

The Durand Adaptive Psychopathic Traits Questionnaire: Development and Preliminary Validation

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Abstract

In recent decades, psychopathic personality has become synonym to a pervasive personality disorder characterized by a lack of empathy, callousness, impulsivity, social deviance and aggressive behavior. However, evidences point to the existence of another form of psychopathy, which involves adaptive traits such as stress and anxiety immunity, remarkable social skills, noteworthy leadership ability, and an absence of fear. The newly developed Durand Adaptive Psychopathic Traits Questionnaire (DAPTQ) aims to assess adaptive traits known to correlate with the psychopathic personality. Validation of the questionnaire among 765 individuals from the community gave support for a 4-factor solution within the DAPTQ: Extroverted Leading, Rational Thinking, Risk Taking, and Composure. The DAPTQ and its four subscales demonstrated high internal consistency in a community sample (0.78 - 0.88) and in a clinical sample (0.79 - 0.90). Good convergent and divergent validity was established by administering the DAPTQ alongside established measures of psychopathic personality. Subscales validation against well-established personality assessments further confirm the DAPTQ's strength. These findings indicate that the DAPTQ is a reliable and valid tool for measuring psychopathy-associated adaptive traits. Limitations of the present study and potential directives for future research are also discussed. Further studies are needed to validate the DAPTQ and its subscales against a wider range of personality traits and behaviors.

Introduction

Many researchers describe psychopathy as a severe personality disorder characterized by emotional detachment, callousness, lack of empathy, impulsivity, social deviance and poor behavioral control (Gao & Tang, 2013; López, Poy, Patrick, & Moltó, 2013; Tassy, Deruelle, Mancini, Leistedt, & Wicker, 2013). The vast majority of studies on psychopathy have been conducted on inmates, leading to this standard negative description of psychopathy (Berg et al., 2013). However, some theoretical models of psychopathy include an adaptive component. For instance, the triarchic model of psychopathy (Patrick, Fowles, & Krueger, 2009) describes the concept of psychopathy in terms of disinhibition, meanness and boldness. While disinhibition and meanness assess maladaptive aspects of psychopathy, the construct of boldness refers to adaptive traits such as fearlessness, stress immunity, bravery, and social charm. Thus, this model suggests that psychopathy should be seen as a combination of maladaptive and adaptive traits (Polaschek & Daly, 2013). However, not every diagnostic tool includes this combination of traits.

The diagnosis of psychopathy is commonly achieved through use of the Psychopathy Checklist-Revised (PCL-R; Hare, 1991/2003). The PCL-R, which is the most common and well-validated tool for assessing psychopathy, is a time and resources-consuming procedure requiring a one-on-one interview by a certified assessor for approximately 90 minutes (Ray, Weir, Poythress, & Rickelm, 2011). Factor analysis of the PCL-R identified two-dimensional constructs reflecting two variants of psychopathy. Primary psychopathy (Factor 1) is associated with emotional and interpersonal traits, which include callousness, remorseless exploitation of others, and lack of empathy. Secondary psychopathy (Factor 2) is associated with the social deviance traits of psychopathy, which include criminal and impulsive features, alongside with anxiety, and neuroticism (Dunlop et al., 2011). Although the PCL-R is well-validated, its use is mostly restricted to forensic and criminal populations. Indeed, the checklist mainly focuses on the traits found in psychopathic criminals, and may therefore not necessarily apply to the general population (Hall & Benning, 2006; Ray et al., 2011).

The Psychopathic Personality Inventory (PPI) is an alternative to the PCL-R, assessing psychopathic traits on eight subscales using a self-report questionnaire (Lilienfeld & Andrews, 1996). The PPI is also divided into two facets, PPI-I (Factor 1, Fearless Dominance) and PPI-II (Factor 2, Impulsive Antisociality). PPI-I is related to boldness and includes adaptive traits such

as social poise, anxiety and stress immunity, and interpersonal boldness, while PPI-II is associated with a combination of disinhibition and meanness. This classification method of psychopathic characteristics is different from the PCL-R, as the Factor 1 of the PCL-R mostly captures elements of meanness and very few element of boldness (Dunlop et al., 2011; Polaschek & Daly, 2013). Although the PPI-I assess several adaptive characteristics related to the psychopathic personality, the questionnaire measures only a portion of adaptive traits known to correlate with psychopathy.

The term ‘successful psychopath’ refers to individuals who possess several core traits of psychopathy (e.g., lack of empathy, high dominance, fearlessness) but who lack pervasive traits found in secondary psychopathy, such as aggressive externalizing behaviors (Cleckley, 1941; López et al., 2013; Patrick, 2007). The idea behind the concept of successful psychopathy is highly debated in the scientific community. Some researchers describe successful psychopaths as ruthless and irresponsible individuals who abuse others in order to climb to the top of an organization (Boddy, Miles, Sanyal, & Hartog, 2015; Boddy, 2014). However, other researchers focus on the potential links between primary psychopathy and adaptive behaviors, which include characteristics such as fearlessness, leadership, stress immunity, anxiety immunity and social dominance (Camp, Skeem, Barchard, Lilienfeld, & Poythress, 2013; Smith, Watts, & Lilienfeld, 2014). An individual with elevated Factor 1 and low Factor 2 traits as defined by the PPI could then theoretically be diagnosed as a psychopath despite the requirement for high levels of Factor 1 and Factor 2 traits from the PCL-R for a diagnostic of psychopathic personality (Patrick, 2006).

A number of studies have identified several adaptive traits related to primary psychopathy, which could be related to successful psychopaths. Social characteristics include high levels of social charm, great leadership abilities, notable displays of heroism, and good management strategies (Dunlop et al., 2011; Hall, Benning, & Patrick, 2004; Smith et al., 2014; Uzieblo, Verschuere, Van den Bussche, & Crombez, 2010). Characteristics related to protective features include low levels of anxiety and stress, little nervousness, and absence of fear, both physical and psychological (Camp et al., 2013; Dindo & Fowles, 2011; Dunlop et al., 2011; López et al., 2013; Ray et al., 2011; Zágón & Jackson, 1994). Characteristics related to personal features include boldness, low impulsivity, low provoked aggression, the ability to discard unnecessary relationships, willingness to take calculated risks, absence of irrationality, strategic thinking,

innovation, high self-esteem, superior cognitive focus and sensitivity to reward (Baskin-Sommers, Zeier, & Newman, 2009; Camp et al., 2013; Dunlop et al., 2011; Eisenbarth, Lilienfeld, & Yarkoni, 2015; Falkenbach, Howe, & Falki, 2013; Gervais, Kline, Ludmer, George, & Manson, 2013; Smith et al., 2014; Uzieblo et al., 2010). Altogether, these characteristics seem to be correlated with a high display of Factor 1 traits.

