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Adaptation of the Narcissistic Personality Inventory among a Portuguese sample of incarcerated juvenile offenders

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ABSTRACT

The aim of the present study was to assess the psychometric properties of the Narcissistic Personality Inventory (NPI) and two of its short forms (NPI-16 and NPI-13) among a Portuguese sample of male incarcerated juvenile offenders ($N = 221$). Of these, only the NPI-13 short version demonstrated a good fit in terms of its factor structure. The NPI-13 also showed promising psychometric properties in terms of its internal consistency, convergent validity, discriminant validity, and criterion-related validity. Statistically significant associations were found with age of crime onset, crime seriousness, conduct disorder symptoms, alcohol abuse, and cannabis use. These findings justify the use of the NPI-13, especially its Entitlement/Exploitativeness dimension, among incarcerated male youths.

Narcissistic traits have been associated with juvenile delinquency, but the nature of this relationship and its importance within the judicial context has not been widely studied (Calhoun, Glaser, Stefurak, & Bradshaw, 2000). Narcissistic traits, which are characterized by a grandiose, inflated sense of self and entitlement, preoccupation with success, and demands for admiration (see Morf & Rhodewalt, 2001, for a review), may represent an important contribution to the study of delinquent and antisocial behaviors among adolescents (Chabrol, Van Leeuwen, Rodgers, & Séjourné, 2009; Perez, Thoreson, Patton, & Heppner, 1997). Although recognized as a personality disorder (Narcissistic Personality Disorder or NPD) in the DSM-5 (American Psychiatric Association, 2013) such severe manifestations are thought to be rare. Indeed, the construct is more typically understood as a personality trait (dimensional perspective) that varies normally in the population (Foster & Campbell, 2007), albeit more prevalent among males (Foster, Campbell, & Twenge, 2003; Robins & Trzesniewski, 2005; Stinson et al., 2008) and younger age groups (Foster et al., 2003; Wilson & Sibley, 2011). While there may be some short-term social benefits of narcissism (Campbell, Bush, Brunell, & Shelton, 2005; Campbell & Foster, 2007), over the long term it can have more negative consequences and is associated with a variety

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of negative interpersonal and behavioral outcomes (e.g. Bushman & Baumeister, 1998; Campbell, Foster, & Finkel, 2002; Nevicka, Ten Velden, De Hoogh, & Van Vianen, 2011; Ryan, Weikel, & Sprechini, 2008).

Given the inverse relationship between narcissism and age it should not be surprising that researchers are increasingly evaluating the narcissism construct and its implications for aggressive and maladaptive behavior among adolescent samples (Barry, Kerig, Stellwagen, & Barry, 2011; Barry & Kauten, 2014; Kauten, Barry, & Leachman, 2013). As one of the most widely used measures of narcissism, we believe that it would beneficial to assess the psychometric properties of the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) in a sample of at-risk adolescents, specifically young males involved in the juvenile justice system. The present paper aims to assess the psychometric properties of the NPI and its short forms among male juvenile delinquents.

Narcissistic Personality Inventory

Raskin and Hall (1979) developed the NPI using the DSM-III criteria for NPD, later revising the measure to its current 40-item, forced-choice version (Raskin & Terry, 1988). Despite using clinical criteria as the basis for the NPI items, the authors developed the instrument as a research tool intended to measure individual differences rather than as a diagnostic tool (Raskin & Terry, 1988). The NPI measures narcissism as a personality trait, extreme manifestations of which may be indicative of pathological narcissism (Emmons, 1987), although there is no clinical cut-off score at which a person can be considered a 'narcissist' (Foster & Campbell, 2007). As the NPI was originally based on a multifaceted conceptualization of narcissism, several early attempts were made by the authors of the measure (Raskin & Terry, 1988) and others (Calhoun et al., 2000; Emmons, 1984, 1987) to define its factor structure in adolescent and adult samples, resulting in seven- (i.e. authority, self-sufficiency, superiority, exhibitionism, exploitativeness, vanity, and entitlement) and four-factor (i.e. leadership/authority (LA), superiority/arrogance, self-absorption/self-admiration, and exploitativeness/entitlement) solutions, respectively. More recent research, however, has largely shown these factor structures to be unstable and found substantial evidence for a more parsimonious two- (e.g. leadership/authority and exhibitionism/entitlement; see Corry, Merritt, Mrug, & Pamp, 2008) or three-factor solution (e.g. power, exhibitionism, and being special; see Kubarych, Deary, & Austin, 2004).

In addition to uncertainty about the factor structure of the NPI, some have questioned its efficiency in research settings where time pressure and respondent fatigue are a concern (Ames, Rose, & Anderson, 2006). In response, two short forms of the NPI have recently been developed: the NPI-16 (Ames, Cameron, & Anderson, 2006) and NPI-13 (Gentile et al., 2013). Selection of items for the NPI-16 attempted to reflect the various facets of narcissism captured by the full NPI, such as authority, superiority, entitlement, and self-absorption. However, no a-priori factor structure was incorporated during its development and subsequent factor analyses have failed to find one with acceptable model fit (Gentile et al., 2013). Nonetheless, the NPI-16 has evidenced good validity and serves as a viable option under time constraints (Ames et al., 2006). In contrast, Gentile et al. (2013) developed the NPI-13 specifically to maintain the three-factor structure derived by Ackerman et al. (2011): LA, grandiose exhibitionism (GE), and Entitlement/Exploitativeness (EE). The intended three-factor structure of the NPI-13 was supported

by confirmatory factor analyses showing that it provided a better fit for the data than one- and two-factor models (Gentile et al., 2013).

