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Factorial and Convergent Validity of the Youth Psychopathic Traits Inventory-Short Version in
Ghana

Abstract

Studies have shown that across cultures there are individuals displaying personality traits similar to psychopathic traits; however, research is needed to determine their existence. Consequently, this study investigated the factorial and convergent validity of the Youth Psychopathic Traits Inventory-Short Version (YPI-S) in 327 adolescents in Ghana. Confirmatory factor analysis supported a three-factor structure (interpersonal, behavioral, and affective) of psychopathy that was invariant across gender. These results were replicated in a cross-validation sample comprising 363 adolescents. The YPI-S factors correlated significantly and positively with reactive and proactive aggression, thus bolstering its construct validity. Relatedly, the YPI-S and Big-Five domains were related differently, and where significant correlations were observed, their directions generally confirmed and extended previous studies. The findings supported the hypothesis that psychopathy can be discussed in relation to general personality traits. All in all, the result generally suggested the existence of psychopathic traits among Ghanaian youth which can be described along interpersonal, affective and behavioral domains. However, the alterations made to the YPI-S, and the relatively low factor loadings and internal consistency largely indicate cultural influences on the assessment of cross-cultural traits, further illuminating the problem of exporting Western-based measures and their findings to non-Western contexts.

Keywords: Psychopathy, youth psychopathic inventory, adolescents, cross-culture, Africa-Ghana

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The preponderance of factor analytic studies suggest that psychopathy can be described in terms of three latent factors; affective (e.g., callous-unemotional), interpersonal (e.g., manipulative), and behavioral (e.g., impulsive; Sellbom, 2011), although antisocial behavior dimension has been reported (Neumann, Schmitt, Carter, Embley, & Hare, 2012). Individuals with psychopathic traits are believed to form a small segment of the population (i.e., 1-3%), and come from any social class or racial group (Pitchford, 2001). However, relatively little is known about this construct and importantly its assessment in non-Western countries, leading others to ask “how applicable are criminogenic factors to various cultures”, and “does variance or invariance characterize criminogenic factors across different groups?” (Haag, Boyes, Cheng, MacNeil, and Wirove, 2016, page 72). The study investigated the utility of the Youth Psychopathic Traits Inventory: Short (YPI-S) in Ghana, a Western African state.

Cross-cultural assessment issues have been substantiated over the years mainly because differences in societal structures and other sociocultural factors are capable of impacting the assessment of psycholegal traits. Notably, the overt differences between Western African and Western cultures may induce variations in psychopathic behaviors between these cultures (see Huntington, 1996). Western cultures are inherently individualistic where people are primarily socialized to launch individualistic goals. These goals can be pursued successfully by drawing on some personality traits such as the ability to convince people through charms and smiles, manipulate people and situations to one’s advantage, and elevate one’s talent above others in a bid to exude high self-confidence and self-esteem (i.e., interpersonal psychopathy). In contrast, Ghanaian societies are predominantly collectivistic where attributes such as social support and interdependent living are celebrated and generationally transmitted. Individual independence is