While these characteristics are considered adaptive and linked to Factor 1 psychopathy, it is unknown how they interact with each other. It is possible that different patterns among these characteristics lead to the existence of subtypes within primary psychopathy. Furthermore, the spectrum of adaptive characteristics assessed by the PPI is limited. Thus, the purpose of this article is to validate the Durand Adaptive Psychopathic Traits Questionnaire (DAPTQ), a newly developed self-report measure assessing adaptive traits known to correlate with the psychopathic personality. This questionnaire is not intended to diagnose or assess the presence of psychopathy. This article outlines the construction of the DAPTQ, along with its subscales, reports the DAPTQ's basic psychometric properties and describes the validity of the questionnaire in both a community and a clinical sample. The development of this questionnaire is based on three assumptions. The first is that psychopathy is on a continuum, and that individuals in the top third of the continuum have a tendency towards Factor 1 or Factor 2 traits. The second is that individuals leaning towards Factor 1 will display the highest scores on the DAPTQ. Finally, we also assume that individuals leaning towards Factor 2 will display the lowest scores on the DAPTQ.

Study 1: Test development and preliminary psychometric properties

Methods

This series of studies has been approved by the University of Maastricht Psychology and Neuroscience department ethics committee, case number ECP-157-03-10-2015. All participants gave informed consent before participating in any part of the study. In order to identify potential adaptive traits known to be correlated with Factor 1 psychopathic traits, an online search of the Medline and PsychInfo databases was conducted using the following keywords: : [(“Psychopathy” OR “Psychopathic traits” OR “Psychopathic Personality Inventory”)]. Studies were selected based on whether they showed significant correlation between an adaptive trait and psychopathy in an experimental setting. We define the term ‘adaptive trait’ as a trait which maximizes an

147 individual's survival probability within a set environment. A total of 18 studies were analyzed
148 and their findings taken into account for developing the DAPTQ. A detailed description of these
149 studies can be found in Table 1. Development and validation of the questionnaire was separated
150 into four stages, each pertaining to their own study. Study 1's purpose was to develop the
151 questionnaire. Studies 2 and 3 validated the questionnaire in community and clinical populations
152 respectively, while study 4 validated the DAPTQ subscales against other evaluations of adaptive
153 behaviors.

Table 1
Summary of experimental studies identifying adaptive traits related to psychopathy.

Study reference (year)	Sample	Instruments	Findings
Baskin-Sommers et al. (2009)	Offenders ($N = 1793$)	PCL-R, PPI-SF	Factor 1 \times Superior attentional control.
Brazil et al. (2013)	Students ($N = 36$)	PPI	Factor 1 \times Using less social and reward information to guide behavior.
Camp et al. (2013)	Offenders ($N = 158$)	PPI, PCL-R	Factor 1 \times Lower provoked violence and level of fear, lack of correlation with instrumental and premeditated physical aggression.
Dindo & Fowles (2011)	Students ($N = 131$)	PPI	Factor 1 \times Lower level of threat and fear.
Dunlop et al. (2011)	Patients ($N = 144$)	PPI	Factor 1 \times Higher social charm, interpersonal and physical boldness, low impulsivity and stress immunity.
Eisenbarth et al. (2015)	Students ($N = 206$)	PPI-R	Factor 1 \times Lower fear of punishment, and a high sensitivity for reward.
Falkenbach et al. (2013)	Students ($N = 118$)	PPI	Factor 1 combined with healthy narcissism \times Higher self-esteem and lower aggression.
Gao & Tang (2013)	Students ($N = 302$)	PPI-SF	Factor 2 \times Higher utilitarian responses to personal and impersonal moral dilemmas. Factor 1 \times Lower anxiety.
Gervais et al. (2013)	Students ($N = 175$)	LSRP	Factor 1 \times Defecting relationships with individuals lacking respects or not possessing any common ground.
Hall et al. (2004)	Offenders ($N = 310$)	PCL-R	Factor 1 \times Stress immunity, higher adaptive functioning, and high verbal IQ.
Hunt et al. (2014)	Community ($N = 504$)	PPI	Factor 1 \times Lower expression of Borderline Personality Disorder (BPD).
López et al. (2013)	Students ($N = 74$)	PPI-R	Factor 1 \times Lower levels of fear.
Morgan et al. (2011)	Community ($N = 80$)	PPI-R	Factor 2 \times Higher level of impulsivity, not found on Factor 1.
Ray et al. (2011)	Offenders ($N = 85$)	PPI, PPI-R	Factor 2 \times Higher level of aggression, not found on Factor 1.
Ross et al. (2008)	Students ($N = 276$)	LSRP	Factor 1 \times Higher level of manipulation, exhibitionism, and entitlement.
Uzieblo et al. (2010)	Community ($N = 675$)	PPI-R, LSRP, YPI	Factor 1 \times Lower level of fear, stress reactivity, and emotional reactivity. Higher level of cognitive empathy, social skills, fun seeking behavior, and motivation to pursue goals.
Wilson & McCarthy (2011)	Students ($N = 903$)	LSRP	Factor 1 is more common within commerce students than in any other discipline.
Zágon & Jackson (1994)	Students ($N = 149$)	SRP-II	Factor 1 \times Anxiety immunity.

Participants

The initial construction of the test spanned two rounds of items writing and selection, data collection and analyses. The first sample consisted of 118 participants and the second sample consisted of 305 participants. In order to assess for potential deviant responses, we examined PPI-SF data through the Variable Response Inconsistency (VRIN²). The purpose of this statistical procedure is to determine the inconsistency within 10 pair of highly correlated items from the PPI-SF (Tellegen, 1982). We were able to identify 6 outliers in the first sample and 14 outliers in the second with a VRIN² ≥ 8 . Analyses were performed on the responses of the remaining 112 participants (72 males and 40 females) of the first sample and 291 participants (186 males and 105 females) of the second sample.

Measures

Psychopathic Personality Inventory-Short Form (PPI-SF; Lilienfeld & Widows, 2005). The PPI-SF is a self-report questionnaire of 56 items assessing psychopathic traits on 8 subscales derived from the original PPI. A total score is given, along with a score for each subscale: Machiavellian Egocentricity, Social Potency, Fearlessness, Coldheartedness, Impulsive Nonconformity, Blame Externalization, Carefree Nonplanfulness and Stress Immunity. The scales are divided into two factors. Factor 1 is composed of Stress Immunity, Social Potency and Fearlessness. Factor 2 is composed of Blame Externalization, Machiavellian Egocentricity, Carefree Nonplanfulness and Impulsive Nonconformity. Coldheartedness is not under either factor. This questionnaire has been used in several studies to assess psychopathic traits in the general population and is considered to be a well-validated instrument (Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003; Berrardino, Meloy, Sherman, & Jacobs, 2005; Patrick, Edens, Poythress, Lilienfeld, & Benning, 2006).

