THE PERSONALITY ASSESSMENT INVENTORY - ADOLESCENT (PAI-A): CONTRIBUTIONS TO THE PSYCHOLOGICAL ASSESSMENT OF ADOLESCENTS

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Abstract

Adolescence is a developmental stage marked by physical, social, and psychological changes that, when combined with individual, social, or environmental risk factors, make this period particularly vulnerable to the development of psychopathology. Psychological assessment of adolescents must consider these vulnerabilities by providing objective, reliable, and valid assessment instruments. In Portugal, however, objective measures for assessing personality and psychopathology in adolescents remain scarce. Currently undergoing validation for the Portuguese population, the Personality Assessment Inventory – Adolescent (PAI-A) is an objective self-report questionnaire that provides information on adolescents' personality, psychopathology, and psychosocial context, complementing the adult version from which it was derived. This article reviews the development process, structure, psychometric characteristics, administration, scoring, and interpretation of the PAI-A. Its applicability in clinical, educational, and forensic contexts is highlighted, and the relevance of its adaptation for the Portuguese population is discussed.

Keywords Personality Assessment Inventory - Adolescent; Personality; Psychometrics; Validation; Psychological Assessment.

Introduction

Adolescence is a developmental stage marked by numerous physical (e.g., onset of puberty, development of secondary sexual characteristics, hormonal changes), social (e.g., emotional separation from parents, strong identification with peers, exploratory and risk-taking behaviors, formulation of vocational plans, increased social autonomy, formation of intimate relationships), and psychological transformations (e.g., cognitive development, consolidation of identity and sexual orientation, reappraisal of body image) (Kar et al., 2015; McIntosh et al., 2003). Morphological and functional brain changes occurring during this period, in conjunction with hormonal and biological alterations and the cultural and socioeconomic context in which adolescents are embedded, shape how they think, feel, and behave (Spear, 2013). When combined with risk factors (e.g., psychological and familial factors), these transformations render adolescence a stage particularly susceptible to the development of psychological difficulties (Shorey et al., 2022).

Conversely, certain personal characteristics (e.g., temperament, personality traits), maladaptive coping strategies (e.g., engagement in risk behaviors), experiences of significant loss (e.g., death of parents or key attachment figures), perceived social isolation, experiences of discrimination, and the presence of chronic illness (e.g., oncological disease) also constitute risk factors

for the development of psychological problems in adolescents (Ati et al., 2021; Carballo et al., 2020; Lu, 2019). Furthermore, inadequate parenting styles, nutritional imbalance, poor sleep hygiene, conflictual peer relationships, excessive use of technology and social media, a family history of mental health problems, and family instability represent important risk factors for the development of psychopathology during this developmental stage (Ati et al., 2021; Lu, 2019). Exposure to violent experiences is likewise identified as a risk factor for the development of psychopathology in adolescence (Fowler et al., 2009; Wilmshurst, 2015).

Among the most prevalent mental health problems in this age group are depression and anxiety (e.g., Shorey et al., 2021; Skrove et al., 2012), commonly associated with self-injurious behaviors (e.g., Gillies et al., 2018; Muehlenkamp et al., 2012); attention-deficit/hyperactivity disorder (ADHD) (e.g., Polanczyk et al., 2014); and personality disorders, with borderline personality disorder being the most frequently referenced (e.g., Sharp & Fonagy, 2015). In this regard, although the diagnosis of personality disorders in individuals under 18 years of age remains a subject of debate due to concerns about potential labeling and the unstable and transitional nature of this developmental stage, an increasing body of research has demonstrated that such diagnoses can, in fact, be established reliably, given that personality disorders tend to show stability across the lifespan (e.g., Guilé et al., 2018; Sharp, 2017). Notwithstanding the ongoing debate, it is widely recognized that all the aforementioned conditions, if not identified and addressed, may persist into adulthood (Butcher, 2018).

Recent years have witnessed a high prevalence of psychopathology among adolescents at both national and international levels. By way of example, in 2022 Portugal recorded the highest suicide rate of the past 20 years (Instituto Nacional de Estatística, 2024), and the national school-based suicide prevention program Mais Contigo reported that, in 2025, approximately 40% of Portuguese adolescents experienced depressive symptoms and 12% were at risk of engaging in suicidal behaviors (Santos et al., 2025). Furthermore, a study conducted by UNICEF (2025) revealed that mental health remains the primary concern of Portuguese children and adolescents. At the international level, scientific evidence indicates a prevalence of psychopathology among young people aged 10 to 19 years of approximately 15% (Organização Mundial da Saúde, 2024).