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3 often suppressed and sacrificed to facilitate the attainment of collectivist interest, particularly
4 those pertaining to the family. Additionally, the socialization process for boys and girls in Ghana
5 seems to vary significantly. Illustrating, as a patriarchal society where males are traditionally the
6 head and breadwinners of the family, their socializations tend to emphasize attributes such as
7 “hardiness” “toughness”, and personal courage as part of the process of developing resilient
8 personalities to withstand adverse life events (Adjorlolo, Adu-Poku, Andoh-Arthur, Botchway,
9 & Mlyakado, 2015). Child abuse and its associated psychological and emotional consequences
10 may be experienced as part of the process which, in turn, may have adverse influences on
11 personality formation. This could contribute to within-culture (e.g., gender) and between-culture
12 differences in the acquisition and display of personality traits. Moreover, the Ghanaian society is
13 heterogeneous, with over 46 different ethnic groups and over 50 languages and dialects. The
14 probably slight differences in the parent-child socialization process across the various ethnic
15 groups could induce variations in the representation of psychopathic behaviors.
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34 Granted that psychopathic traits are among the outcomes of the parent-child socialization
35 process, their expressions may differ between individualistic and collectivistic cultures. Needless
36 to say, attributes that epitomized the socialization of persons in Western cultures are not
37 necessarily absent in Ghanaian societies; however, their magnitudes and influences on the
38 behavioral repertoire of the average Ghanaian may differ from their counterparts in Western
39 countries. This presumption raises profound concern with respect to the structural and
40 measurement equivalence of psychopathy in Ghana. Importing and subsequently using Western-
41 based measures in Ghanaian societies could raise assessment issues pertaining prominently to
42 test bias which could substantially diminish the accuracy of cross-cultural comparisons. While
43 developing a culture-specific test is desirable, resource and logistic constraints have made it
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3 extremely difficult to undertake this important exercise, thus necessitating the use of measures
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5 constructed in different cultural settings. Even though this could contribute to cross-cultural
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7 discussions on psychopathy, the previous commentaries suggest the need to elucidate their
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9 structural and measurement equivalence in new settings.
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13 One Western-based measure of psychopathy favored by several reviews is the YPI-S
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15 (e.g., Walters, 2015). The 18-item YPI-S is a shorter version of the 50 item Youth Psychopathic
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17 Traits Inventory developed purposely to minimize socially desirable response bias by ensuring
18
19 that feelings and opinions are regarded as desirable competencies, rather than as deficiencies
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21 (van Baardewijk et al., 2010). The YPI-S reportedly map onto the interpersonal, affective, and
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23 behavioral domains of psychopathy across several countries such as Belgium (Colins, Noom, &
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25 Vanderplasschen, 2012), Italy (Fossati et al., 2015), Sweden (Colins & Andershed, 2016), and
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27 the United States (Gillen, MacDougall, Forth, Barry, & Salekin, 2017). Additionally, the factors
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29 were invariant across gender (e.g., see Colins et al., 2012; van Baardewijk et al., 2010) and
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31 correlated with variables such as aggression, and delinquency (Fossati et al., 2015; Ray, Pechoro,
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33 & Gonçalves, 2016) and other self-report measures of psychopathy (Gillen et al., 2017). Others
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35 have suggested that the YPI-S has the potential to be used for clinical assessment of psychopathy
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37 beyond research context (Gillen et al., 2017), as well as for conducting longitudinal
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39 investigations to ascertain changes in psychopathic features during the transition from
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41 adolescence into emerging adulthood (Hawes, Mulvey, Schubert, & Pardini, 2014). The
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43 superiority of the YPI-S over other psychopathic-like measures such as the Antisocial Process
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45 Screening Device–Self-Report has been reported (Colins, Bijttebier, Broekaert, & Andershed,
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47 2014a). However, because the psychometric properties of the YPI-S could be altered
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49 substantially when administered in entirely different populations, examining the underlying
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3 factor structure will help to determine whether this measure taps into the same construct in
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6 Ghana.

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8 Additionally, within a general framework of personality, researchers have argued that
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10 psychopathy can be described as representing an extreme variant of normal personality styles,
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12 rendering the examination of the relationship between the Big-Five personality model and
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14 psychopathy particularly pertinent (Widiger, & Lynam, 1998). A recent study (Hawes et al.,
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16 2014), confirming earlier findings, found in general that psychopathy was related negatively to
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18 agreeableness and conscientiousness and positively to neuroticism. Examination of the domains
19
20 of psychopathy, however, revealed that interpersonal psychopathy was related positively to
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22 extraversion, openness, and conscientiousness but negatively to neuroticism and agreeableness.
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24 Affective psychopathy showed positive correlation with neuroticism but negative correlations
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26 with the remaining Big-Five factors, whereas behavioral psychopathy was related negatively to
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28 agreeableness and conscientiousness but positively to neuroticism. Following the
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30 recommendation by Hawes et al. (2014), the present study also examined the psychopathy-Big-
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32 Five relationship to generate more information about their associations. Similarly, because
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34 psychopathy has been robustly linked to or characterized by violations of cultural norms and
35
36 societal expectations, it is also important to investigate its convergent relationship with
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38 aggression (Borroni, Somma, Andershed, Maffei, & Fossati, 2014).
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46 In summary, the study was primarily aimed at investigating the psychometric properties
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48 of the YPI-S in Ghana, as well as the relationship between the YPI-S, aggression, and Big-Five
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50 Finally, to contribute to the literature on gender differences, stratified data analyses by gender
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52 were conducted. By undertaking this study, the authors are interested in addressing Haag et al.
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(2016) question posed above regarding the applicability of psychopathy and other criminogenic factors across cultures.