Levenson Self-Report psychopathy (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995). The LSRP is a self-report questionnaire of 26 items assessing psychopathic attitudes and beliefs. The scale was designed using the same factors as the PCL-R for use in non-institutional settings. This test is structured around Factor 1 and Factor 2. The Factor 1 subscale assesses elements of meanness such as proneness to lying, lack of empathy, and manipulative behaviors. The Factor 2 subscale assesses elements of disinhibition such as impulsivity, proneness to frustration, lack of

goals and emotional negativity. Previous studies have already assessed the good convergent and discriminant validity of both scales (Brinkley, Schmitt, Smith, & Newman, 2001; Ross, Bye, Wrobel, & Horton, 2008).

Procedure

We first identified the 19 constructs, which assess adaptive traits, based on the findings reported in Table 1. Once these constructs were established, 10 items were written for each construct. All 19 adaptive traits can be found in Table 2. Half of these items were written in the negative form for reverse coding. Items were answered using a six-option (Strongly Disagree, Disagree, Slightly Disagree, Slightly Agree, Agree, Strongly Agree) Likert-type format to avoid any bias of central tendency (Guilford, 1954).

Table 2
Principal constructs targeted during Study 1

- A) Social characteristics
 - 1. Social charm
 - 2. Leadership abilities
 - 3. Heroism
 - 4. Management abilities
 - B) Protective characteristics
 - 5. Anxiety immunity
 - 6. Stress immunity
 - 7. Fear immunity
 - C) Personal characteristics
 - 8. Boldness
 - 9. Cautiousness
 - 10. Low provoked aggression
 - 11. Discarding relationships with no respect
 - 12. Discarding relationships with no common grounds
 - 13. Calculated risks
 - 14. Rational thinking
 - 15. Strategic thinking
 - 16. Innovative thinking
 - 17. High self-esteem
 - 18. Superior focus
 - 19. Reward sensitivity
-

The first sample of participants was invited to fill-in the 190-item DAPTQ, the PPI-SF and the LSRP. In order to identify items with the highest validity within each construct, Cronbach's analyses were performed for each group of 10 items in all 19 adaptive trait subscales. The 4 items with the weakest correlation within their respective subscales were removed, leaving a total of 114 questions. The second group of participants were then invited to fill in the 114-item DAPTQ along with the PPI-SF and the LSRP. Cronbach's analyses were performed for each construct in the second sample's results in order to remove the two least correlated items of each construct. This left the four most correlated items for each construct. Then, participants were separated into groups of high and low psychopathic traits, where the participants with the top tier of the scores PPI-SF were allocated to the high psychopathic trait group, while the remaining participants formed the control group. This arbitrary cut-off measurement has already been used in several studies (Ishikawa, Raine, Lencz, Bihrl, & Lacasse, 2001; Lee & Salekin, 2010; Zimak, Suhr, & Bolinger, 2014). Among males, 33% ($N = 65$) were in the high psychopathy group with a score equal or greater than 138 ($M = 147.37$, $SD = 8.04$). Among females, 33% ($N = 33$) were in the high psychopathy group with a score equal to or greater than 132 ($M = 139.55$, $SD = 6.43$). Once these groups were established, clusterization of individuals within Factor 1 and Factor 2 of the PPI-SF was performed.

Cluster analysis of the PPI-SF subscales was done using a previously well-established model (Benning et al., 2003). The PPI-SF subscales of Stress Immunity, Social Potency and Fearlessness were computed as Factor 1, while the subscales of Blame Externalization, Machiavellian Egocentricity, Carefree Nonplanfulness and Impulsive Nonconformity were computed as Factor 2. Individuals in the high psychopathic trait group were then classified as Factor 1 or Factor 2 using Two-Step Cluster analysis. Multivariate Analyses of Variances (MANOVA) were then executed on each construct of the DAPTQ by group (Factor 1, Factor 2 and controls). Only one scale was shown to be nonsignificant (Discarding relationships with no respect) ($F(2, 288) = 1.831$, $p = .162$), which was subsequently removed from the questionnaire. The remaining 72 items were randomized once again, which was followed by recruitment for study 2.

Study 2: Test validation and psychometric properties from a community sample

Participants

Eight hundred and nine ($N = 809$) individuals from the community were recruited for the validation of the DAPTQ. A total of 25 individuals were removed from subsequent analyses due to a $VRIN^2 \geq 8$ on the PPI-SF. Further analyses of standard deviation selected a total of 19 additional outliers on one of the three questionnaire total score which were also removed, leaving a final sample of 765 individuals. Participants were once again divided between a high psychopathy and control group using the top third method. Males with a PPI-SF score of 141 or more were included in the high psychopaths group. Females with a PPI-SF score of 132 or more were also included in the high psychopaths group. Cluster analysis of the high psychopaths group was done through Two-Step cluster analysis function from SPSS. Using once again Benning et al., (2003) model, participants were categorized in Factor 1 and Factor 2 based on the PPI-I and PPI-II z-score. Within males, a total of 94 individuals were classified as Factor 1 and 90 individuals were classified as Factor 2. In females, a total of 46 individuals were classified as Factor 1 and 44 individuals were classified as Factor 2.

Descriptive data for several parameters was obtained from the validation sample. The sample consisted of 519 males and 246 females. The most common primary language of the participants was English (35%) followed by other (22%), German (14%), Spanish (10%), French (8%) and Dutch (7%). Regarding education level, the largest group among participants was college dropouts (27%). Following this, the most common education levels completed or in progress were: college (26%), high school (19%), Masters degree (14%) and technical school (6%). The most common marital status was single (66%), followed by living with a partner (19%) and married (10%). The location of most participants was Europe (53%) followed by North America (23%), Asia (11%), South America (6%) and Africa (4%). The most common ethnicity was Caucasian (76%), then Asian (11%) and Hispanic (8%). Participants' mean age was 24.5 years. Participants from the high psychopathy group and from the control group did not differ significantly in any of those variables.