These national and international data highlight an urgent need to develop or adapt assessment and intervention methods that are appropriate and responsive to the specific needs of this population. Additionally, it is important to consider that recent decades have brought about substantial changes in adolescents' socialization experiences. For instance, the near-unlimited access to social media, which may negatively affect young people's emotional and social functioning (Keles et al., 2020), underscores the contemporary relevance of assessing psychological functioning in this age group.

Given the prevalence of psychopathology among adolescents, psychological assessment emerges as a fundamental step in understanding adolescent functioning and in guiding subsequent clinical decision-making or referral to mental health services.

Butcher (2018) identifies several reasons why adolescents may be referred for psychological assessment, including: (i) parental concerns regarding the adolescent's behavior (e.g., social withdrawal, school absenteeism, oppositional behaviors); (ii) the presence of family problems; (iii) behavioral and legal issues (e.g., conducts classified as crime under penal law, substance use, aggressive behaviors); and (iv) contexts involving the regulation of parental responsibilities and parental disputes, among others.

However, psychological assessment in adolescence is often more complex than assessment in adulthood, as it pertains to a period of rapid development and transformation in which the risk of premature diagnoses and the need for differential diagnosis constitute important challenges (Neal et al., 2022). It is also necessary to consider the possibility that adolescents may not understand the reasons for their evaluation and may therefore be unmotivated to participate in the assessment process. Consequently, it is incumbent upon the professional to address such demotivation and to adopt a multimethod approach that includes interviews with the adolescent and their parents, as well as instrument-based assessment using standardized tools capable of detecting demotivation or response distortion (e.g., symptom validity tests or personality inventories that incorporate response validity scales). Although relevant, exclusive reliance on interviews with adolescents or reports from parents and teachers is insufficient (Srinath et al., 2019). A responsible and critical use of psychological measures grounded in normative data is therefore also essential (Kazdin, 2005).

A utilização de instrumentos de avaliação psicológica permite obter informação fiável e objetiva sobre o funcionamento psicológico de adolescentes, sendo as medidas de autorresposta particularmente comuns para recolher dados sobre o estado psicológico dos sujeitos (Meyer et al., 2015). Dado que os adolescentes, geralmente, já possuem as capacidades desenvolvimentais necessárias para fornecer informação precisa acerca do seu estado subjetivo e das suas experiências de vida (Krishnamurthy, 2010), a utilidade de instrumentos de autorresposta, como inventários de personalidade, é reforçada.

The aforementioned complexity inherent in the assessment of adolescents is also reflected in the limited number of personality inventories specifically developed for and intended for this age group (e.g., Archer & Newsom, 2000; Archer et al., 1991; Cashel, 2002).

Among the self-report measures specifically designed for adolescent populations are the Personality Inventory for Youth (PIY; Lachar & Gruber, 1995), the Millon Adolescent Clinical Inventory (MACI; Millon et al., 1993; Portuguese adaptation: Cavaco, 2004), the Minnesota Multiphasic Personality Inventory – Adolescent (MMPI-A; Butcher et al., 1992; Portuguese adaptation: Silva et al., 2006; Carvalho & Novo, 2018), and, more recently, the Personality Assessment Inventory – Adolescent (PAI-A; Morey, 2007).

Additionally, the Massachusetts Youth Screening Instrument – Version 2 (MAYSI-2; Grisso & Barnum, 2014; Portuguese adaptation: Almiro et al., 2017) and the Youth Self Report (YSR) – included in the Achenbach System of Empirically Based Assessment (ASEBA) for the Preschool and School-Age Periods (Achenbach & Rescorla, 2001; Portuguese adaptation: Achenbach et al., 2014) – emerge as other important self-report tools aimed at assessing psychopathology and problem behaviors in adolescents.

To date, in Portugal, validation studies have already been conducted for some of these inventories, namely the MACI (e.g., Ramos et al., 2014) and MMPI-A (e.g., Carvalho et al., 2014; Santos et al., 2024), but only the MAYSI-2 and YSR – two instruments of psychopathology, not personality – are commercially available.

In summary, there is a recognized high prevalence of psychopathology and psychopathological symptoms in adolescents, as well as a need to use multiple methods to assess their mental state. However, the scarcity of personality assessment instruments for adolescents in Portugal is evident, making it necessary to carry out adaptation and validation studies of robust and reliable measures to ensure good psychological assessment practice with this population.