Narcissism and juvenile delinquency

It has been suggested that narcissism is an important construct in understanding juvenile delinquency (Barry, Grafeman, Adler, & Pickard, 2007). For instance, the maladaptive aspects of narcissism (e.g. exploitativeness and entitlement) may make youth more sensitive to personal threats and, in turn, individuals may be more likely to experience negative emotions such as anger which lead to the use of undesirable behaviors (e.g. aggression) in social situations (e.g. Baumeister, Smart, & Boden, 1996). Additionally, youth who are highly narcissistic may engage in delinquent behaviors as a means to reestablish and maintain their *perceived* high social status among peers (Barry, Pickard, & Ansel, 2009).

In line with these notions, research has consistently found an association between narcissism and antisocial behavior among youth and young adult samples (e.g. Barry et al., 2007; Chabrol et al., 2009; Miller et al., 2010). Additionally, research has found important associations between the NPI and external criteria known to be associated with juvenile offending. For instance, narcissism has long been tied to psychopathy (Lynam, 2011) and together with Machiavellianism, the three personality traits make up the 'Dark Triad', related by their common attributes of callousness, self-promotion, and aggressiveness (Paulhus & Williams, 2002). Research confirms the relationship between narcissism, as measured by the NPI, and psychopathic traits among youth finding a positive association between the more maladaptive aspects of narcissism (e.g. Exhibitionism, Exploitativeness, and Entitlement) and measures of callous-unemotional traits (Barry, Frick, & Killian, 2003; Feilhauer, Cima, & Arntz, 2012). Several recent studies have found positive correlations between narcissism, as measured by the original NPI and NPI-16, and psychopathic, Machiavellian, and sadistic traits (NPI: Andershed, Gustafson, Kerr, & Stattin, 2002; NPI-16: Chabrol et al., 2009). Chabrol et al. (2009) also found evidence for positive relationships between narcissism, impulsivity, and risk-seeking. Similarly, research has found that narcissism and psychopathy exhibit similar relationships to components of impulsivity, specifically high approach and low avoidance motivation (Foster & Trimm, 2008; Newman, MacCoon, Vaughn, & Sadeh, 2005), as well as positive urgency and sensation-seeking (Miller et al., 2010).

Given the strong association between psychopathy and aggression (e.g. Porter & Woodworth, 2006), it is also not surprising that research has likewise identified an association between maladaptive f narcissism and measures of aggression (Ang & Yusof, 2005; Barry et al., 2007; Washburn, McMahon, King, Reinecke, & Silver, 2004). Among adults, narcissism has been linked to aggression following provocation and social rejection (Bushman & Baumeister, 1998; Twenge & Campbell, 2003), as well as a greater willingness to use physical or verbal aggression to resolve hypothetical disputes (Miller et al., 2011). Narcissism has also been linked to greater incidence of getting into physical fights (Miller et al., 2010), and lack of empathy (Watson, Grisham, Trotter, & Biderman, 1984). Evidence for other externalizing behaviors has been less consistent with some research showing a positive relationship between narcissism and alcohol use (Luhtanen & Crocker, 2005), stealing, and gambling (Miller et al., 2010) among young adults.

In summary, the empirical evidence appears to suggest that narcissism may be an important feature underlying antisocial behavior among youth and that the NPI is a relevant measure among samples of antisocial youth. However, the extant research is limited in several ways. First, research examining the NPI has mainly focused on non-detained samples. A few studies used combined samples of community and detained youth to analyze the associations between narcissism and other variables (e.g. callous-unemotional traits), making it impossible to determine how these relationships might manifest in a more homogenous sample of juvenile offenders. Additionally, few studies have examined the NPI cross-culturally, with the exception of Ang and Yusof (2005) who utilized a Japanese sample and Feilhauer et al. (2012) who utilized a Dutch sample. Thus, more research is needed to assess the psychometric properties of the NPI and its short versions among culturally distinct samples. Finally, to our knowledge only one study (i.e. Chabrol et al., 2009) has tested the utility of shorter versions of the NPI among samples of youth. This is an important line of research as juvenile offenders, particularly those detained in the justice system, may be most susceptible to the negative effects (e.g. fatigue) of lengthy surveys.