Procedure

Participants were invited to fill out the latest version of the DAPTQ, along with the PPI-SF and the LSRP. Principal components analysis (PCA) was conducted on the DAPTQ in order to determine the adequate number of subscales needed to extract base values for the eigenvalues. The varimax criterion was used to orthogonally rotate to simple structure principal axes. The

purpose of these orthogonal rotations were to develop independent subscales from one another, while the varimax criterion was used to maximize the variance across factors (Lilienfeld & Andrews, 1996). Using the same statistical rule as during the development of the PPI (Lilienfeld & Andrews, 1996), items retained in the final version of the DAPTQ loaded .3 or greater on their targeted factor while not loading .3 or greater on any other factor.

Results and discussion

DAPTQ subscales

After inspecting the scree plot and testing alternative models, we determined that the optimal number of factors to extract was four. The eigenvalues of these four factors, accounting for 35% of the total variance, were 11.46, 6.01, 4.19 and 3.52. Assessment for bivariate correlations was done on saved component scores, revealing no significant relationship between any of the four factors, confirming the suitability of an orthogonal rotation strategy. The four subscales of the DAPTQ, the final number of items for each subscale, and a sample item for each subscale are shown on Table 3. Out of the original 72 items, 52 items were successfully distributed among four factors. Factor 1, Extroverted Leading, refers to an individual's ability to mingle with others, to display creative thinking and to be considered a leader by others. Factor 2, Rational Thinking, relates to characteristics linked to strategic thinking and logical planning. Factor 3, Risk Taking, measures the extent to which an individual is willing to take risks in order to achieve an objective. Factor 4, Composure, considers immunity to stress, anxiety and irritability.

Table 3	
DAPTQ subscales and sample items	
Extroverted Leading (15 items)	
	When in a group, other people wait for me to make the decisions. (True)
Rational Thinking (17 items)	
	My actions are mostly based on my emotions. (False)
Risk Taking (12 items)	
	I do not fear potential risks when I decide to do something. (True)
Composure (8 items)	
	I worry a lot in my daily life. (False)

Sex differences

Several gender differences were found on the DAPTQ and other questionnaires. Men received higher scores than females on the DAPTQ total score ($F(1, 764) = 39.038, p < .001$), the Risk Taking subscale ($F(1, 764) = 66.043, p < .001$) and the Composure subscale ($F(1, 764) = 55.311, p < .001$). Men also received a higher PPI-SF total score ($F(1, 764) = 43.951, p < .001$) and LSRP total score ($F(1, 764) = 38.046, p < .001$). These findings are consistent with previous results demonstrating that psychopathic traits, including adaptive psychopathic traits, are more common among men than women (Lilienfeld & Andrews, 1996). Furthermore, the higher average of psychopathic traits among males is consistent with their higher average in adaptive traits, since these adaptive traits are derived from traits known to correlate with a subset of psychopathy (Lee & Salekin, 2010). Interestingly, no gender differences were found on the Extroverted Leading subscale or the Rational Thinking subscale, indicating that these two traits are possibly gender independent.

Internal consistency

The internal consistency of the DAPTQ total score, as assessed by Cronbach's alpha, is .88. The internal consistencies of the current sample on the four subscales of the DAPTQ ranged from .78 to .85. In comparison, the internal consistency of the PPI-SF total score from the current study was .76, and its eight subscales' internal consistencies ranged from .53 to .87. The internal consistency of the LSRP was .85. Deeper examination of the subscales' Cronbach's alphas did not identify any items whose removal would significantly increase the overall internal consistency.

Test-retest reliability

Estimation of the test-retest reliability of the DAPTQ and its subscales was done by having 42 participants fill-in the questionnaire twice. Two outliers were excluded based on their total scores, leaving a total of 40 participants. The mean test-retest interval was 28 days. The test-retest reliability of the DAPTQ total score was very high ($r = .95$). The test-retest reliability of the subscales was as follow: Extroverted Leading ($r = .93$), Rational Thinking ($r = .93$), Risk Taking ($r = .85$) and Composure ($r = .92$).

Subscale intercorrelations

The intercorrelations among the four DAPTQ subscales are shown in Table 4. Analysis was performed on 765 participants' results. Examination of these intercorrelations reveals a unique tendency. Indeed, the two highest correlations are of the pairs Extroverted Leading - Risk Taking and Rational Thinking - Composure. Theoretically, it is possible to assume these two pairs are linked to each other. An individual with remarkable social skills might also be more prone to move considerable space around him and take many risks to achieve his goals. Inversely, individuals with highly rational, thinking behaviors may fit the typical description of a quiet individual who cannot easily be made anxious.

Table 4: Intercorrelations among DAPTQ subscales

<i>Subscale</i>	1	2	3
1. Extroverted Leading	-	-	-
2. Rational Thinking	.15*	-	-
3. Risk Taking	.39*	.10*	-
4. Composure	.21*	.38*	.21*

Note. * $p < .01$, two-tailed.

Correlations among the DAPTQ, the PPI-SF and the LSRP

The correlations between the DAPTQ total score and the results of the PPI-SF, of the LSRP and their respective subscales are shown in Table 5. The DAPTQ is moderately correlated with the PPI-SF total score. Closer examination of the PPI-SF subscales revealed that scores on the Social Potency and Stress Immunity subscales show the highest correlation with the DAPTQ, while Carefree Nonplanfulness, Blame Externalization, and Machiavellian Egocentricity show the weakest correlation. PPI-I shows a strong positive correlation with the DAPTQ, which is not found on PPI-II. This is consistent with the presumed adaptive nature of Factor 1 individuals. The LSRP total score does not show any correlation with the DAPTQ. LSRP Factor 1 shows a weak positive correlation with DAPTQ, while Factor 2 shows a moderate negative correlation.

Table 5: Correlations between the DAPTQ total score and the PPI-SF, the LSRP, and their respective subscales

Measures	r
PPI-SF Total	.43*
Machiavellian Egocentricity	.01
Social Potency	.56*
Fearlessness	.36*
Coldheartedness	.22*
Impulsivity Nonconformity	.22*
Blame Externalization	-.05
Carefree Nonplanfulness	-.50*
Stress Immunity	.65*
PPI-I	.68*
PPI-II	-.09*
LSRP Total	-.03
LSRP Factor 1	.16*
LSRP Factor 2	-.39*

Note. * $p < .01$, two-tailed.

The positive correlation of the DAPTQ with the PPI-SF is consistent with its poor correlation with the LSRP. Prior findings have not shown a strong correlation between the PPI-SF and the LSRP (Falkenbach, Poythress, Falki, & Manchak, 2007). Furthermore, the correlation between the LSRP and the PCL-R, which is the standard instrument for psychopathy assessment in the criminal setting, indicates that the PPI-SF is more appropriate for use in the community than the LSRP (Brinkley et al., 2001). Hence, our results support the administration of both the DAPTQ and the PPI-SF in a community sample.

