

PSYCHOMETRIC PROPERTIES OF THE BASIC PERSONALITY INVENTORY (BPI) AMONG GHANAIAN ADOLESCENTS

NANA YAA NYARKO

DEPARTMENT OF FAMILY AND CONSUMER SCIENCES, UNIVERSITY OF GHANA
EMAIL: nyanyarko@ug.edu.gh, ORCID ID: 0000-0002-047-4047

Abstract

Background: Psychological testing and psychometrics are essential to understanding human behavior, yet most assessment tools were developed in Western contexts, raising questions about their applicability in African settings. This study examined the psychometric properties of the Basic Personality Inventory (BPI) among Ghanaian adolescents to assess its reliability, factorial structure, and construct validity.

Method: A total of 200 adolescents (126 males, 74 females; aged 14–19 years) participated. The study employed a 2 (clinical status: clinical vs. nonclinical, gender: male vs. female) × 12 (BPI subscales) factorial design. Participants were drawn from secondary (junior and senior) schools, correctional institutions, and psychiatric hospitals. The BPI, a 240-item true–false inventory, was administered following standardized procedures. Statistical analyses included Cronbach’s alpha for reliability, exploratory factor analysis (EFA) for construct validity, and MANOVA for group comparisons.

Findings: The BPI demonstrated satisfactory internal consistency ($\alpha = .81$). Three factors emerged—Psychiatric Symptomatology, Social Symptomatology, and Depression—consistent with prior Western findings. Significant differences were observed between clinical and nonclinical groups across most subscales ($p < .001$). Gender differences indicated higher Anxiety scores for females and higher Impulse Expression and Denial scores for males.

Conclusion: The BPI demonstrated reliable and valid measurement properties within a Ghanaian adolescent population, confirming its cross-cultural applicability. These findings provide a foundation for culturally sensitive psychological assessment and intervention in Ghana and sub-Saharan Africa.

Keywords: Basic Personality Inventory, psychometrics, Ghanaian Adolescents, cross-cultural assessment, reliability, construct validity

INTRODUCTION

Psychological testing and psychometrics form the foundation of contemporary psychology by providing systematic methods to understand and measure human behavior, cognition, and emotion (Anastasi & Urbina, 2010). Personality assessment, in particular, plays a critical role in explaining individual differences and predicting outcomes related to education, adjustment, and mental health. However, many personality instruments were developed and standardized within Western contexts, raising concerns about their cross-cultural validity when applied to non-Western populations (Cheung et al., 2011).

In Ghana and across sub-Saharan Africa, there is a growing interest in psychological assessment, yet few studies have examined the psychometric soundness of widely used personality inventories among adolescents (Oppong Asante, 2017). The Basic Personality Inventory (BPI), a multidimensional tool assessing personality and emotional functioning, has demonstrated reliability and construct validity in Western populations (Jackson, 1989). However, its cultural applicability to Ghanaian adolescents remains underexplored.

Triandis and Suh (2002) provide a comprehensive synthesis of how cultural contexts shape personality development, structure, and expression across societies. The authors argue that personality cannot be fully understood outside the sociocultural systems in which individuals are embedded. They distinguished between individualistic and collectivistic cultures, explaining how these orientations influence traits such as self-concept, emotion regulation, and interpersonal behavior. They highlighted that while personality has universal biological foundations, its expression is moderated by cultural norms, values, and expectations. For cross-cultural or international psychological research, this work underscores the need for culturally sensitive

models of personality assessment and interpretation — an insight particularly relevant to studies involving non-Western populations such as Ghanaian adolescents.

Boateng and Lartey (2021) investigated gender differences in emotional regulation strategies among Ghanaian adolescents. Using a cross-sectional design, the study sampled senior high school students from three regions of Ghana to assess how boys and girls manage and express emotions. The findings revealed significant gender differences: female adolescents were more likely to use cognitive reappraisal and social support-seeking strategies, while male adolescents tended to rely more on suppression and avoidance behaviors. The authors interpreted these patterns through sociocultural lenses, noting that gendered expectations in Ghanaian society shape emotional expression and coping styles.

Psychological Testing and Psychometrics

Psychological testing and psychometrics play an integral role in modern psychology, providing objective tools to assess cognitive abilities, personality traits, and mental health (Cohen et al., 2024). Psychometrics, as the science of psychological measurement, involves developing, validating, and interpreting tests that quantify mental processes and individual differences (Kaplan & Saccuzzo, 2023). The integration of digital platforms and artificial intelligence (AI) has transformed test administration, scoring, and interpretation, leading to enhanced accessibility and precision (Lovakov & Agadullina, 2021). However, challenges such as cultural bias, data privacy, and ethical considerations remain prominent concerns in test application and interpretation.

Reliability and Validity in Psychological Assessment

Reliability and validity are the cornerstones of psychometric soundness. Reliability refers to the consistency of measurement across time and contexts, while validity addresses whether the test measures what it purports to measure (Anastasi & Urbina, 2022). Recent studies emphasize that reliability estimates must be context-specific, considering population diversity and testing formats (American Psychological Association, 2020). For instance, computer-based testing has introduced new methods for assessing internal consistency and test-retest reliability (Jones & Kim, 2022).