Present study

The aim of the present study is to address these limitations by attempting to assess the psychometric properties of the NPI, NPI-16, and NPI-13 among a sample of male youth who have been detained in the Portuguese juvenile justice system. To this end we first examined a number of proposed factor structures using confirmatory factor analysis. Then, contingent on the instrument demonstrating good model fit, we further examined its psychometric properties (e.g. internal consistency, construct validity, criterion-related validity). Given the instability of the NPI's factor structure, it was not expected that all adapted versions of the NPI would have good model fit. In assessing their psychometric properties, we expected our revised version(s) would demonstrate convergent validity with the related constructs of psychopathy and aggression, and divergent validity with the unrelated construct of social anxiety. We likewise expected our revised version(s) would demonstrate criterion-related validity with the behavioral constructs of age of crime onset, crime seriousness, conduct disorder, and risky behaviors (e.g. substance use and unprotected sex).

Methods

Participants

The sample was composed of inmates from eight nation-wide juvenile detention centers managed by the Portuguese Ministry of Justice. Two hundred and twenty-one male participants aged 13–20-year-old ($M = 16.75$; $SD = 1.41$) volunteered to participate in the study. The majority of participants were white Europeans (54.3%), with the remainder of the sample comprised of ethnic minorities living in Portugal of predominantly African and South-American descent. Most of the participants came from an urban background (92.8%). On average, participants reported their first criminal problems had begun at 11.33 years old (SD = 2.24) and were first detained before they were 16 years old

($M = 15.46$, SD = 1.31). Participants were sentenced to an average of 21 months in detention ($M = 20.67$, SD = 6.69), with the majority (87.6%) convicted of violent crimes (e.g. homicide, robbery, assault, rape).

Measures

Narcissistic Personality Inventory (Raskin & Terry, 1988)

The NPI is a 40-item forced-choice measure. It is considered by far the most widely used measure of trait narcissism, and there is converging evidence that it contains two to three distinguishable factors (Ackerman et al., 2011; Corry et al., 2008; Kubarych et al., 2004). The NPI has two short forms: the NPI-16 (Ames, Rose, & Anderson, 2006) and the three-factor NPI-13 (Gentile et al., 2013), with 16 items and 13 items, respectively. Although originally validated on adult samples, several previous studies have used the original NPI or adapted versions of this instrument with juvenile offenders (NPI-JO; Calhoun et al., 2000) and community samples of pre-adolescents and adolescents (Washburn et al., 2004).

Antisocial process screening device – self-report (Caputo, Frick, & Brodsky, 1999; Frick & Hare, 2001)

The antisocial process screening device – self-report (APSD-SR) is a multidimensional 20-item measure of psychopathic traits in adolescents. It was modeled after the Psychopathy Checklist-Revised (Hare, 2003). Each item is scored on a 3-point ordinal scale (0 = Never, 1 = Sometimes, 2 = Often). The total score, as well as each subscale score, is obtained by adding the respective items with higher scores indicative of more psychopathic traits. In this study, the Portuguese version of the APSD-SR (Pechorro, Hidalgo, Nunes, & Jiménez, in press; Pechorro, Maroco, Poiares, & Vieira, 2013) was used. Internal consistency for the current study was as follows: APSD-SR total: $\alpha = .81$, APSD-SR Callous-Unemotional dimension: $\alpha = .68$, APSD-SR Impulsivity dimension: $\alpha = .60$, and APSD-SR Narcissism dimension: $\alpha = .74$.

Youth psychopathic traits inventory (Andershed, Kerr, Stattin, & Levander, 2002)

The youth psychopathic traits inventory (YPI) is a 50-item self-report measure designed to assess the core personality traits of the psychopathic personality constellation in children aged 12-years-old and up. Each item is scored on an ordinal 4-point Likert scale (ranging from 1 = Does not apply at all to 4 = Applies very well). The YPI consists of 10 subscales (with 5 items each) designed in line with Cooke and Michie's (2001) three-dimensional conceptualization of the psychopathy construct (i.e. Grandiose-Manipulative, Callous-Unemotional, and Impulsive-Irresponsible). Higher scores reflect an increased presence of psychopathic traits. The Portuguese validation of the YPI (Pechorro, Andershed, Ray, Maroco, & Gonçalves, 2015) was used. The internal consistency for the current study, estimated by Cronbach's α, was as follows: YPI total: $\alpha = .90$, YPI G-M: $\alpha = .86$, YPI C-U dimension: $\alpha = .70$, and YPI I-I dimension: $\alpha = .79$.

Reactive–proactive aggression questionnaire (Raine et al., 2006)

The reactive–proactive aggression questionnaire (RPQ) is a self-report measure that assesses reactive and proactive aggression. The RPQ consists of 23 items (11 reactive and 12 proactive) rated on a 3-point ordinal scale (0 = Never, 1 = Sometimes, and 2 = Often),

with higher scores indicative of higher levels of aggression. The measure produces reactive, proactive, and total aggression scores and is considered appropriate for use with late adolescent and young adult samples. The Portuguese validation of the RPQ (Pechorro, Ray, Raine, Maroco, & Gonçalves, in press) was used. Internal consistency for the present study, estimated by Cronbach's a, was as follows: RPQ total: $a = .93$, RPQ Reactive: $a = .86$, and RPQ Proactive: $a = .91$.