Examination of the correlations between the DAPTQ total score and the PPI-SF subscales also shows certain tendencies. As mentioned above, PPI-I is the average of the Social Potency, Fearlessness and Stress Immunity subscales. Considering that Factor 1 encompasses the adaptive nature of psychopathy, the high correlation of these three subscales with the DAPTQ results, as well as PPI-I in our study, support the validity of the DAPTQ in assessing adaptive characteristics (Patrick et al., 2009). Conversely, the low negative correlation of the DAPTQ with

PPI-II and LSRP Factor 2 support the theory that higher scores on adaptive traits will associate with lower scores on maladaptive traits.

Psychopathic subtypes and DAPTQ scores

The mean score and standard deviation for the DAPTQ total score and its subscales is shown in Table 6. Univariate testing of the total score shows a significantly higher score among Factor 1 individuals than Factor 2 participants and controls, ($F(2, 762) = 69.98, p < .001$). Multivariate analysis of variance on the four subscales also shows significant differences among groups, Wilks' $\Lambda = .684, (F(8, 1518) = 39.757, p < .001)$. A univariate test confirmed significant differences in the Extroverted Leading ($F(2, 762) = 37.482, p < .001$), Rational Thinking ($F(2, 762) = 14.626, p < .001$), Risk Taking ($F(2, 762) = 125.533, p < .001$) and Composure subscales ($F(2, 762) = 30.287, p < .001$). Tukey post hoc tests confirmed a significant difference between each group in almost each subscale. In the Extroverted Leading, Risk Taking, Rational Thinking and Composure subscales, Factor 1 individuals scored higher than any other group by a significant margin. Controls had the lowest scores in the Extroverted Leading and Risk Taking subscales, while Factor 2 individuals had the lowest scores in the Rational Thinking and Composure subscales.

Table 6

Differences in external validation variables by subtypes in the general population

	F1 (n = 140)	F2 (n = 134)	C (n = 491)	F1 vs. F2 (p)	F1 vs. C (p)	F2 vs. C (p)
DAPTQ						
Total	216.97 (22.91)	193.56 (23.72)*	189.77 (24.50)**	<.001, d = 1.00	<.001, d = 1.15	ns
Extro Lead	61.76 (10.22)	55.85 (11.22)	52.74 (11.09)**	<.001, d = .55	<.001, d = .85	<.01, d = .28
Rational Think	71.06 (11.50)	63.79 (11.69)**	68.48 (11.26)	<.001, d = .63	<.05, d = .23	<.001, d = .41
Risk Taking	50.73 (7.32)	47.01 (8.13)*	39.49 (8.33)	<.001, d = .48	<.001, d = 1.43	<.001, d = .91
Composure	33.42 (6.81)	26.90 (7.06)*	29.06 (7.36)**	<.001, d = .94	<.001, d = .61	<.01, d = .30

Note. Post hoc tests based on Tukey's honestly significant difference (HSD). F1 = PPI-SF Factor 1; F2 = PPI-SF Factor 2; C = Control; ns = Nonsignificant difference; d = Cohen's d effect size; DAPTQ = Durand Adaptive Psychopathic Traits Questionnaire; Extro Lead = Extroverted Leading; Rational Think = Rational Thinking. Significant mean differences between samples is shown by * = $p < .05$, ** = $p < .01$.

These findings cast doubts on the inherent maladaptive nature of Factor 2 individuals, suggesting that these individuals are only maladaptive in specific areas. Indeed, while Factor 1 individuals are significantly more adaptive than both Factor 2 and controls on all scales, Factor 2 individuals show better scores than controls on Extroverted Leading and Risk Taking subscales. As these two constructs are moderately correlated with each other as previously mentioned, it is possible that extroversion, social abilities, leadership, propensity to take risks and goal oriented behaviors are all components of psychopathy, which, while more predominant in Factor 1, may also be present in Factor 2. The two other subscales, which assess logical planning, strategy, and immunity to anxiety and stress may be exclusive adaptive traits of Factor 1, not found in Factor 2.

Study 3: Test validation and psychometric properties from a clinical sample

Participants

To validate the DAPTQ in a clinical sample, 88 individuals currently receiving treatment by a mental health professional participated in this study. Three individuals were removed from analysis due to a $VRIN^2 \geq 8$ on the PPI-SF, leaving a final sample of 85 participants. No additional outliers were removed. Participants were 58% males ($N = 49$) and 42% females ($N = 36$). The mean age of participants was 26 years, with an age range between 18 to 52 years old. The whole sample was divided between a high psychopathy and control group using the top third method. Participants ($N = 33$) with a score equal or greater to 140 on the PPI-SF were put in the high psychopathy group. The other 52 participants formed the control group. Cluster analysis was computed in the same way as in study 2, with the exception of analyzing both genders simultaneously, due to the small sample. A total of 21 participants were classified as Factor 1 and 12 participants were classified as Factor 2.

Results and discussion

Sex differences

Several gender differences were found on the DAPTQ, the PPI-SF and the LSRP. Univariate testing shows higher scores for males on the DAPTQ total score ($F(1, 83) = 8.923, p = .004$), the Risk Taking subscale ($F(1, 83) = 12.819, p = .001$), and the Composure subscale ($F(1, 83) = 5.942, p = .017$). Males also received higher PPI-SF total scores ($F(1, 83) = 15.087, p < .001$) and

LSRP total scores ($F(1, 83) = 5.223, p = .025$). These findings are consistent with the findings from Study 2.

Internal consistency

The internal consistency of the DAPTQ total score, as assessed by Cronbach's alpha, is $\alpha = .90$. The internal consistencies on the four subscales of the DAPTQ for this sample ranged from .79 to .85. In comparison, the internal consistency of the PPI-SF total score from the current study was .77, and those of its eight subscales ranged from .51 to .88. The internal consistency of the LSRP was of .88. The internal consistencies of the DAPTQ and its subscales in clinical and nonclinical populations are nearly identical, supporting its suitability for assessing adaptive traits in both populations.

Subscale intercorrelations

The intercorrelations among the four DAPTQ subscales are shown in Table 7. As also shown in Study 2, a moderate positive correlation exists between the subscale pairs of Extroverted Leading - Risk Taking and Rational Thinking – Composure. However, an even stronger correlation is found between the Extroverted Leading and Composure subscales. This finding could be interpreted as a protective factor in a clinical population. Indeed, patients with remarkable social skills also seem to display high levels of stress and anxiety immunity. While it is not yet possible to determine which trait causes the other, this relationship demonstrates an adaptive pattern present in clinical populations. In summary, all pairs of items display low to moderate correlations between each other, with the exception of the Rational Thinking and Risk Taking subscales, which appear to be mutually exclusive in a clinical sample.