Methods

Participants

Initial sample. A total of 327 out of 1400 eligible adolescents were recruited from two randomly selected senior high schools in Ghana's capital city, Accra. The male participants numbered 141 (43%), whereas 186 (57%) were females, with an average age of 17 years (range: 12-18 years; $SD = 2.08$). The participants from the two schools do not differ significantly on demographic variables and study measures.

Measures

The study utilized the YPI-S, the Big Five Inventory (BFI; Johns & Srivastava, 1999), and Reactive-Proactive Aggression Questionnaire (RPAQ; Raine et al., 2006). The YPI-S's 18 items are rated on a 4-point scale (1 = *does not apply at all* to 4 = *applies very well*). The BFI is a widely used 44-item metric of the hierarchical model of personality traits with five broad factors: openness, conscientiousness, agreeableness, extraversion, and neuroticism. The BFI items are rated on a 5-point scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*). The RPAQ was developed to measure reactive and proactive aggression. The items are rated on a three-point Likert scale from 0 (*never*) to 2 (*often*) for the frequency of occurrence. See Table 3 for information on the means, standard deviations and internal consistencies of the measures.

Procedure

Data were gathered using a cross-sectional self-report methodology. The participants were recruited from their respective campuses. The announcement and the invitation to participate in the study were made in the classrooms. The participants were given the opportunity

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3 to ask questions, if any, for clarification and possibly to allay any fear and anxiety. Those who
4 expressed willingness and consented to be part of the study were handed a pack of questionnaires
5 containing the measures described above which were filled in the classroom and handed over to
6 a member of the research team. Out of the 350 packs of questionnaires, 327 were returned
7 representing a response rate of 93%.

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15 **Cross-validation sample.** This sample comprised 363 out of 1,073 senior high school
16 adolescents recruited from the two randomly selected senior high schools noted above. The
17 average age was 17 years (range: 11 to 19 years: $SD = 1.65$), with 41% ($n = 149$) males and 59%
18 ($n = 214$) females. They were administered the same YPI-S measure. The response rate was 91%.

24 **Data analytic strategy**

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27 Missing data analysis showed that 14 (4% cases), 20 (7.5% cases), and 13 (4% cases)
28 data points for the YPI-S, BFI and aggression questionnaires, respectively, were missing
29 completely at random (MCAR, $p > .05$). The expectation maximization algorithm was used to
30 impute the missing data points. Confirmatory factor analysis (CFA), employing the weighted
31 least squares (WLS) estimation method with Analysis of Moment (AMOS) version 22 software,
32 was used to examine the latent structure of the YPI-S. Multigroup CFA was used to test the
33 invariance of the associations among the observed items across gender to determine possible
34 differences in the interpretation of the latent factors. A model is invariant provided that the
35 relationship between the factors and the observed variables are equal across the groups. To
36 establish a configural measurement invariance, an unconstrained model that allowed the model
37 parameters to be freely determined for males and females was estimated. This was followed by a
38 constrained model in which the factor loadings were fixed to be equal across the group. The fit of
39 the constrained/restricted (i.e., invariant) was compared to the fit of the unconstrained (i.e.,
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3 baseline) model using Chi-square test (χ^2), with a non-significant χ^2 result indicating metric
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5 invariance. In the event where the modification indices (MI) of the constrained model suggest an
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7 improvement in the model by allowing some residuals to freely correlate, a partially constrained
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9 model was estimated. However, only the residuals of items sharing systematic variance and
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11 appearing on the same factor were correlated (Sellbom, 2011).
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15 Indicators commonly used to determine model fit in the literature were considered:
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17 Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and a noncentrality-based index- the
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19 Root Mean Square Error of Approximation (RMSEA). The χ^2 test of the model was reported.
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21 However, due to its sensitivity to sample size and distribution of the items, the study also
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23 followed Schermelleh-Engel, Moosbrugger, and Müller (2003) recommendation where $\chi^2/df \leq 2$
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25 indicates goodness of fit was achieved and $\chi^2/df \leq 3$ suggest an acceptable fit. The Akaike
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27 information criterion (AIC) and Bayesian information criterion (BIC) were used as comparative
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29 fit indices to determine the superiority of non-nested models.
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34 The groups were compared on the study measures using independent sample t-test. Zero-
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36 order correlation was computed using Pearson product moment correlation, whereas partial
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38 correlation (controlling for the other psychopathy factors) was used to estimate the relationship
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40 between the psychopathy factors and criterion measures. Internal consistency was evaluated
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42 using Cronbach's Alpha and the mean inter-item correlation (MIC). The MIC is considered less
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44 dependent on item size and a straightforward measure of internal consistency, with values in the
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46 range of .15 to .50 considered adequate (Clarck & Watson, 1995).
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Results