Social anxiety scale for adolescents (La Greca & Lopez, 1998)

The social anxiety scale for adolescents (SAS-A) is an 18-item self-report measure designed to assess subjective experience of social anxiety in adolescents. Each item is rated on a 5-point scale (ranging from 0 = *Not at all*, to 4 = *All the time*). The measure contains three subscales: Fear of Negative Evaluation (FNE; 8 items), Social Avoidance and Distress – New subscale (SAD-New; 6 items), and Social Avoidance and Distress – General subscale (SAD-General; 4 items). The FNE subscale reflects fears, concerns, or worries regarding negative evaluations from peers. The SAD-New reflects social avoidance and distress with new social situations or unfamiliar peers. Lastly, the SAD-General reflects more generalized or pervasive social distress, discomfort, and inhibition. Scores are obtained by summing the items comprising each subscale. The Portuguese validation of the SAS-A (Pechorro, Ayala-Nunes, Nunes, Maroco, & Gonçalves, in press; Pechorro, Silva, Maroco, & Gonçalves, 2014) was used. Internal consistency for the present study, estimated by Cronbach's a, was: SAS-A total: $a = .91$; SAS-A FNE: $a = .91$; SAS-A SAD-New: $a = .89$; SAS-A SAD-General: $a = .75$.

Child and adolescent taxon scale (Harris, Rice, & Quinsey, 1994; Quinsey, Harris, Rice, & Cormier, 2006)

The child and adolescent taxon scale (CATS) is an actuarial rating scale that assesses childhood and adolescent antisocial and psychopathic characteristics. Harris et al. (1994) established eight childhood factors could identify members of the antisocial/psychopathic class including (a) elementary school maladjustment, (b) teen alcohol abuse, (c) childhood aggression, (d) childhood behavior problems, (e) parental alcohol problems, (f) suspended or expelled from school, (g) separated from parents before age 16, and (h) arrested before age 16. The eight factors scored either 0 (No) or 1 (Yes), and summed to form a scale that ranges from 0 to 8. Higher scores indicate more antisocial and psychopathic characteristics.

Sellin-Wolfgang index of crime seriousness (Wolfgang et al., as cited in White et al., 1994)

The index of crime seriousness (ICS) is a classification scheme for coding the seriousness of crimes based on official court reports. Scoring for the ICS is as follows: Level 0 – no delinquency, Level 1 – minor delinquency committed at home (e.g. stealing minor amounts of money from mother's purse), Level 2 – minor delinquency outside the home (e.g. shoplifting something worth less than 5 euros, vandalism and minor fraud), Level 3 – moderately serious delinquency (e.g. any theft over 5 euros, gang fighting, carrying weapons, and joyriding), Level 4 – serious delinquency (e.g. car theft, breaking and entering), and Level 5 – at least two of each of the Level 4 behaviors. The ICS was used in the current study to index the seriousness of the each participant's offense.

In addition to the measures listed above, each participant completed socio-demographic questions regarding their age, nationality, ethnicity, residential setting (rural vs. urban), education level, socioeconomic status, and parental marital status. They also completed questions regarding whether they had engaged in past drug abuse, alcohol abuse, or unprotected sex. Each participant was assessed for Conduct Disorder (CD; American Psychiatric Association, 2013) by the first and last authors of this article using the official DSM-5 diagnostic criteria.

Procedures

Translation procedures

Prior to conducting any analyses, the NPI was translated (NPI-JO; Calhoun et al., 2000), including the shorter versions (Ames et al., 2006; Gentile et al., 2013), using appropriate procedures (e.g. avoiding item bias or differential item functioning; Hambleton, Merenda, & Spielberger, 2005). The initial translations from English into Portuguese were completed by the first and last authors of this article. Calhoun et al. (2000) simplification procedure that included some degree of rewording of the items was followed because some of them were difficult to understand. The translation was piloted tested on a small group of juveniles that were not included in the present analysis. This was done to make sure that all the items would be understood by the participants (i.e. that the wording of the items was consistent with the reading abilities of the adolescents).

The questionnaire was then independently back-translated into English by a native English speaker with considerable professional experience in translating psychology-related scientific texts. The original and the back-translated items were compared for non-equivalence of meaning, and discrepancies were revised until no semantic differences were detected between the English and Portuguese versions (i.e. the translated items had the same or very similar meanings compared to the original English items).

Data collection procedures

Authorization to assess the juvenile prisoners was obtained from the General Directorate of Reintegration and Prison Services – Ministry of Justice (*Direção-Geral de Reinserção e Serviços Prisionais – Ministério da Justiça*). The detainees, from the eight existing Portuguese Juvenile Detention Centers that admit male youths, were informed about the nature of the study and asked to voluntarily participate. The participation rate was approximately 92%. Reasons for not participating in the study included: refusal to participate (5%), inability to participate due to a lack of Portuguese fluency (2%), and inability to participate due to security restrictions (1%). All the measures used in this study were administered by means of individual face-to-face interviews to allow for more in-depth access to each participant and to assure a sense of privacy when gathering the data. It was stressed that there were no right or wrong answers and that for each item the participant should consider how he generally thinks or feels when responding. Some of the information (e.g. socio-demographic variables) was obtained from self-reports. Institutional files were used to complement the information obtained (e.g. prior criminal activity and detentions).