Table 7: Intercorrelations among DAPTQ subscales

<i>Subscale</i>	1	2	3
1. Extroverted Leading	-	-	-
2. Rational Thinking	.30*	-	-
3. Risk Taking	.45*	.07	-
4. Composure	.52*	.48*	.22*

Note. * $p < .01$, two-tailed.

Correlations among the DAPTQ, the PPI-SF, and the LSRP

The correlations between the DAPTQ total score, other psychopathy measurements and their respective subscales are shown in Table 8. As was similarly presented in Study 2, the DAPTQ total score is moderately correlated with the PPI-SF total score. As in Study 2, closer examination indicates a strong correlation between the DAPTQ and the Social Potency and Stress Immunity subscales of the PPI-SF as well as low correlations with the Carefree Nonplanfulness, Blame Externalization, Coldheartedness and Machiavellian Egocentricity subscales. Factor 1 of the PPI-SF once again shows a high correlation with the DAPTQ, which is absent for Factor 2. The LSRP does not correlate with the DAPTQ, with the exception of its Factor 2, which shows a moderate negative correlation. Overall, these results echo the findings of Study 2, demonstrating the consistent relationship between the DAPTQ, the PPI-SF and the LSRP across samples.

Table 8: Correlations between the DAPTQ total score and the PPI-SF, the LSRP, and their respective subscales

Measures	r
PPI-SF Total	.42*
Machiavellian Egocentricity	.08
Social Potency	.64*
Fearlessness	.32*
Coldheartedness	.19
Impulsivity Nonconformity	.29*
Blame Externalization	-.13
Carefree Nonplanfulness	-.60*
Stress Immunity	.77*
PPI-I	.71*
PPI-II	-.12
LSRP Total	-.04
LSRP Factor 1	.16
LSRP Factor 2	-.42*

Note. * $p < .01$, two-tailed.

Psychopathic subtypes and DAPTQ scores for the clinical sample

The mean scores and standard deviations for the DAPTQ total score and its subscales are shown in Table 9. Univariate testing of the total score shows significantly higher scores among Factor 1 compared to Factor 2 and controls ($F(2, 82) = 9.009, p < .001$). Multivariate analysis of variance for the four subscales also shows significant differences among groups, Wilks' $\Lambda = .525, (F(8, 158) = 7.500, p < .001)$. Univariate test confirmed significant differences in the Extroverted Leading ($F(2, 82) = 9.285, p < .001$), Rational Thinking ($F(2, 82) = 6.361, p < .01$), Risk Taking ($F(2, 82) = 13.974, p < .001$) and Composure subscales ($F(2, 82) = 7.611, p < .001$). Tukey post hoc tests confirmed a significant difference in at least one group for each subscale. For the Extroverted Leading subscale, Factor 1 individuals scored significantly higher than controls. In the Rational Thinking subscale, Factor 2 individuals scored significantly lower than both Factor 1 participants and controls. In the Risk Taking subscale, controls scored significantly lower than both Factor 1 and Factor 2 participants. In the Composure subscale, Factor 1 individuals scored significantly higher than both Factor 2 participants and controls.

Table 9

Differences in external validation variables by subtypes in clinical sample

	F1 (<i>n</i> = 21)	F2 (<i>n</i> = 12)	C (<i>n</i> = 52)	F1 vs. F2 (<i>p</i>)	F1 vs. C (<i>p</i>)	F2 vs. C (<i>p</i>)
DAPTQ						
Total	207.29 (6.41)	177.75 (8.48)*	175.58 (4.07)**	<.05, <i>d</i> = 3.93	<.001, <i>d</i> = 5.91	<i>ns</i>
Extro Lead	60.62 (2.60)	51.00 (3.43)	47.36 (1.65)**	<i>ns</i>	<.001, <i>d</i> = 6.09	<i>ns</i>
Rational Think	67.76 (2.75)	52.42 (3.63)**	65.46 (1.75)	<.01, <i>d</i> = 4.76	<i>ns</i>	<.01, <i>d</i> = 4.58
Risk Taking	48.33 (2.00)	52.33 (2.65)*	39.29 (1.27)	<i>ns</i>	<.001, <i>d</i> = 5.40	<.001, <i>d</i> = 6.28
Composure	30.57 (1.66)	22.00 (2.20)*	23.46 (1.06)**	<.01, <i>d</i> = 4.40	<.01, <i>d</i> = 5.11	<i>ns</i>

Note. Post hoc tests based on Tukey's honestly significant difference (HSD). F1 = Factor 1; F2 = Factor 2; C = Control; *ns* = Nonsignificant difference; *d* = Cohen's *d* effect size; DAPTQ = Durand Adaptive Psychopathic Traits Questionnaire; Extro Lead = Extroverted Leading; Rational Think = Rational Thinking. Significant mean differences between samples is shown by * = *p* < .05, ** = *p* < .01.

While these findings indicate less significant differences among the Factor 1, Factor 2, and control groups compared to the nonclinical population, several findings remain. Factor 1 individuals score higher than controls on all subscales except on Rational Thinking, showing once again the adaptive nature of Factor 1. When compared to Factor 2, Factor 1 participants have higher total, Rational Thinking and Composure scores. No significant differences are found between highly psychopathic individuals from a clinical population on the Extroverted Leading and Risk Taking subscales, which supports the previous conclusion regarding the association of these two constructs with psychopathy in both factors.

Differences between a community sample and a clinical sample

No differences were found between the community sample and clinical sample within Factor 1 individuals. Several differences were found among Factor 2 individuals. Univariate tests show a significant difference among the DAPTQ total scores ($F(1, 144) = 4.753, p = .031$) and Rational Thinking ($F(1, 144) = 10.162, p = .002$), Risk Taking ($F(1, 144) = 4.560, p = .034$) and Composure subscales ($F(1, 144) = 5.328, p = .022$). More specifically, the clinical population showed lower scores for the DAPTQ total and Rational Thinking and Composure subscales. However, they had higher scores for the Risk Taking subscale compared to the community sample. Differences were also found between the control groups of the two populations. Univariate tests show that the clinical sample had lower mean scores for the DAPTQ total ($F(1, 541) = 15.017, p < .001$), Extroverted Leading subscale ($F(1, 541) = 10.825, p = .001$) and Composure subscale ($F(1, 541) = 27.013, p < .001$) than the community sample.

