total APSD-SR ($r_{pb} = .28$; $p \leq .001$), APSD-SR I/CP ($r_{pb} = .23$; $p \leq .001$), and APSD-SR CU ($r_{pb} = .19$; $p \leq .01$). For the female group only the correlation with the APSD-SR CU was not statistically significant: total APSD-SR ($r_{pb} = .46$; $p \leq .01$), APSD-SR I/CP ($r_{pb} = .49$; $p \leq .001$), APSD-SR CU ($r_{pb} = .09$; $p = .553$).

Using a binary logistic regression model we analyzed the importance of some predictive variables – psychopathic traits, behavior problems, psychopathy taxon, and conduct disorder – in distinguishing between members of the female group and the male group. Multicollinearity was checked with VIF and Tolerance. Table 4 shows which independent variables were statistically significant in the predictive model. Only the APSD-SR CU dimension reached statistical significance. The model was also used to classify the participants, and an overall correct classification rate of 82.8% was achieved.

4. Discussion

One of the purposes of the present study was to analyze gender differences regarding psychopathic traits, behavior problems, psychopathy taxon membership, and conduct disorder. Differences regarding the prevalence of psychopathic traits were only found for the APSD-SR CU dimension, with boys scoring significantly higher than girls. No differences were found for the total APSD-SR score and the APSD-SR I/CP dimension. These results confirm Verona et al.'s (2010) hypothesis that gender differences in the prevalence of psychopathic traits diminish in studies of adjudicated adolescents. However the findings do not confirm that the manifestations of psychopathic traits are potentially more severe among females than males placed in detention centers; the results obtained, namely that girls score lower on psychopathic traits in CU traits, point in the opposite direction. This is consistent with some of the previously mentioned literature and is in accord with the reported trend regarding psychopathic traits in children, preadolescents and adults (e.g., Frick et al., 2000b; Marsee et al., 2005; Verona & Vitale, 2006).

Differences were also found regarding emotional symptoms and prosocial behavior, but not for conduct problems and other behavioral dimensions. Girls seem to be less impaired in terms of voluntary behavior which promotes favorable relations with others; they also appear to display more emotional symptoms. This is consistent with findings (Salekin et al., 2005) concerning the association of psychopathy with worry and anxiety in early developmental stages, though in our study it only applies to girls. These findings might also help to explain why the prevalence of CU psychopathic traits tends to be lower in girls, at least in our sample.

No gender differences were found regarding the psychopathy taxon membership and social desirability (i.e., no differences in the way the participants portrayed themselves in terms of exaggerating their strengths and achievements or denying their shortcomings and failures). Differences were found regarding self-reported delinquency and official crime severity reports, with girls scoring significantly lower on both.

We found no statistically significant differences regarding conduct disorder prevalence, although very high prevalence rates were found for boys (92.6%) and for girls (86.4%), in the higher range of what is typical of some forensic samples (Sevecke & Kosson, 2010). The correlations between the conduct disorder diagnosis and the APSD-SR (total score and factors) were low to moderate, and weaker than the ones reported by Frick et al. (2000a), which while higher than what we observed were none the less similar to the ones obtained by other authors (e.g., Fung, Gao, & Raine, 2010).

Table 1
Descriptive statistics and ANOVA for the APSD-SR.

	Male	Female	*p* Value*
APSD-SR total	15.15 (5.124)	14.02 (6.204)	$F = 1.649$
M (*SD*)			$p = .200$
APSD-SR I/CP	9.98 (4.445)	10 (5.292)	$F = .001$
M (*SD*)			$p = .976$
APSD-SR CU	5.18 (2.299)	4.02 (2.287)	$F = 9.209$
M (*SD*)			$p = .003$

Note. APSD-SR = Antisocial Process Screening Device Self-report; I/CP = Impulsivity/Conduct Problems; CU = Callous–Unemotional; **ANOVA*; *M* = Mean; *SD* = Standard-deviation.