In this context, the PAI-A emerges as an objective self-report instrument that offers several advantages compared to other adolescent personality assessment instruments (e.g., MMPI-A), due to its comparatively smaller length, its structure (organized into four-point scales that allow reporting not only the presence of symptoms but also their severity), and its reading ease, requiring only a 4th-grade reading level (unlike the MMPI-A, which requires a reading level equivalent to the 6th grade) (Charles et al., 2021; Morey & Meyer, 2014).

Regarding another instrument validated for the Portuguese population, the MAYSI-2 (which is exclusively validated for forensic contexts), it should be noted that the PAI-A is longer, which implies a greater administration time. Nevertheless, it is important to emphasize that the PAI-A includes scales measuring image distortion (both positive and negative), and studies have shown that it is an instrument with superior accuracy for detecting aggressiveness in adolescents and for identifying suicidal and self-harming behaviors at this developmental stage (e.g., Shaffer et al., 2018).

Given these potentialities and its proven applicability in diverse contexts, it is recognized that the adaptation and validation of the PAI-A for the Portuguese population will help address the problem of the lack of personality assessment instruments available and validated for Portuguese adolescents. The primary objective of the present study is to provide a comprehensive organization and analysis of the characteristics of the PAI-A, possible contexts of application, and applicability in different countries and cultures, serving as a starting point to understand the potential contributions of this measure in the field of psychological assessment of adolescents in Portugal.

Personality Assessment Inventory – Adolescent (PAI-A)

Development and Structure of the PAI-A

The PAI-A, a direct derivation of the Personality Assessment Inventory (PAI; Morey, 1991; Paulino et al., 2023), is an objective self-report instrument that includes 264 items providing information about adolescents' personality, psychopathology, and psychosocial environment (i.e., ages 12 to 18), through a version comparable to the adult version in terms of item content and psychometric properties (Morey, 2007; Venta et al., 2018).

According to the instrument's author, Leslie Morey, the PAI-A was developed in response to growing "interest expressed by many professionals who wanted to apply the PAI to adolescents" (Morey, 2007, p. 1). The main goal of adapting a version for adolescents was to maintain the adult version's structure while adjusting only items considered inappropriate for younger populations, making them suitable for adolescents aged 12 to 18 years (Morey, 2007).

As with the PAI, the clinical constructs assessed by the PAI-A were selected based on two criteria: (i) their historical importance regarding the nosology of psychological disorders, and (ii) their relevance for current diagnostic practice (Morey, 2018). The items and scales of the PAI, later adapted to the adolescent version, were designed to provide information on the constructs being measured, regarding the diversity and severity of symptoms (Morey & McCredie, 2020). The final version of the PAI-A thus retained a scale and subscale structure analogous to the adult version.

The original standardization of the PAI-A included a general population sample (n = 707) aged 12 to 18 years, stratified by gender, race/ethnicity, and age according to the 2003 U.S. Census. The clinical group (n = 1,160), in turn, included youth with conduct disorder, depressive disorder, anxiety, ADHD, among others (Morey, 2007).

The PAI-A includes 22 non-overlapping scales, organized into four validity scales, 11 clinical scales, five clinical treatment consideration scales, and two interpersonal style scales, supplemented by a set of 31 subscales reflecting clinical areas or treatment-related domains (Krishnamurthy, 2010) (see Table 1). Given the desire to maintain the PAI's structure, the adolescent version scales retain the original names, with differences associated with the number of items per scale and their wording

TABLE 1
Structure of PAI-A Scales and Subscales

Scale	Description	Subscale
Validity Scales		
Inconsistency (ICN)	Patterns of random responding	
Infrequency (INF)	Patterns of atypical responding	
Negative Impression (NIM)	Tendency to present oneself in an excessively negative manner	
Positive Impression (PIM)	Tendency to present oneself in an excessively positive manner	
Clinical Scales		
Somatic Complaints (SOM)	Concerns about health problems or specific somatic complaints	Conversion (SOM-C)
		Somatization (SOM-S)
		Health Concerns / Hypochondria (SOM-H)
Anxiety (ANX)	Observable manifestations and signs of anxiety	Cognitive (ANX-C)
		Affective/Emotional (ANX-A)
		Physiological (ANX-P)
Anxiety-Related Disorders (ARD)	Symptoms and behaviors related to personality disorders	Obsessive-Compulsive (ARD-O)
		Phobias (ARD-P)
		Traumatic Stress (ARD-T)
Depression (DEP)	Manifestations and symptoms of depressive disorders	Cognitive (DEP-C)
		Affective/Emotional (DEP-A)
		Physiological (DEP-P)
Mania (MAN)	Affective, cognitive, and behavioral symptoms of mania and hypomania	Activity Level (MAN-A)
		Grandiosity (MAN-G)
		Irritability (MAN-I)
Paranoia (PAR)	Symptoms of paranoid disorders and stable personality traits	Hypervigilance (PAR-H)
		Persecution (PAR-P)
		Resentment (PAR-R)