Factor Structure

Initial sample: As shown in Table 1 containing the CFA results, the YPI-S's 18 items did not provide a good model fit to the data even after several respecifications. The data were subsequently explored and five items were deleted due to low factor loadings. The result following this adjustment showed that the fit indices were within the threshold for acceptable model fit. A multigroup CFA showed that the unconstrained model based on the 13 items provided an acceptable fit to the data. The constrained model also showed acceptable fit indices; however, correlating the residuals of items 8 and 5 based on the MI (12.40) for the male only constrained model revealed good model fit indices. In terms of best model fit, constraining the factor loadings to be equal across the groups did not worsen the model fit, $\chi^2(13) = 13.64, p = .400$. The standard estimates of the 13-item YPI-S for each group were significant ($p < .001$), ranging from .32 to .71 for males, and .32 to .72 for females. The YPI-s three factors evinced significant but moderate inter-correlations (all $ps < .01$); $r = .23$ for interpersonal and affective, $r = .26$ for interpersonal and behavior, and $r = .27$ for behavioral and affective. The YPI-S total score correlated significantly with the interpersonal domain $r = .78$, affective $r = .69$, and behavioral $r = .64$ (all $ps < .01$). Table 2 showed the squared multiple correlations (R^2) and standardized factor loadings of the individual items of the three-factor model based on the full sample.

Cross-validation of the YPI-S: Consistent with the previous result, the model comprising the YPI-S 18 items did not provide good model fit to the data. However, a 13-item model in which correlation between the residuals of item 2 and 11 were permitted yielded satisfactory fit indices. Measurement invariance testing results revealed that the fit indices for the

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3 unconstrained model were good although the TLI did not reach the minimum threshold. A
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5 similar result was obtained for the constrained model. However, respecifying the constrained
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7 model by allowing correlations between the residuals of items 5 and 8 for males produced an
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9 improved model. Comparing the unconstrained to constrained models indicated that constraining
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11 the model, $\chi^2(13) = 14.32, p = .352$, and respecifying the constrained model $\chi^2(11) = 3.08, p$
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13 $= .989$ did not worsen the model fit. The standardized factors loadings ranged from .37 to .66
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15 and .36 and .66 for males and females, respectively. They were significant ($p < .001$) and
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17 acceptable by conventional standards. The internal consistencies (α) of the factors were .71
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19 (interpersonal), .59 (affective), and .58 (behavioral), with intercorrelations as followed (all ps
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21 $< .01$): $r = .40$ for interpersonal and affective, $r = .35$ for interpersonal and behavioral, $r = .38$ for
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23 affective and behavioral, $r = .81$ for interpersonal and total score, $r = .76$ for affective and total
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25 score, and $r = .71$ for behavioral and total score.
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32 [INSERT TABLE 1 ABOUT HERE]

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34 [INSERT TABLE 2 ABOUT HERE]

35 36 37 **Internal Consistency and Gender Difference**

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39 The internal consistency (Cronbach's alpha) of the YPI-S for the initial samples and gender
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41 effect on psychopathy are shown in Table 3. The internal consistency of the psychopathy factors
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43 for the total sample ranged from .44 (behavioral) to .77 (interpersonal). The internal
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45 consistencies of the affective (.37 versus .64) and behavioral (.46 versus .42) domains for males
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47 and females, respectively, were poor relative to the interpersonal factor (.77 for males, .78 for
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49 females). Nevertheless, the MIC for the total and female samples were all in the recommended
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51 ranges to be considered adequate (i.e., .16 to .41). The MIC for males, however, ranged from .13
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3 to .40. With respect to gender difference, males scored significantly high in the YPI-S affective
4 domain, YPI-S total score, proactive and total aggression than their female counterparts.
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7 8 **Convergent and Divergent Validity** 9