Data analyses

The data were analyzed using SPSS v22 (IBM SPSS, 2013) and EQS 6.2 (Bentler & Wu, 2008). The factor structure of the Portuguese language version of each NPI version was assessed using Confirmatory Factor Analysis (CFA) in EQS 6.2 (Bentler & Wu, 2008; Byrne, 2006), with robust maximum likelihood (ML) estimation. Goodness of fit indices were calculated, including Satorra–Bentler chi-square/degrees of freedom, comparative fit index (CFI), incremental fit index (IFI), root mean square error of approximation (RMSEA), and Akaike Information Criterion (AIC). In terms of cut-off values, $\chi^2 < 5$ is considered acceptable, $\chi^2 \leq 2$ is considered good, and $\chi^2 = 1$ is considered very good (Marôco, 2014; West, Taylor, & Wu, 2012). Likewise, CFI $\geq$ .90 and RMSEA $\leq$ .08 indicate adequate fit, whereas CFI $\geq$ .95 and RMSEA $\leq$ .06 indicate good model fit (Byrne, 2006). For the incremental fit index (i.e. Bollen's IFI) values >.90 are regarded as acceptable. Lastly, lower AIC values indicate a better relative model fit among multiple nested or non-nested models (West et al., 2012).

The CFA was performed on the original scale items and only those with standardized loadings greater than .30 were retained. Modification indexes were examined to see if any modifications would significantly improve the measurement model, but none were used. Correlation matrixes with robust methodologies were used to conduct the CFAs as they provide more accurate estimates for categorical items (Byrne, 2006).

With regard to the psychometric analyses, Pearson correlations were used to analyze associations between scale variables, Spearman correlations were used to analyze associations between ordinal variables, and point-biserial correlations were used to analyze associations between nominal dichotomous variables and scale variables (Leech, Barrett, & Morgan, 2015). In terms of internal consistency, results were considered good if the Kuder–Richardson (K-R) coefficient was above the minimum recommended value of .70 (Cortina, 1993), if the mean inter-item correlation was within the recommended range of .15–.50 (Clark & Watson, 1995), and if the corrected item-total correlation was above the recommended value of .30 (Nunnally & Bernstein, 1994).

Results

Our first step in examining the psychometric properties of the Portuguese version of the NPI and its two short forms was to attempt to replicate some of the proposed factor structures, particularly those proposed for adolescent samples. Table 1 shows the goodness of fit indexes for each of the tested models, specifically: one-factor model, seven-factor

Table 1. Goodness of fit indexes for the different ML models of the NPI.

NPI	S-Bχ^2/df	IFI	CFI	RMSEA	AIC
1-factor NPI	11338.55/595	.75	.75	.15(14–.15)	2107.34
7-factor NPI	1374.23/539	.67	.66	.08(.08–.09)	296.33
3-factor NPI	1330.08/557	.69	.69	.08(.07–.09)	216.08
1-factor short NPI-16	574.47/104	.75	.75	.14(.13–.15)	366.47
1-factor short NPI-13	182.60/65	.93	.93	.09(.08–.11)	52.60
3-factor short NPI-13	139.36/62	.96	.96	.08(.06–.09)	16.36

Note: NPI, Narcissistic Personality Inventory; NPI-16, NPI 16 items short version; NPI-13, NPI 13 items short version; S-Bχ^2, Satorra–Bentler chi-square; df, degrees of freedom; IFI, incremental fit index; CFI, comparative fit index; RMSEA (90% CI), root mean square error of approximation (90% confidence interval); AIC, Akaike Information Criterion; ML, maximum likelihood; Criteria for a good fit: S-Bχ2/df $\leq$ 2, IFI $\geq$ .95, CFI $\geq$ .95, RMSEA $\leq$ .06, lowest AIC.

Table 2. Item loadings for the confirmatory 3-factor inter-correlated robust structure of the NPI-13.

NPI-13 items	Factor 1: LA	Factor 2: GE	Factor 3: EE
1. I like having authority over other people.	.70	–	–
2. I have a strong will to power.	.77	–	–
3. People always seem to recognize my authority.	.74	–	–
4. I am a born leader.	.54	–	–
5. I know that I am a good person because everybody keeps telling me so.	–	.39	–
6. I like to show off my body.	–	.72	–
7. I like to look at my body.	–	.64	–
8. I will usually show off if I get the chance.	–	.79	–
9. I like to look at myself in the mirror.	–	.41	–
10. I find it easy to manipulate people.	–	–	.56
11. I insist upon getting the respect that is due me.	–	–	.42
12. I expect a great deal from other people.	–	–	.59
13. I will never be satisfied until I get all that I deserve.	–	–	.58

Note: NPI-13, Narcissistic Personality Inventory 13 items short version; NPI-13 LA, Leadership/Authority dimension; NPI-13 GE, Grandiose Exhibitionism dimension; NPI-13 EE, Entitlement/Exploitativeness dimension.

model (Calhoun et al., 2000), three-factor model (Washburn et al., 2004), one-factor short model (Ames et al., 2006), and one- and three-factor short model (Gentile et al., 2013). None of the proposed models fit the NPI and NPI-16 data well. The NPI-13 one-factor model showed a reasonable fit and the NPI-13 three-factor model demonstrated the best fit, obtaining the lowest AIC.