Scale	Description	Subscale
Schizophrenia (SCZ)	Relevant symptoms on the schizophrenia spectrum	Psychotic Experiences (SCZ-P)
		Social Isolation (SCZ-S)
		Thought Disorder (SCZ-T)
Borderline Features (BOR)	Attributes of borderline personality functioning	Affective Instability / Irritability (BOR-A)
		Identity Problems (BOR-I)
		Negative Relationships (BOR-N)
		Self-Harm (BOR-S)
Antisocial Features (ANT)	Attributes of antisocial personality functioning	Antisocial Behavior (ANT-A)
		Egocentricity (ANT-E)
		Risk-Taking (ANT-S)
Alcohol Problems (ALC)	Problematic consequences of alcohol abuse and alcohol dependence traits	
Drug Problems (DRG)	Problematic consequences of substance abuse and substance dependence traits	
Clinical Contingency Scales		
Aggression (AGG)	Characteristics and attitudes related to anger, hostility, and aggression	Aggressive Attitude (AGG-A)
		Verbal Aggression (AGG-V)
		Physical Aggression (AGG-P)
Suicidal Ideation (SUI)	Suicidal thoughts, including planning and ideation	
Stress (STR)	Stress (STR) | Impact of recent stressful circumstances or situations on major life areas	
Nonsupport (NON)	Perceived lack of social support in terms of quantity and quality	
reatment Rejection / Resistance (RXR)	Attributes and attitudes indicating a lack of interest or motivation for psychological intervention	
Interpersonal Style Scales		
Dominance (DOM)	Degree of control and independence in interpersonal relationships	
Warmth / Agreeableness (WRM)	Degree of interest in empathetic and supportive interpersonal relationships	

Psychometric Qualities of the PAI-A

Psychometric studies indicate acceptable internal consistency (Cronbach's alphas: M = .79; median = .80; Min. = .70, on the Positive Impression scale; Max. = .90, on the Aggression scale) and test–retest reliability (Pearson correlation: M = .78; median = .79; Min. = .65, on the Positive Impression scale; Max. = .89, on the Somatization scale) across the 22 PAI-A scales, in both community and clinical samples (Morey, 2007).

It should be noted that Cronbach's alphas for the Inconsistency and Infrequency scales were not calculated in the original manual or subsequent adaptations of the instrument (e.g., Spanish, South Korean, Italian), as these scales do not contain substantive or specific content; very low values are therefore expected (e.g., in the U.S. adult version, the Inconsistency scale yielded an alpha of .45 and the Infrequency scale .52; in the Portuguese version, the Inconsistency scale

recorded an alpha of .08 and the Infrequency scale .19) (Morey, 1991; Morey, 2018; Paulino et al., 2024a).

Administration, Scoring, and Interpretation of Results

The PAI-A items were written to be comprehensible to adolescents with a fourth-grade reading level and can be responded to using a four-point scale: "False, Slightly False, Mostly True, and True." This four-point scale provides dimensional information about symptoms and experiences, allowing not only the assessment of the presence of symptoms but also their severity (Morey, 2007).

The PAI-A manual indicates an average completion time of 45 minutes, although adolescents with concentration difficulties or psychomotor delays may require more time to complete the inventory (Morey, 2007, 2018). Test materials include an item booklet and the option for manual (HS-A Form) or digital (SS-A Form) administration. In addition, the manual provides profile forms and critical item sheets (Morey, 2007).

PAI-A administration requires a qualification level categorized as Level C (Hogrefe, n.d.; Personality Assessment Resources, n.d.) and should be conducted by professionals with training in psychology and in the administration, scoring, and interpretation of psychological assessment instruments, who are familiar with the PAI-A items and norms. Additionally, the user must have knowledge in the domains of psychopathology and personality (Morey, 2007).

The PAI-A may be administered individually or in groups, with the sole requirement being the confidentiality of responses. The examiner is responsible for ensuring suitable spatial and temporal conditions for the test and for providing clarifications regarding item content or the meaning of words and/or phrases (Morey, 2018).