10 The results of the zero-order and partial correlations between the YPI-S, aggression, and
11 Big-Five personality are shown in Table 4. First, at the zero-order level, positive and significant
12 low to moderate correlations (i.e., $r = .15$ to $r = .39$) were observed between the YPI-S and
13 aggression factors (except for the relationship between behavioral psychopathy and aggression in
14 males which was insignificant). At the partial correlation level, a marginal reduction in the
15 magnitudes of the correlation coefficients between the YPI-S and aggression factors were
16 observed. In some instances, the correlation coefficients mostly in the female sample were
17 statistically insignificant.
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29 The YPI-S and Big-Five factors were not consistently related at the zero-order level. In
30 the male sample, for instance, interpersonal psychopathy was related significantly to extraversion
31 ($r = .20$), conscientiousness ($r = .16$), neuroticism ($r = -.24$), and openness ($r = .27$), whereas in
32 the female sample, behavioral psychopathy correlated significantly with conscientiousness ($r = -$
33 $.32$) and neuroticism ($r = .38$). Partial correlation analysis either resulted in improvements in the
34 previously significant coefficients or rendered insignificant coefficients significant. For example,
35 in the total sample, the hitherto insignificant relationship between interpersonal psychopathy and
36 neuroticism ($r = -.09$) became significant ($r = -.17$).
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Discussion

This study contributed to the repertoire of empirical knowledge regarding cross-cultural assessment of psychopathy. This was the first study to elucidate the factor structure of the YPI-S in a sub-Saharan African nation, specifically Ghana. Consistent with previous studies (Colins & Andershed, 2016; Colins et al., 2014a; van Baarderwijk et al., 2010), the study showed that psychopathy in male and female Ghanaian youth can be described using a three-factor model (i.e., interpersonal, affective, and behavioral) that was invariant across gender. The standardized loadings of the YPI-S items on the three-factor model ranged from .33 to .72. According to Cronbach's Alpha, the internal consistencies of the affective and behavioral factors were generally poor (i.e., .37 to .64) for the total sample, as well as in male and female samples. This could be due partly to the small number of items (i.e., 4 items) forming these scales. Indeed, the MIC, which does not penalize shorter scales as it is largely independent of scale length (Colins & Andershed, 2015), revealed acceptable internal consistencies of the YPI-S for the total and female samples. For males, however, only the interpersonal and YPI-S total were considered acceptable according to the MIC while the affective and behavioral were not, thus casting doubt on the stability of these factors. Gender differences were consistent with previous findings demonstrating that males endorsed significantly more psychopathic traits (Hawes et al., 2014). All in all, the result generally suggests that the existence of psychopathy among Ghanaian youth which can be described along interpersonal, affective and behavioral domains. The study, therefore, provides evidence from non-Western context directly addressing Haag et al. (2016) question regarding the cross-cultural applicability of psychopathic behaviors.

Confirming and extending previous studies (Borroni et al., 2014), psychopathy dimensions were correlated with reactive and proactive aggression in both males and females at

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3 the zero-order level. Although the correlations were small to moderate, importantly, they were
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5 mainly in line with expectations or previous findings. That is, participants displaying
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7 psychopathic tendencies are more likely to engage in both reactive and proactive aggressive
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9 tendencies; an observation that has bolstered the construct validity of the YPI-S. In addition,
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11 partial correlations indicated that several of the YPI-S factors demonstrated significant
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13 correlations with aggression in the total and male samples. In contrast, the coefficients were not
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15 statistically significant for the interpersonal and affective domains in the female sample. This
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17 female-specific finding partly supports and partly contradict the previous suggestion that the
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19 relationships between interpersonal and affective psychopathic dimensions and criterion
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21 variables depend on other psychopathic factors, in both males and females (e.g., Colins &
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23 Andershed, 2015). Moreover, the significant partial correlations of the behavioral psychopathy in
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25 females partly support and partly contradict previous findings that the behavioral domain of
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27 psychopathy is less dependent on other psychopathic factors (Colins et al., 2014b) and it is
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29 highly correlated with criterion measures than other psychopathic domains (Hawes et al., 2014)
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31 in males and females.
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39 At the zero-order level, affective psychopathy was not significantly related to the Big-
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41 Five domains, in both males and female. Yet, where significant correlations were observed, their
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43 directions generally confirmed and extended previous studies (Borroni et al., 2014; Hawes et al.,
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45 2014). Specifically, in males and females, interpersonal psychopathy correlated positively with
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47 extraversion and openness, whereas behavioral psychopathy was significantly and positively
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49 related to neuroticism. In the male sample, interpersonal psychopathy was negatively related to
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51 neuroticism. Importantly and interestingly, the partial correlations revealed a marginal increment
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53 in the coefficients that were significant at zero-order level, whereas a few (4) of the insignificant
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3 zero-order correlations became significant. For instance, the correlation between affective
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5 psychopathy and openness in the female sample was statistically significant after controlling for
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7 the effects of other psychopathic domains. The above vividly illustrates the concept of
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9 suppressor effects of psychopathic domain(s) on other domain(s) such that removing these
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11 effects increases the amount of residuals available to be correlated with the Big-Five domains.
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13 Within a general framework of personality, the findings supported the hypothesis that
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15 psychopathy can be discussed in relation to general personality traits (Borroni et al., 2014,
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17 Hawes et al., 2014).