Table 2 displays the item loadings for the three-factor structure of the NPI-13 estimated with the ML Robust method. All items had loadings well above .30 and, thus, none were removed from the model.

Table 3 presents the Pearson correlations between the NPI-13 total and its dimensions. All correlations were significant and positive, with moderately high magnitude.

Table 4 displays the K-R coefficients, the mean inter-item correlations, and the corrected item-total correlation range for the NPI-13 and its dimensions. With the exception of the EE subscale, which had a low K-R value, the NPI-13 demonstrated good internal consistency.

Table 3. Pearson correlation matrix for the NPI-13.

	NPI-13 total	NPI-13 LA	NPI-13 GE	NPI-13 EE
NPI-13 total	1			
NPI-13 LA	.84***	1		
NPI-13 GE	.81***	.46***	1	
NPI-13 EE	.83***	.62***	.48***	1

Note: NPI-13, Narcissistic Personality Inventory 13 items short version; NPI-13 LA, Leadership/Authority dimension; NPI-13 GE = Grandiose Exhibitionism dimension; NPI-13 EE, Entitlement/Exploitativeness dimension.
***Significant at the .001 level.

Table 4. Kuder–Richardson coefficient, mean inter-item correlations, and corrected item-total correlation range for the NPI-13.

	SR	K-R	MIIC	CITCR
NPI-13 total	13	.84	.29	.37–.61
NPI-13 LA	4	.77	.46	.45–.71
NPI-13 GE	5	.72	.34	.31–.60
NPI-13 EE	4	.62	.29	.33–.50

Note: NPI-13, Narcissistic Personality Inventory short version; SR, score range; K-R, Kuder–Richarson coefficient; MIIC, mean inter-item correlation; CITCR, corrected item-total correlation range; NPI-13 LA, Leadership/Authority dimension; NPI-13 GE, Grandiose Exhibitionism dimension; NPI-13 EE, Entitlement/Exploitativeness dimension.

Table 5. Correlations of the NPI-13 with other measures.

	NPI-13 total	NPI-13 LA	NPI-13 GE	NPI-13 EE
APSD-SR total	.40***	.33***	.27***	.42***
APSD-SR impulsivity	.35***	.27***	.26***	.33***
APSD-SR Narcissism	.46***	.39***	.33***	.45***
APSD-SR CU	−.02^{ns}	.01^{ns}	−.08^{ns}	.04^{ns}
YPI total	.61***	.50***	.46***	.57***
YPI GM	.60***	.49***	.49***	.52***
YPI CU	.44***	.38***	.31***	.41***
YPI II	.44***	.35***	.29***	.46***
CATS	.16*	.07^{ns}	.11^{ns}	.24***
RPQ total	.42***	.37***	.25***	.44***
RPQ Reactive	.37***	.33***	.22***	.37***
RPQ Proactive	.40***	.35***	.24***	.43***
SAS-A total	.16*	.07^{ns}	.19**	.14^{ns}
SAS-A General	−.02^{ns}	.02^{ns}	−.02^{ns}	−.05^{ns}
SAS-A New	.09^{ns}	−.01^{ns}	.12^{ns}	.11^{ns}
SAS-A FNE	.22**	.12^{ns}	.24**	.17*

Note: NPI-13, Narcissistic Personality Inventory 13 items short version; NPI-13 LA, Leadership/Authority dimension; NPI-13 GE, Grandiose Exhibitionism dimension; NPI-13 EE, Entitlement/Exploitativeness dimension; APSD-SR, Antisocial Process Screening Device – Self-Report; APSD-SR CU, Callous-Unemotional dimension; YPI, Youth Psychopathic Traits Inventory; YPI GM, Grandiose-Manipulative dimension; YPI CU, Callous-Unemotional dimension; YPI II, Impulsive-Irresponsible dimension; CATS, Child and Adolescent Taxon Scale; RPQ, Reactive–proactive aggression questionnaire; SAS-A, Social Anxiety Scale for Adolescents; SAS-A FNE, Fear of Negative Evaluation dimension.
***Significant at the .001 level.
**Significant at the .01 level.
*Significant at the .05 level; ns = non-significant.

The NPI-13 demonstrated good convergent validity, manifesting moderate to large statistically significant positive correlations with the APSD-SR, YPI, CATS, and RPQ. Discriminant validity was supported by the small, mostly non-significant correlations between the NPI-13 and SAS-A (see Table 5).

Table 6. Correlations of the NPI-13 with other variables.