Contexts of PAI-A Application

Clinical Context

Because the PAI-A was designed as a clinically useful instrument, with clinical and clinical contingency scales, its use allows for the collection of information that facilitates the diagnostic process and intervention planning (Krishnamurthy, 2010). For example, studies conducted by Charles et al. (2021, 2022b) demonstrated that the PAI-A provides useful information for predicting adherence to intervention programs, as well as premature dropout, based on results obtained from several of its scales (e.g., Depression, Antisocial Features, Aggression, Borderline Features, Alcohol Problems, Lack of Social Support, Treatment Resistance, and Dominance).

Other research has shown that the PAI-A Depression and Anxiety scales can accurately detect anxiety and depression in adolescents, correlating positively and strongly with other measures of these constructs, including the Beck Depression Inventory (BDI-II; Beck et al., 1996, in the process of commercial release in Portugal), the Child Behavior Checklist (CBCL; Achenbach, 2001; Achenbach et al., 2014), the Minnesota Multiphasic Personality Inventory – Adolescent (MMPI-A; Butcher, 1992), among others (e.g., Ryszewska et al., 2024; Vanwoerden et al., 2018). These and

other scales (e.g., the PAI-A Self-Harm subscale) are also associated with self-harming behaviors in adolescents (Caguana, 2022).

The PAI-A's ability to identify adolescents with suicidal ideation and to differentiate between low- and high-risk adolescents has been reinforced by research using regression analyses and ROC curve analyses (e.g., Kim et al., 2021; Spencer, 2021). Additionally, given its relatively brief administration time and low reading level required, some studies have highlighted its usefulness for adolescent populations with autism spectrum disorder (e.g., Hooks et al., 2021).

In the realm of personality disorder assessment in adolescents, the literature has emphasized the utility of the Borderline Features scale, which has shown good convergent and discriminant validity with other measures of this disorder (e.g., Borderline Personality Features Scale for Children – BPFSC; Crick et al., 2005), although it should be noted that this scale does not capture all diagnostic criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5-TR; American Psychiatric Association, 2022) (e.g., Chanen et al., 2020; Glenn et al., 2013; Kalpakci & Sharp, 2018; Sharp et al., 2012; Stokes et al., 2019).

Forensic Context

The extensive history of studies conducted with the adult version (i.e., PAI), which attest to its applicability in forensic settings (e.g., Paulino et al., 2024b), as well as the characteristics of the adolescent version (e.g., reduced number of items, rapid administration, low reading level required, inclusion of defensiveness and symptom/response simulation scales), support the relevance of applying the PAI-A to samples of youths involved in the justice system, as this population tends to have lower academic performance and a higher potential for response simulation or dissimulation (Gremmen et al., 2019).

The utility of the PAI-A for forensic samples is further reinforced by the fact that approximately one-third of the clinical sample in the validation studies of the instrument's manual was recruited from juvenile justice contexts, reflecting the association between legal involvement and mental health problems in adolescents (Charles et al., 2022a).

The PAI-A includes scales and subscales focused on alcohol use (Alcohol Problems) and drug use (Drug Problems), trauma (Traumatic Stress), anxiety (Anxiety), depression (Depression), suicidal ideation (Suicidal Ideation), borderline personality traits (Borderline Features), and antisocial traits (Antisocial Features), all constructs prevalent in youth involved in the justice system (Abram et al., 2015; Farwell, 2011; Shaffer et al., 2018). Additionally, attempts to exaggerate or minimize psychological symptoms are a significant concern in forensic psychological assessments due to the potential implications, and these are assessed by the PAI-A through its validity scales (e.g., Negative Impression, Positive Impression) (Charles et al., 2022a).

Accordingly, the PAI-A's ability to detect symptom exaggeration or malingering in adolescents has been examined in several studies since the inventory's inception. Indeed, the instrument's manual emphasizes the diagnostic utility of certain scales in detecting malingering, particularly the Negative Impression scale, which demonstrates a sensitivity of 100% and specificity of 88.4% when a cutoff superior to 2.5 standard deviations is used (i.e., T-score = 75) (Morey, 2007). Another study by Rios and Morey (2013) showed that the PAI-A profile validity indicators, especially Rogers' Discriminant Function (sensitivity = 82.2%, specificity = 75.7%), are effective tools for identifying response simulation.

In this regard, the PAI-A's ability to detect symptom exaggeration or malingering in adolescents has been the subject of numerous studies since the inventory's inception. Indeed, the instrument's manual emphasizes the diagnostic utility of certain scales in detecting malingering, particularly the Negative Impression scale, which demonstrates a detection sensitivity of 100% and specificity of 88.4% when using a cutoff greater than 2.5 standard deviations, corresponding to a T-score of 75 (Morey, 2007). Another study by Rios and Morey (2013) showed that the PAI-A profile validity indicators, especially Rogers' Discriminant Function (sensitivity = 82.2%, specificity = 75.7%), are effective measures for identifying response exaggeration.