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22 Notwithstanding the above, this study has shown that comparison between the YPI-S in
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24 Ghana and Western nations is limited owing to the alterations made to the scale in this study.
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26 Notably, the three-factor model was obtained following the deletion of five items and free
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28 correlation of two residuals. Modifications based on empirical criteria (e.g., factor loadings) can
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30 be sensitive to sample specific variation, thus questioning the stability of the model. In addition
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32 to the fit indices not meeting the fitness threshold proposed by others (e.g., Hu & Bentler, 1999)
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34 although they appear generally acceptable, the behavioral factor loadings were relatively low,
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36 ranging from .33 to .38. Likewise, the internal consistency of the YPI-S was low and only a few
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38 of the Big Five personality and psychopathy domains were correlated. These observations caused
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40 the present study to somewhat deviate from previous studies (see Fassoati et al., 2016; van
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42 Baarderwijk et al., 2010). The exclusion of the YPI-S items raised several questions relating to
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44 whether (1) they constitute cultural appropriate markers of psychopathic tendencies or their
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46 meanings are reflective of indicators of psychopathy in Ghana, (2) their expressions are yet to
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48 reach the threshold to be detected as psychopathic traits, and (3) self-report is the appropriate
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50 method to measure them. In a supposedly collectivist society like Ghana, the endorsement of the
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3 item indicating abandoning people to solve their own problems (item 6) certainly undermines the
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5 ethos of the socialization process, but as to whether it reflects psychopathic tendencies is
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8 unknown since behaviors contradicting cultural expectations are not necessarily
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10 psychopathological. Moreover, because one's feelings can affect a broader network of people in
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12 collectivist societies, it seems important that individual-level feelings should be well monitored
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14 and controlled. On the other hand, because of the support system available to those expressing
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16 negative and unhealthy feelings, the motivation to curtail and suppress the feelings may be
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18 minimal. Thus, whether the item (18) indicating the ability to regulate and control one's feelings
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20 than others reflects psychopathic tendencies remains debatable.
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25 It also seem that the collectivistic nature of Ghanaian society is under threat from
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27 globalization and the subsequent importation of Western practices. That is, although Ghanaian
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29 cultures are theoretically collectivist, practically, the socialization process tends to lean toward
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31 individualistic tendencies (XXX, under review). While this may contribute to the identification
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33 of the three-factor psychopathy model, it could also account for the limited comparability of this
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35 and previous studies. Children from families experiencing this sort of acculturation may
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37 encounter unique challenges pertaining to which value system to adopt and adhere to as they
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39 vacillate between the principles of collectivism and individualism. Importantly, because this style
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41 of acculturation may not manifest on the same magnitude and scale across the various ethnic
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43 groups and families, it could serve as another source of variation relating to the usefulness of test
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45 items in Ghana. Likewise, inherent in the staggering amount of ethnic diversity, which was noted
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47 previously as a hallmark of the Ghanaian society, is the differences in the usefulness of some of
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49 the supposed indicators of psychopathy. Although the socialization goal may be similar, the
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51 seemingly (subtle) inter-ethnic differences that exist because of the motivation to uphold and
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3 perpetuate the unique practices, beliefs, and value systems of the various ethnic groups could
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5 introduce inter-ethnic differences in the endorsement of the YPI-S. Although this was not
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7 empirically tested due to data constraint, it influences could not be discounted. Lastly, even
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9 though English is the official language of instruction in Ghanaian schools, as non-native speakers,
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11 there is a possibility that the participants translated the items from English to their native
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13 language for a better comprehension and back to English before registering their responses. This
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15 sort of “self-back-to-back” translation could cause their responses to deviate from those of native
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17 speakers or Western samples.
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22 The study should be evaluated given the following limitations. Because the participants
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24 were conveniently sampled from academic settings, there is the possibility that those who did not
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26 participate will respond differently to the YPI-S items. Self-report measures provide no
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28 mechanism to verify the accuracy of participants’ response, thus inaccurate responses are
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30 possibilities. The small to moderate or differential correlations between the YPI-S and the Big-
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32 Five and aggression measures could be due to the fact the latter were not validated in Ghana. The
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34 generalizability of the study findings to adolescents with dissimilar background characteristics
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36 (e.g., those out of school) may be limited. In conclusion, the study partly demonstrated the utility
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38 of the YPI-S in Ghana, thereby contributing to the accumulating literature on the universality and
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40 assessment of psychopathic tendencies. Importantly, it highlights cultural influences on the
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42 assessment of cross-cultural traits and the problem of exporting Western-based findings to non-
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48 Western context.
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Table 1