	NPI-13 total	NPI-13 LA	NPI-13 GE	NPI-13 EE
Age	.07^{ns}	.08^{ns}	.04^{ns}	.03^{ns}
Years of education	.06^{ns}	.08^{ns}	.01^{ns}	.05^{ns}
Ethnicity	−.07^{ns}	−.03^{ns}	−.05^{ns}	−.09^{ns}
Psychiatric drugs	.09^{ns}	.05^{ns}	.10^{ns}	.07^{ns}
ACO	−.16*	−.13*	−.09^{ns}	−.18**
AFPL	−.09^{ns}	−.06^{ns}	−.06^{ns}	−.11^{ns}
AFIJDC	−.03^{ns}	.02^{ns}	−.04^{ns}	−.06^{ns}
CD symptoms	.46***	.36***	.32***	.48***
CD diagnosis	.14*	.06^{ns}	.09^{ns}	.21**
ICS	.14*	.11^{ns}	.06^{ns}	.19**
PVC	.11^{ns}	.09^{ns}	.12^{ns}	.18**
NCC	.05^{ns}	.14*	−.02^{ns}	−.01^{ns}
Alcohol	.09^{ns}	.05^{ns}	.05^{ns}	.14*
Cannabis	.19**	.14*	.11^{ns}	.23***
Cocaine/heroin	.10^{ns}	.07^{ns}	.08^{ns}	.11^{ns}
Unprotected sex	.09^{ns}	.10^{ns}	.03^{ns}	.10^{ns}

Note: NPI-13, Narcissistic Personality Inventory 13 items short version; NPI-13 LA, Leadership/Authority dimension; NPI-13 GE, Grandiose Exhibitionism dimension; NPI-13 EE, Entitlement/Exploitativeness dimension; ACO, Age of crime onset; AFPL, Age of first problem with the law; AFIJDC, Age of first incarceration into a Juvenile Detention Center; CD symptoms, DSM-5 Conduct Disorder symptoms scored as a scale; CD diagnosis, DSM-5 Conduct Disorder diagnosis; ICS, Index of Crime Seriousness; PVC, previous violent crimes; NCC, number of criminal charges.
***Significant at the .001 level.
**Significant at the .01 level.
*Significant at the .05 level; ns = non-significant.

Correlations with other variables (e.g. age, years of education) were also analyzed. Significant correlations were found between the NPI-13 total and age of crime onset, CD symptoms (scored as a scale), CD diagnosis, crime seriousness, and cannabis use. The EE dimension also revealed significant correlations with number of previous violent crimes and alcohol use, while the LA dimension revealed a significant correlation with the number of criminal charges (see Table 6). Regarding the DSM-5 Conduct Disorder diagnostic, a very high prevalence rate of 94.1% was found in our sample.

Discussion

The purpose of the present study was to assess the psychometric properties of the NPI and its short versions, the NPI-13 and the NPI-16, among a sample of incarcerated male juvenile delinquents. None of the proposed factor models for the NPI and NPI-16 fit the data well. We did however find support for the NPI-13 one- and three-factor models. The latter factor structure demonstrated the best fit, with correlations between the NPI-13 total and its dimensions showing mostly the expected moderate to high statistically significant positive associations. All subsequent psychometric analyses were conducted using this factor structure.

The internal consistency of the NPI-13 was generally good, with values exceeding the recommended minimum level of .70 (Cortina, 1993; Kaplan & Saccuzzo, 2013), indeed better than the values obtained by Gentile et al. (2013) with young adults and adults. The exception was the EE dimension, which had a lower value of .62. The lower internal consistency of this subscale has been previously noted in research with both the original NPI when using the three-factor structure (Ackerman et al., 2011) and the NPI-13 (Gentile et al., 2013). In the previous research, as in this study, however, this limitation does not seem to impact the overall validity of the dimension. With regard to the mean inter-item correlations, the NPI-13 total score and all three subscales demonstrated values within the recommended value range of .15–.50 (Clark & Watson, 1995), suggesting the items are sufficiently homogeneous. In terms of the corrected item-total correlation range, the NPI-13 total and its three dimensions were all above the recommended value of .20 (Kaplan & Saccuzzo, 2013; Nunnally & Bernstein, 1994).

The total NPI-13 and all three domain scores likewise demonstrated good convergent validity with the APSD-SR, YPI, CATS, and RPQ. In general, moderate statistically significant positive correlations were found with each of these measures. As expected, the Narcissism dimension of the APSD-SR and the Grandiose-Manipulative dimension of the YPI manifested the strongest correlations with the NPI-13 and its dimensions suggesting good convergent validity. The main exception was the CU dimension of the APSD-SR, which manifested low non-significant correlations. With regard to discriminant validity, the associations of the NPI-13 (and its dimensions) with the SAS-A (and its dimensions) revealed mostly the expected low non-significant correlations (American Educational Research Association, American Psychological Association, & National Council for Measurement in Education, 2014; Kaplan & Saccuzzo, 2013). One notable exception was the FNE dimension of the SAS-A, which obtained mostly positive significant correlations, but some authors (e.g. Hill & Lapsley, 2011) have previously pointed out that narcissism can be characterized by a maladaptive hypersensitivity to others and increased anxiety in social situations.