Although not developed specifically for the PAI-A (but for the adult PAI), some studies suggest that the supplementary indices of the adult version may also be useful for the adolescent version. For example, the adult PAI response distortion indicators are helpful for detecting simulated ADHD symptoms in adolescents, with particular utility attributed to Rogers' Discriminant Function (RDF; Morey, 1996), which is considered the most accurate indicator for identifying adolescents feigning this neurodevelopmental disorder (Diaz de Tuesta, 2012; Rios & Morey, 2013). Rogers' Discriminant Function, along with the Negative Impression scale, also appears effective in detecting exaggeration of depressive and anxiety symptoms (e.g., Malm et al., 2020). Other indicators, such as the Negative Distortion Scale (Mogge et al., 2010), Hong's Simulation Index (Hong & Kim, 2001), and Hong's Defensiveness Index (Hong & Kim, 2001), also appear relatively useful for identifying response distortion when applied to adolescents in community settings (Meyer et al., 2015).

The PAI-A is also applicable in predicting self-harm, aggressive, and delinquent behaviors in youth involved in the justice system (Charles et al., 2021; Floyd et al., 2022; Shaffer et al., 2018), as well as in classifying different types of offending youth (e.g., interpersonal offenses, property offenses, substance use), proving more effective than other adolescent assessment instruments such as the MMPI-A (Humenik et al., 2019). Furthermore, recent studies have reported strong positive correlations between the PAI-A and other measures of conduct disorder, such as the Proposed Specifiers for Conduct Disorder Scale (PSCD; Salekin, 2016) (Neumann et al., 2024; Salekin et al., 2022), supporting its applicability in offender samples.

School Context

Since most PAI-A literature focuses on clinical and forensic contexts, research on its use in schools remains very preliminary. Nevertheless, its applicability in this context has substantial potential. For example, a study by Sandström (2024) demonstrated that certain scales (e.g., Treatment Resistance, Anxiety, Depression) are significant predictors of school rejection and dropout. Additionally, the study concluded that the Somatization, Paranoia, Aggression, and Treatment Resistance scales could also help better understand school rejection and dropout.

Despite the scarcity of school-based studies, the PAI-A provides adolescents an opportunity to disclose personal difficulties and experiences, serving as a communication medium (Krishnamurthy, 2010), from which school psychologists can identify key problems and areas of vulnerability, and subsequently design individualized intervention plans.

PAI-A Adaptation and Validation in Other Countries

Unlike the adult version, which has been adapted and validated in multiple countries (e.g., China, Germany, Spain, Greece, Italy, Mexico, Argentina, Vietnam, Iran, South Korea, Canada, Portugal) (Paulino et al., 2023), few countries have adapted and validated the PAI-A. To date, only Spain (Cardenal et al., 2018), Argentina (Iglesia et al., 2018; Stover et al., 2017), South Korea (Kim et al., 2015), and Italy (Pezzuti et al., 2021) have adapted the inventory for their populations, with validation ongoing in Uruguay (Machado et al., 2022). Except for the Spanish version, all adaptations have occurred in the past seven years, reflecting the instrument's recent and growing dissemination. Table 2 presents the main psychometric properties of the international PAI-A versions.

TABLE 2
Psychometric Properties of the PAI-A: Cross-Country Comparisons

	Psychometric Properties									
	N.º of items	N.º of factors	Mean internal consistency (α)[a]	Median internal consistency (α)[a]	Min.	Máx.	Mean test-retest reliability	Median test-retest reliability	Min.	Máx.
Versions										
USA	264	4	.79	.80	.70	.90	.78	.79	.65	.89
Spain	264	4	.83	.85	.65	.96	.79	.79	.71	.87
Argentina	264	4	.82	.83	.68	.95	–	–	–	–
South Korea	344	5	.75	.77	.51	.88	.91	.93	.65	.87
Italy	264	4	.72	.74	.52	.88	.72	.77	.45	.85

Note. [a]The Infrequency and Inconsistency scales were not taken into account

The first international adaptation of the PAI-A was conducted in Spain by Cardenal et al. (Morey, 2018), following procedures of the original version and based on the Spanish adult PAI. Retaining 264 items, the Spanish PAI-A shows adequate internal consistency, with Cronbach's alphas ranging from .65 (Dominance) to .96 (Suicidal Ideation) in the general population sample. Similarly, it demonstrates adequate temporal stability, with test-retest correlations ranging from .71 (Drug Problems) to .87 (Antisocial Features) over a two-week interval (Cardenal et al., 2018).