Confirmatory factor analysis model fit indices for tested models of the Youth Psychopathic Inventory (YPI)

Model/Fit Indices	χ^2	df	<i>p</i>	χ^2/df	CFI	TLI	RMSEA	AIC	BIC
YPI									
3-Factor (18 items)									
Full sample	326.42	132	.001	2.47	.79	.76	.07	404.42	552.23
Respecified	301.94	130	.001	2.32	.82	.78	.06	-	-
Invariance test									
Unconstrained	466.08	264	.001	1.77	.79	.75	.049	-	-
Constrained	487.62	282	.001	1.73	.78	.77	.047	-	-
Constrained respeci.	440.88	276	.001	1.60	.83	.81	.04	-	-
3-Factor (13 items)									
Full sample	108.67	62	.001	1.75	.90	.92	.05	166.67	276.58
Invariance test									
Unconstrained	172.12	124	.003	1.39	.92	.90	.04	-	-
Constrained	185.76	137	.004	1.36	.92	.91	.03	-	-
Constrained respecified	171.79	135	.017	1.27	.94	.93	.03	-	-
Cross-Validation									
3-Factor (18 items)									
Full sample	293.88	132	.001	2.23	.85	.83	.06	371.88	523.76
3-Factor (13 items)									
Full sample	113.44	61	.001	1.86	.93	.91	.05	173.44	290.28
Invariance test									
Unconstrained	195.83	122	.001	1.61	.90	.87	.04	-	-
Constrained	210.15	135	.001	1.56	.90	.88	.04	-	-
Constrained respecified	198.91	133	.001	1.50	.91	.90	.04	-	-

Table 2

Standardized Factor Loadings of the Three-factor Model of the Youth Psychopathy Traits Inventory-Short Version in High School Sample (N = 327)

	ID	AD	BD	R ²
I have the ability to con people by using my charm and smile (4)	.72			.47
When I need to, I use my smile and my charm to use others (14)	.71			.48
It's easy for me to manipulate people (9)	.67			.46
I am good at getting people to believe me when I make something (5)	.54			.39
I have talents that go far beyond other people's (8)	.39			.23
I think that crying is a sign of weakness even if no one sees you (3)		.69		.43
To be nervous and worried is a sign of weakness (10)		.58		.34
To feel guilty and remorseful about things you have done that have hurt other people is a sign of weakness (17)		.44		.18
I don't understand how people can be touched enough to cry by watching things on TV or movie (15)		.33		.10
I consider myself as a pretty impulsive person (2)			.38	.18
It has happened several times that I've borrowed something and then lost it (13)			.38	.21
It often happens that I talk first and think later (7)			.33	.15
I get bored quickly by doing the same thing over and over (11)			.33	.13
I have probably skipped school or work more than most other people (1)*				
When other people have problems, it is often their own fault. therefore one should not help them (6)*				
It often happens that I do things without thinking ahead (12)*				
I am destined to become a well-known, important and influential person (16)*				
I don't let my feelings affect me as much as other people's feelings seem to affect them (18)*				

ID = Interpersonal domain; AD = Affective domain; BD = Behavioral domain; R² = Squared multiple correlations

*items not forming part of the three factor model investigated in this study

Table 3

Descriptive Data, Internal Consistency and Differences Between Male and Female Sample