Study 4: Validation of the DAPTQ subscales

Participants

In order to further validate the subscales of the DAPTQ, 162 bachelor graduates from the Philippines (Males = 72, Females = 90) were recruited. The mean age of the participants was 28.10 years old ($SD = 7.63$). A total of 115 of these participants completed the Applicant Risk Profiler, 90 to 120 completed the Manchester Personality Questionnaire depending on the subscale, and 79 to 131 completed the Work Profile Questionnaire-Emotional Intelligence depending once again on the subscale.

Measures

Applicant Risk Profiler (ARP; Llobet, 2001). The ARP is a 65-item self-report questionnaire in which each item is rated from 1 to 5 (Strongly Agree to Strongly Disagree), assessing an individual's counterproductive workplace behaviors. The items are divided among five subscales, each of which evaluates different behaviors. Higher scores reflect more counterproductive behaviors in the workplace. The Integrity subscale rates how likely an individual is to steal from an employer or perform tasks without approval. The Illegal Drug Use subscale relates to the likelihood of an individual to work while under the influence of illegal drugs. The Workplace Policy Compliance subscale evaluates how likely an individual is to disobey company policies and procedures. The Workplace Aggression subscale looks at the probability that an individual will behave violently at work. The Deception subscale assesses the individual attempts to present him or herself in an overly favorable light. The ARP's internal consistency in the present study is $\alpha = .88$.

Manchester Personality Questionnaire (MPQ; Cameron, 1996). The MPQ factor version 14 is a 90-item self-report questionnaire assessing 14 personality characteristics. Items are rated from 1 to 5 (Never to Always). The subscales of the MPQ are: Originality, Rule Consciousness, Openness to Change, Assertiveness, Social Confidence, Empathy, Communicativeness, Independence, Rationality, Competitiveness, Conscientiousness, Perfectionism, Decisiveness, and Apprehension. The MPQ's internal consistency in the present study is $\alpha = .82$.

Work Profile Questionnaire-Emotional Intelligence (WPQei; Cameron, 1999). The WPQei is a 84-item self-report questionnaire assessing personal qualities and competencies that employees need to develop to manage emotions at work. Items are rated on a Likert scale from 1 to 5. The WPQei was developed around a conceptual model of emotional intelligence, and is divided in 7 components. Those components include innovation, self-awareness, intuition, emotions, motivation, empathy and social skills. Three of these subscales were excluded due to a lack of participation. The four subscales assessed in this study were Emotions, Motivation, Empathy and Social Skills. The WPQei's internal consistency in the present study is $\alpha = .93$.

Results and discussion

Table 10 displays the correlations of the DAPTQ and its subscales to the ARP, the MPQ and the WPQei. Three of the four main components of the ARP, Integrity, Workplace Policy Compliance, and Workplace Aggression, are weakly to moderately negatively correlated ($r = -.19$ to $-.42$) to

the DAPTQ and its subscales, with the exception of the DAPTQ's Risk Taking subscale. The Illegal drug use subscale is moderately negatively correlated ($r = -.27$ to $-.42$) to the DAPTQ total score, as well as the DAPTQ's Rational Thinking and Composure subscales. These results demonstrate the relationship between higher adaptive traits and lower workplace-related trouble. The opposite pattern is observed with the ARP's Deception subscale, which is moderately positively correlated ($r = .31$ to $.43$) with the DAPTQ and all its subscales, at the exception of DAPTQ's Risk Taking. These results are convergent with the concept of adaptive behaviors, where higher levels of adaptive traits produce less problematic behaviors in the work place. Furthermore, the positive correlation between the ARP's Deception subscale and the DAPTQ is not surprising. While deceptive tendencies have been put forth as both maladaptive and adaptive, we consider the use of deception an adaptive skill, as deceiving others may be necessary to acquire leadership positions and increase one's chances of survival. The concept of deception is very well established in the literature pertaining to psychopathy, where highly psychopathic individuals use more deceptive tactics towards others in order to gain benefits. Considering that the DAPTQ was developed to assess adaptive psychopathic traits, these results remain consistent with previous studies establishing a relationship between psychopathic traits and deception (Fullam, McKie, & Dolan, 2009; Seto, Khattar, Lalumitire, & Quinsey, 1997).

Table 10: Correlations between the DAPTQ, the ARP and the MPQ.

Scales	DAPTQ Total	Extroverted Leading	Rational Thinking	Risk Taking	Composure
ARP Subscales					
1. Integrity	-.34**	-.27**	-.41**	-.02	-.34**
2. Illegal Drug Use	-.27**	-.16	-.42**	.09	-.36**
3. Workplace Policy Compliance	-.22*	-.19*	-.32**	.16	-.36**
4. Workplace Aggression	-.28**	-.20*	-.38**	.11	-.42**
5. Deception	.39**	.35**	.31**	.13	.43**
MPQ Subscales					
6. Originality	.35**	.34**	.24*	.23*	.20
7. Rule Consciousness	-.05	-.04	-.15	.10	-.04
8. Openness to Change	.24*	.18	.24*	.17	.09
9. Assertiveness	.42*	.41**	.40**	.15	.24*
10. Social Confidence	.42*	.40**	.46**	.16	.16
11. Empathy	.29**	.20*	.39**	.04	.21*
12. Communicativeness	.20	.28**	.15	.10	-.02
13. Independence	.04	.05	-.01	.07	.01
14. Rationality	.33**	.21*	.50**	.04	.20*
15. Competitiveness	.33**	.25*	.38**	.15	.17
16. Conscientiousness	.19*	.08	.33**	-.12	.28**
17. Perfectionism	.30**	.17	.40**	.11	.20
18. Decisiveness	.57**	.45**	.59**	.17	.51**
19. Apprehension	-.22*	-.11	-.32*	-.01	-.22*
WPQei Subscales					
20. Emotion	.48**	.47**	.40**	.11	.49**
21. Motivation	.52**	.46**	.55**	.10	.47**
22. Empathy	.54**	.45**	.49**	.23*	.53**
23. Social skills	.49**	.47**	.42**	.18	.45**

Note. * $p < .05$, ** $p < .01$, two-tailed.