The Argentine adaptation was developed in collaboration with the Spanish version authors, analyzed by a panel of Latin American experts to assess suitability for Spanish-speaking adolescents. Cronbach's alpha ranged from .68 (Dominance) to .95 (Suicidal Ideation) (Morey, 2018).

The South Korean adaptation (Kim et al., 2006) was based on the adult Korean PAI and re-standardized in 2018 by Lim et al. (2018). It retained the original PAI structure—four validity scales, 11 clinical scales, five treatment scales, and two interpersonal scales—comprising 344 items. Cronbach's alphas ranged from .51 (Alcohol Problems) to .88 (Borderline Features), and test-retest correlations ranged from .80 to .96 (Lim et al., 2018).

Finally, the Italian adaptation by Pezzuti et al. (2021) maintained the internal structure of 264 items divided into 22 scales and 31 subscales, showing adequate internal consistency (mean α

= .72 for community sample, α = .79 for clinical sample) and a mean test-retest correlation of .72 over 11–41 days (n = 60 adolescents).

International PAI-A versions differ in translation and adaptation criteria, resulting in notable differences in content (e.g., some original items omitted or significantly altered in the Spanish version) and item count (e.g., 264 items in the US, Spanish, Argentine, and Italian versions; 344 items in the South Korean version). These methodological differences may challenge cross-cultural studies, potentially leading to inconsistent results and complicating measurement invariance testing (i.e., the extent to which the instrument measures the same constructs across cultural and linguistic groups), a critical step in instrument validation (Ziegler & Bensch, 2013).

PAI-A in Portugal: Adaptation and Validation

The adaptation and validation process of the PAI-A for the Portuguese population began in 2023, in collaboration with Hogrefe publisher, and aims to include multiple validation studies with community, clinical (e.g., depressive disorders, anxiety disorders, ADHD), and forensic samples (e.g., victims, offenders). Additionally, following the adult PAI work, an abbreviated version of the PAI-A will be developed, based on selecting items with the best psychometric properties.

Additionally, following the work carried out with the adult version, a short form of the PAI-A will be developed through the selection of items with the best psychometric indicators.

Conclusions

Adolescence is a developmental stage marked by stress and vulnerability to psychological disorders, and psychological assessment procedures must consider the rapid development and transformations that accompany this stage, as well as the implications of incorrect diagnoses in the short and long term.

In Portugal, approximately 15% of adolescents experience moderate to severe depressive symptoms, highlighting the need for objective and reliable psychological assessment tools (Santos et al., 2016). However, there is a significant scarcity of validated psychometric instruments for the Portuguese adolescent population. The translation, adaptation, and validation of the PAI-A for Portugal will expand the assessment of adolescent personality and psychopathology, particularly in clinical and forensic samples.

Developed in 2007, the PAI-A is a self-report instrument with multiple advantages, including manageable administration time, ease of reading, and inclusion of validity scales and scales of particular clinical (e.g., clinical and clinical contingency scales) and forensic interest (e.g., scales measuring aggression or substance use).

The main limitation is the scarcity of studies with diverse adolescent samples compared to the large number conducted with the adult PAI. Nonetheless, existing literature supports its psychometric robustness, convergent and discriminant validity, and utility in clinical, forensic, and school contexts (Sandström, 2024; Vanwoerden et al., 2018; Venta et al., 2018), justifying its adaptation and validation in Portugal.

The PAI-A includes scales covering clinically relevant domains (e.g., personality disorders, anxiety, depression) and forensic domains (e.g., substance abuse, trauma, aggression, callous

traits), as well as supplementary indices adapted from the adult version, useful for assessing violence risk, criminal recidivism, and suicide (Charles et al., 2022a; Diaz de Tuesta et al., 2021; Preston et al., 2021). Its ability to predict treatment resistance or adherence, suicidal ideation, and self-harming behaviors reinforces its clinical and forensic relevance (Charles et al., 2021, 2022b).

The relative scarcity of PAI-A studies may be due to challenges in assessing minors, particularly the need for informed consent from legal guardians—a consideration for the adaptation process in Portugal. Additionally, assessment protocols must account for adolescents' motivation and limited attention spans, especially in clinical and forensic populations.