	<u>Total sample (n = 327)</u>				<u>Male (n = 141)</u>				<u>Female (n = 186)</u>				<i>t</i> test
	<i>Mean</i>	<i>SD</i>	<i>α</i>	<i>MIC</i>	<i>Mean</i>	<i>SD</i>	<i>α</i>	<i>MIC</i>	<i>Mean</i>	<i>SD</i>	<i>α</i>	<i>MIC</i>	
Psychopathy													
Interpersonal	7.47	3.43	.77	.40	7.56	3.40	.77	.40	7.41	3.47	.78	.41	.40
Affective	4.90	2.72	.56	.24	5.44	2.43	.37	.13	4.48	2.87	.64	.31	3.26**
Behavioral	4.23	2.14	.44	.17	4.39	2.21	.46	.13	4.10	2.08	.42	.16	1.18
Total	16.60	5.92	.71	.16	17.39	5.82	.70	.15	16.00	5.94	.72	.17	2.12*
Aggression													
Reactive	6.93	3.59	.80	.34	7.32	3.83	.82	.22	6.62	3.38	.78	.18	1.77
Proactive	5.06	5.23	.91	.40	5.99	5.48	.91	.27	4.36	4.93	.91	.31	2.83**
Total	11.99	8.24	.92	.47	13.32	8.78	.93	.36	10.98	7.69	.93	.34	2.56*
Big-Five													
Extraversion	24.79	4.90	.79	.29	24.89	4.73	.74	.19	24.71	5.04	.68	.15	.33
Agreeableness	28.70	4.16	.73	.25	28.33	4.09	.71	.16	28.98	4.20	.73	.17	1.42
Conscientiousness	32.93	5.07	.80	.38	32.15	4.88	.68	.15	33.52	5.15	.80	.18	2.43*
Neuroticism	22.36	3.80	.77	.35	22.05	3.65	.87	.20	22.59	3.90	.75	.16	1.27
Openness	35.48	4.54	.69	.20	35.96	4.28	.79	.21	35.12	4.71	.83	.20	1.66

Note. α = Cronbach's Alpha, MIC = Mean inter-item correlation* $p < .05$, ** $p < .01$

Table 4

Bivariate and Partial Correlations Between Youth Psychopathic Traits Inventory-Short Version (YPI-S) Scores and External Criterion

	Type of correlation	Total sample (n = 327)				Male (n = 141)				Female (n = 186)			
		ID ^a	AD ^b	BD ^c	Total	ID ^a	AD ^b	BD ^c	Total	ID ^a	AD ^b	BD ^c	Total
Aggression													
Reactive	Zero-order	.15**	.21**	.23**	.26**	.13	.20*	.04	.17*	.16*	.19*	.39**	.32**
	Partial	.07	.14*	.16**	—	.07	.17*	-.03	—	.03	.11	.34***	—
Proactive	Zero-order	.20**	.18**	.11	.24**	.25**	.19*	.09	.19*	.16*	.15*	.26**	.26**
	Partial	.16**	.13*	.03	—	.21*	.15	-.17*	—	.08	.08	.21**	—
Total	Zero-order	.19**	.21**	.17**	.27**	.21*	.20*	.04	.19*	.18*	.18*	.34**	.31**
	Partial	.13*	.15**	.09	—	.16*	.17*	-.12	—	.06	.10	.28***	—
Big-Five													
Extraversion	Zero-order	.21**	-.01	-.09	.11*	.20*	.09	.05	.17*	.23*	-.07	-.09	.07
	Partial	.23***	-.04	-.08	—	.18*	.02	.01	—	.27***	-.07	-.16*	—
Agreeableness	Zero-order	.05	-.13*	-.03	-.04	.12	-.10	.01	.03	.03	-.13	.04	-.08
	Partial	.08	-.14*	-.01	—	.16	-.15	.02	—	.03	-.13	-.01	—
Conscientiousness	Zero-order	.06	-.08	-.24**	-.09	.16*	-.02	-.13	.03	-.01	.08	-.32**	-.15*
	Partial	.13*	-.04	-.25***	—	.18*	-.03	-.15	—	.11	-.02	-.32***	—
Neuroticism	Zero-order	-.09	.02	.29**	.05	-.24**	.11	.17*	-.03	.02	-.04	.38**	.13
	Partial	-.17**	-.05	.32***	—	-.31***	-.16	.17*	—	-.12	-.14	.42***	—
Openness	Zero-order	.21**	-.08	-.01	.08	.27**	-.05	.01	.14	.18*	-.13	-.03	.03
	Partial	.24**	-.13*	-.04	—	.30***	-.16	.01	—	.21**	-.15*	-.07	—

Note. ID = Interpersonal dimension, AD = Affective dimension, BD = Behavioral dimension

The partial correlations control for AD and BD. The partial correlations control for ID and BD. The partial correlations control for ID and AD

*p< .05, **p< .01, ***p< .001

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