Table 2
Descriptive statistics, ANOVA and *U* test for the SDQ-SR.

	Male	Female	*p* Value*
Emotional symptoms	3.21 (1.85)	4.11 (2.14)	$F = 8.259$
M (*SD*)			$p = .004$
Conduct problems	133.98	116.30	$U = 4127$
MR			$p = .153$
Hyperactivity	4.65 (2.04)	4.86 (2.09)	$F = .383$
M (*SD*)			$p = .536$
Peer problems	2.95 (1.81)	2.55 (1.77)	$F = 1.881$
M (*SD*)			$p = .171$
Prosocial behavior	123.78	166.6	$U = 3207.5$
MR			$p \leq .001$

Note. **ANOVA* or *U* Mann–Whitney (Exact 2-sided); *M* = Mean; *SD* = Standard-deviation; *MR* = Mean Rank.

Table 3
Descriptive statistics, ANOVA and *U* test for CATS, ASDS, ICS and MCSDS-SF.

	Male	Female	*p* Value*
CATS	6.53 (1.15)	6.18 (1.42)	$F = 3.165$
M (*SD*)			$p = .076$
ASDS	30.80 (13.56)	22.59 (11.15)	$F = 14.181$
M (*SD*)			$p \leq .001$
ICS	138.15	95.73	$U = 3222$
MR			$p \leq .001$
MCSDS-SF	17.96 (2.39)	18.18 (2.07)	$F = .333$
M (*SD*)			$p = .564$

Note. CATS = Child and Adolescent Taxon Scale; ASDS = Adapted Self-reported Delinquency Scale; ICS = Index of Crime Seriousness; MCSDS-SF = Marlowe–Crowne Social Desirability Scale – Short Form; **ANOVA* or *U* Mann–Whitney (Exact 2-sided); *M* = Mean; *SD* = Standard-deviation; *MR* = Mean Rank.

Table 4
Binary logistic regression coefficients for the female and male groups.

Variables	*B*	SE	Wald	Exp(B)	*p* Value
APSD I/CP	−.048	.043	1.269	.953	$p = .260$
APSD CU	.201	.078	6.542	1.222	$p = .011$
SDQ CP	.093	.085	1.194	1.098	$p = .275$
CATS	.119	.153	.611	1.127	$p = .434$
DSM CD	.334	.606	.303	1.396	$p = .582$
Constant	−.312	.873	.128	.732	$p = .721$

Note. APSD = Antisocial Process Screening Device Self-report; APSD I/CP = Impulsivity/Conduct Disorder dimension; APSD CU = Callous–Unemotional dimension; SDQ = Strengths and Difficulties Questionnaire Self-report; SDQ CP = Conduct Problems dimension; CATS = Child and Adolescent Taxon Scale; DSM CD = DSM-IV-TR Conduct Disorder diagnostic.

Another purpose of this study was to evaluate the importance of psychopathic traits, behavior problems, psychopathy taxon, and conduct disorder in discriminating between the female and male groups. The binary logistic regression model mostly confirmed the previously obtained findings. Only the APSD-SR CU dimension obtained a statistically significant value. Overall, these findings provide some additional support for the general absence of gender differences regarding psychopathy and behavior problems in incarcerated juvenile delinquents. However, girls do seem to possess a constellation of lower CU traits and higher emotional symptoms and prosocial behaviors that might function as protective factors against higher frequency of delinquent behaviors, higher reported crime seriousness, and earlier onset of criminal activity.

It is necessary to point out some limitations of our study. The small number of females in our sample is a weakness in a study that aims to examine gender differences, but since female adolescent detentions are very scarce in the Portuguese judicial reality it was not possible to increase the female sample size. The use of self-report measures and the low internal consistency of some scale dimensions (e.g., APSD-SR CU; SDQ-SR CP) were also limitations. It is recommended that future research in this area should use rating scales and measures that show better internal consistency.

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