Another limitation concerns item content. Some items address sensitive topics (e.g., alcohol and drug use, suicidal ideation), which may reduce response honesty. This limitation is acknowledged in the adult version (Paulino et al., 2023) and is expected to apply to adolescents as well.

This study systematically reviewed the PAI-A's characteristics, psychometric qualities, and applicability across contexts, highlighting its robustness, validity, reliability, and international recognition. Validating the PAI-A for Portuguese adolescents will advance knowledge of their psychological functioning in community, clinical, and forensic settings, where studies remain limited.

Access to validated instruments like the PAI-A will benefit clinical practice (supporting therapeutic goal setting, decision-making, intervention monitoring, and treatment adherence) and research on personality, psychopathology, and interpersonal dimensions of youth aged 12–18 in diverse contexts (clinical, educational, forensic), expanding knowledge in this domain.

The existence of a validated adult version (PAI) for Portugal (Paulino et al., 2024a) also allows future longitudinal studies to track Portuguese personality development from adolescence to adulthood, using the PAI-A and PAI sequentially.

Finally, the potential development of an abbreviated version will enable broader assessment protocols, generating more complete and valid psychological evaluation data.

Adolescence is a developmental stage characterized by stress and heightened vulnerability to psychological disorders, and psychological assessment procedures must take into account the rapid developmental changes typical of this age group, as well as the potential short- and long-term consequences of inaccurate diagnoses. In Portugal, it is estimated that 15% of adolescents experience moderate to severe depressive symptoms, highlighting the need for the development of objective and reliable psychological assessment instruments (Santos et al., 2016). However, there is a marked scarcity of psychometric tools validated for the Portuguese adolescent population. The translation, adaptation, and validation of the PAI-A for Portuguese adolescents will thus contribute to expanding the assessment of personality and psychopathology in this population, particularly in clinical and forensic samples.

Developed in 2007, the PAI-A is an objective self-report instrument that offers multiple advantages, including an accessible length and administration time, readability, and the inclusion of validity scales as well as scales of particular clinical (e.g., clinical and clinical contingency scales) and forensic interest (e.g., aggression or substance use). A key limitation of the instrument is the relatively small number of studies conducted with adolescent samples compared with the extensive literature on the adult version (PAI). Nevertheless, the existing literature supports the PAI-A's psychometric robustness, convergent and discriminant validity, and utility across clinical, forensic, and school contexts (Sandström, 2024; Vanwoerden et al., 2018; Venta et al., 2018), reinforcing the relevance of the present Portuguese adaptation and validation project.

The PAI-A includes scales that assess domains of particular clinical interest (e.g., personality disorders, anxiety, depression) and forensic relevance (e.g., substance abuse, trauma, aggression, callous traits), as well as supplementary indices adapted from the adult version, which can be useful for evaluating the risk of violence, criminal recidivism, and suicide (Charles et al., 2022a; Diaz de Tuesta et al., 2021; Preston et al., 2021). Its ability to predict adherence or resistance to psychological interventions, suicidal ideation, and self-harming behaviors further highlights its clinical and forensic utility (Charles et al., 2021, 2022b).

The relative scarcity of studies on the PAI-A may reflect the inherent challenges of assessing minors, particularly the need to obtain informed consent from legal guardians, an issue that must be carefully addressed during the adaptation and validation process in Portugal. Moreover, the assessment protocol for Portuguese adolescents must consider respondent motivation and the limited attention span of adolescents, particularly in clinical and forensic populations. Another limitation concerns item content, as some PAI-A items address sensitive topics (e.g., alcohol use, drug use, suicidal ideation), which may lead to underreporting or lack of honesty—an issue also noted in the adult version (Paulino et al., 2023).

This study aims to systematically present the characteristics, strengths, and applicability of the PAI-A across diverse contexts, highlighting its robustness, validity, reliability, and international recognition as an adolescent personality assessment tool. The validation of the PAI-A for the Portuguese population will deepen understanding of Portuguese adolescents' psychological functioning in community, clinical, and forensic settings, where data are still scarce. Access to a validated instrument like the PAI-A will positively impact clinical practice—facilitating therapeutic planning, decision-making, intervention monitoring, and treatment adherence—and will advance research on personality, psychopathology, and interpersonal dimensions in adolescents aged 12 to 18 across multiple contexts (clinical, educational, forensic).

The existence of a validated adult version (PAI) for the Portuguese population (Paulino et al., 2024a) also enables future longitudinal studies of personality development, following individuals from adolescence to adulthood using the PAI-A and then the PAI. Finally, the potential development of a short form will allow broader assessment protocols, facilitating more comprehensive and valid psychological evaluation data.

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