Correlations between the NPI-13 and its dimensions with age, years of education, ethnicity, and psychiatric drug use revealed low, non-significant associations, while correlations with the age of crime onset revealed mostly statistically significant negative associations, although somewhat low in magnitude (the exception being the GE dimension). This is consistent with previous research (e.g. Forth, Kosson, & Hare, 2003) showing negative associations between dimensions of psychopathy-related traits, such as narcissism, and the age of crime onset variable. No statistically significant correlations were found with age of first problem with the law and age of first incarceration in a Juvenile Detention Center.

The criterion-related validity of the NPI-13 and its dimensions with DSM's (American Psychiatric Association, 2013) Conduct Disorder symptoms revealed moderate associations. However, the point-biserial associations with DSM's (American Psychiatric Association, 2013) Conduct Disorder diagnosis were much lower and statistically significant only for the NPI-13 total and the NPI-13 EE dimension. This may be due to the statistical dichotomization necessary to create the diagnosis variable, as this has been shown to reduce the size of correlations (Marôco, 2014). The high prevalence of conduct disorder found in the current sample (94.1%) was somewhat higher than those typically found among forensic samples (Sevecke & Kosson, 2010).

Mostly non-significant statistical correlations emerged between the NPI and measures of criminal behavior such as crime seriousness, previous violent crime, and number of criminal charges. The exceptions were the EE dimension, which was significantly correlated with the first two of these variables (i.e. crime seriousness and previous violent crime), and the LA dimension, which was significantly correlated with the number of criminal charges variable. Because narcissism is considered a facet of the psychopathy construct (Feilhauer & Cima, 2013), we expected to find more positive statistically significant associations between the NPI-13 and measures of externalizing behavior, similar to those identified in prior studies (e.g. Dolan & Rennie, 2006; Poythress, Dembo, Wareham, & Greenbaum, 2006). The correlations of the NPI-13 and its dimensions with alcohol abuse, cocaine/heroin use and unprotected sex revealed mostly low non-significant correlations, with the exception of the low, but significant, positive association between EE dimension and alcohol abuse. This is consistent with previous research showing low non-significant correlations with such externalizing behaviors (e.g. Miller et al., 2010). Cannabis use, on the other hand, revealed mostly positive moderate low statistically significant correlations, and it is worth mentioning that the EE dimension again manifested the highest correlation with cannabis use. We must conclude that our results are consistent with previous research showing that the EE dimension of the NPI-13 is the most closely associated with maladaptive variables and outcomes (Ackerman et al., 2011; Gentile et al., 2013).

Our study provides preliminary support for the use of the NPI-13 as short multidimensional measure of narcissism with incarcerated juvenile offenders and also provides some additional support for its use across different cultures/ethnic groups. Specifically, we were able to demonstrate that the NPI-13 demonstrates good psychometric properties with a Portuguese youth forensic population, justifying its future use with similar samples. Our findings corroborate the notion that narcissism in adolescents is best conceptualized as a multidimensional construct, a finding that is in line with the existing adult literature (see Morf & Rhodewalt, 2001). It is important to mention that the three narcissism

dimensions showed different associations and that the EE dimension may be particularly useful in understanding juvenile delinquency which is consistent with prior research (Barry et al., 2007).

The narcissism construct may provide an important contribution to the understanding of youth psychological development and its relation to juvenile delinquency and antisocial behaviors. Assessing narcissistic traits in young adolescents may assist juvenile justice workers in an earlier and more accurate identification of youth at-risk for externalizing problems and antisocial behaviors. It may help to identify developmental pathways and assist in identifying young adolescents who could benefit from early preventive interventions, facilitating also the prevention of future adult personality disorders and its understanding (Washburn et al., 2004). The NPI-13 measure of narcissism may be used as a research tool to further investigate the relationship between narcissism and juvenile delinquency, but it may also help to delineate narcissism construct and its potential application to a wider range of adolescent populations and issues. For example, it may be informative to examine possible differences between offender and the non-offender samples, between low-level offenders and serious/violent offenders, and between clinical samples and other types of samples (e.g. forensic, community).

The current findings should be considered in light of several limitations however, such as the small sample size because CFA generally demands a larger sample size. In addition, most measures used in the current study were based on self-report, so future research should seek to utilize multiple methods as well as multiple informants across different samples. The current study was cross-sectional, and, therefore, we recommend that future research use longitudinal designs to examine the contribution of narcissistic traits to antisocial behavior. Along these lines, future research will need to analyze additional metrics (e.g. temporal stability, structural invariance). Lastly, the generalizability of our findings may be limited in terms of external validity. Thus, the psychometric properties of the NPI and its variations should be evaluated among more diverse samples (e.g. females, ethnic minorities). Despite these limitations, the NPI-13 appears to be a promising brief measure of grandiose narcissism among male juvenile offenders. Considering the enormous costs that juvenile offenders create in terms of their crimes and collateral effects on victims and society as a whole, we hope that our study may promote future research on the narcissism construct among this population and a more generalized use of the NPI-13.

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