Several significant correlations were found between the DAPTQ and MPQ's subscales. First, the Originality subscale, which reflects the extent to which an individual can generate new ideas, is positively correlated with the DAPTQ and all its subscales ($r = .23$ to $.35$), at the exception of the Composure subscale. This finding supports the concept that originality is closely related to adaptive traits. Openness to Change, which assesses curiosity, imagination, and need for innovation, is positively correlated to the DAPTQ total score ($r = .24$), and its Rational Thinking subscale ($r = .24$). The Assertiveness subscale, which reflects to what degree an individual is

independent, persuasive, and challenges their environments, is positively correlated with the DAPTQ total score ($r = .42$), its Extroverted Leading subscale ($r = .41$), its Rational Thinking subscale ($r = .40$), and its Composure subscale ($r = .24$). Social Confidence, which reflects social potency, is positively correlated with the DAPTQ total score ($r = .42$), its Extroverted Leading subscale ($r = .40$) and its Rational Thinking subscale ($r = .46$). The findings for the Assertiveness and Social Confidence subscales support the validity of the Extroverted Leading subscale in measuring an individual's extroverted characteristics. However, it appears that Rational Thinking may also play a strong role in the assessment of extroversion. The Empathy subscale is positively correlated with the DAPTQ total score ($r = .29$) and all of its subscales ($r = .20$ to $.39$), at the exception of the Risk Taking subscale. The Communicativeness was only found to be correlated with the Extroverted Leading subscale ($r = .28$). Rationality is weakly positively correlated with the DAPTQ total score, as well as the Extroverted Leading and the Composure subscale ($r = .20$ to $.33$). It is however strongly positively correlated with Rational Thinking ($r = .50$). Competitiveness, reflecting the desire to achieve and work hard towards goals, is significantly correlated with the DAPTQ total score, as well as Extroverted Leading and Rational Thinking subscales ($r = .25$ to $.38$). This finding could be explained by an individual's need to lean towards extroversion rather than introversion in order to be competitive. Conscientiousness, which reflects the strength of the sense of duty and responsibility, is positively correlated with the DAPTQ total score, the Rational Thinking and the Composure subscale ($r = .19$ to $.33$). Perfectionism is positively correlated with the DAPTQ total score and the Rational Thinking subscale ($r = .30$ to $.40$). Decisiveness, assessing the self-confidence and the desire to be in charge, is strongly correlated to the DAPTQ total score ($r = .57$), as well as on all subscales at the exception of Risk Taking ($r = .45$ to $.59$). Apprehension, which measures the lack of self-confidence and the need for others' approval, is negatively correlated with the DAPTQ total score ($r = -.22$), the Rational Thinking subscale ($r = -.32$) and the Composure subscale ($r = -.22$), indicating that highly adaptive individuals are less concerned by peer-approval.

Several correlations were found between the DAPTQ and the WPQei. Moderate to strong correlations were found between the DAPTQ and all its subscale, at the exception of the Risk Taking subscale, and the WPQei's Emotion subscale ($r = .40$ to $.49$), Motivation subscale ($r = .46$ to $.55$) and Social Skills subscale ($r = .42$ to $.49$). Strong correlations were also found on the

Empathy subscale on all the DAPTQ measures ($r = .45$ to $.54$), except the Risk Taking subscale, where a weak correlation was found ($r = .23$).

Overall, all of the DAPTQ subscales were significantly correlated on a wide variety of similar constructs, at the exception of the Risk Taking subscale, which was weakly correlated on only two subscales. While the present findings support the validity of the DAPTQ's Extroverted Leading, Rational Thinking and Composure subscale, the Risk Taking subscale is a newly developed construct which is not normally associated with adaptive personality. However, considering the present questionnaire assesses adaptive psychopathic traits, the absence of results on the Risk Taking subscale with non-psychopathy related questionnaire is not surprising.

General discussion

The purpose of these studies was to develop and validate a new questionnaire for assessing adaptive traits known to correlate with the psychopathic personality. The aforementioned studies' results confirm the adequacy of the DAPTQ in both community and clinical samples, as well as providing preliminary support for the subscales' validity. The DAPTQ demonstrated good internal consistencies for its total score and all its subscales for both populations, as well as a strong correlation to well-established assessments of the psychopathic personality and moderate to strong correlations to other personality measures. Indeed, the moderate correlation of the DAPTQ with the PPI-SF's total score and its strong correlation with PPI-I from Benning et al. (2003) are consistent with previous literature regarding the adaptive nature of Factor 1 psychopathic individuals (Skeem, Polaschek, Patrick, & Lilienfeld, 2011). Finally, principal component analysis further established the existence of four non-overlapping subscales within the DAPTQ, each assessing core adaptive traits.

By selecting the entire known range of adaptive traits known to correlate with psychopathy and developing an assessment specific to these traits, it was possible to investigate the relationship between them. The first cluster encompasses all the adaptive social features of psychopathic individuals. The second cluster groups all the logical traits of an individual, from planning to reasoning. The third cluster includes an individual's willingness to face greater risks in the hopes of greater benefits. The fourth cluster contains protective traits. Altogether, these four clusters showcase the traits through which Factor 1 individuals benefit the most in comparison to the general population.

As previously mentioned, while this test assesses the adaptive traits found in Factor 1 psychopathic individuals, it should not be seen as a psychopathy measurement for several reasons. First, psychopathy is a combination of Factor 1 and Factor 2, and this test focuses exclusively on Factor 1 individuals (Patrick et al., 2009). The questionnaire can therefore only assess a portion of psychopathy, which is under a lot of debate regarding its validity with the concept of psychopathy (Lilienfeld et al., 2012; Lynam & Miller, 2012; Miller & Lynam, 2012). Furthermore, this questionnaire has not been validated for use in criminal populations. In fact, it may be inapplicable for such groups since they may not possess many adaptive traits. In conclusion, the DAPTQ should solely be used to assess an individual's adaptive characteristics in non-criminal populations until further validation.

The correlations between two pairs of DAPTQ subscales from the community sample, Extroverted Leading - Risk Taking and Rational Thinking - Composure, render the questionnaire well-suited for research purposes and psychological evaluation in healthy individuals. The first pair of subscales assesses extroverted-related traits, while the second pair assesses introverted-related traits. Subsequent studies in different settings for these subscale pairs might allow interested institutions to select candidates on the basis of their extroverted or introverted traits.

Although the current findings are highly encouraging, further construct validation is needed to further assess the validity of each subscale. The DAPTQ also needs to be administered against measures of social potency, leadership, creativity, logical reasoning, propensity to take risks, goal driven behavior, stress, anxiety and display of aggression scales. While some of these components were included in the current study and the findings were encouraging with regard to establishing the validity of the DAPTQ's subscales, further validation against alternative measures of personality is recommended.

Acknowledgement

I would like to thank Erika Matsumoto Plata and Polett Bali for their help in the editing of this paper.

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