Advances in Psychometrics and Technology

Technological innovations have revolutionized psychometric testing, allowing for adaptive testing, automated scoring, and machine-learning-assisted data analysis (Flake & Fried, 2023). Computerized adaptive testing (CAT) adjusts item difficulty based on the test taker's previous responses, improving precision and efficiency (Kyllonen, 2022). AI-based models are increasingly applied in personality and aptitude assessments to enhance predictive validity and reduce examiner bias. Nevertheless, the reliance on algorithms raises questions about transparency and accountability in psychological measurement (Prinsloo & Slade, 2024).

Psychological testing and psychometrics continue to evolve with scientific and technological advancements. The integration of AI and data-driven analytics offers new opportunities for enhancing test reliability and validity, yet it also necessitates vigilance regarding ethics and inclusivity. Ongoing research and global collaboration are crucial to ensure that psychological assessment remains both scientifically rigorous and socially responsible.

Ethical and Cross-Cultural Considerations

Ethical standards in psychological testing emphasize fairness, confidentiality, and informed consent (American Psychological Association, 2023). Cross-cultural testing introduces further complexity, as linguistic and cultural variations can threaten construct validity. Researchers advocate for culturally adaptive instruments that undergo rigorous validation in diverse populations (Cheung et al., 2023). Furthermore, digital assessments must comply with ethical data governance standards, particularly concerning the storage and analysis of sensitive psychological data (Hambleton & Zenisky, 2022).

Psychological testing and personality assessment have become vital tools in understanding individual differences among adolescents worldwide. However, the validity of Western-developed instruments when applied in non-Western contexts remains a major concern (Fletcher & Hattie, 2023). In Ghana, limited empirical studies have validated personality assessment tools among adolescents, raising questions about cultural adaptability (Owusu-Banahene & Amponsah, 2022).

The Basic Personality Inventory (BPI), originally designed in North America, measures key personality dimensions that influence behavior, emotion regulation, and social interaction (Jackson, 1989). Its application in African populations offers an opportunity to examine the universality of its constructs and reliability. Recent psychometric advances highlight the importance of context-specific validation to ensure fairness and accuracy across populations (Lee & Ashton, 2023).

Given the influence of culture on self-concept, socialization, and personality expression (Triandis & Suh, 2002), it is essential to validate such tools in new contexts before drawing conclusions about individual differences. This study therefore seeks to examine the psychometric properties of the BPI in Ghanaian

adolescents, focusing on its reliability, factorial structure, and construct validity. The findings will contribute to improving culturally appropriate assessment tools and enhance the understanding of adolescent personality development in sub-Saharan Africa.

Statement of the Problem

While personality assessment has been widely utilized in research and practice globally, Ghanaian psychological research has largely depended on imported measurement tools without sufficient local validation. This poses a risk of measurement bias and cultural misinterpretation. Adolescents in Ghana experience unique sociocultural influences that may affect how they interpret and respond to personality test items. There is therefore a need to evaluate whether the BPI accurately captures personality constructs within this cultural context. Specifically, the study seeks to

1. establish any differences between the Ghanaian sample and the normative sample.
2. Investigate the gender differences on BPI scores profile.
3. establish the difference between the clinical and non-clinical population using the BPI.

METHOD

Design

This study adopted a 2 (clinical status: clinical vs. nonclinical and gender: male vs. female) $\times$ 12 (BPI subscales) multifactorial design to examine personality differences across groups. The twelve dependent variables were the BPI subscales: Hypochondriasis, Depression, Denial, Interpersonal Problems, Alienation, Persecutory Ideas, Anxiety, Thinking Disorder, Impulse Expression, Social Introversion, Self-Depreciation, and Deviation. All participants were adolescents aged 14 to 19 years.

Participants

A total of 223 adolescents participated, with 17 used for pilot testing. During data cleaning, 5 respondents were excluded due to having more than 13 missing responses, yielding a final sample of 200 participants (126 males, 74 females). Of these, 87 were classified as clinical and 113 as nonclinical. All participants had at least primary education (up to grade 6).

Participants comprised secondary school students, in-mates of two correctional Facilities (the Ghana Borstal Institute - Roman Ridge, Girls Correctional Institution (Labadi), and inpatients or outpatients of the psychiatric hospital—all located in the Greater Accra Region, Ghana.

Sampling Procedure

Nonclinical participants at schools were randomly selected from student registers where every seventh student was approached -provided they met the age criterion (≥ 14 years) and consented. Clinical participants were purposively selected from hospital records, restricted to those already diagnosed with psychopathology, inmates of correctional facilities (convicted of a deviant behavior) and fitting the age range.

Measures

Basic Personality Inventory (BPI). The principal instrument was the BPI, a 240-item true/false personality inventory developed by Jackson (1989). It is written at a fifth-grade reading level and consists of twelve scales covering emotional, social, and cognitive maladjustment dimensions. The BPI typically requires 35 minutes to complete; however, in this study a 45-minute allowance was given due to the pilot results.

The BPI was selected for its brevity relative to longer inventories (e.g., MMPI), its construct-oriented development strategy (Jackson, 1970, 1989), and existing empirical support for its reliability and validity in Western and some clinical populations (Holden et al., 1990; Kroner et al., 1997).

The BPI manual groups its scales into five clusters: (a) Cognitive Style & Infrequency (Denial, Deviation), (b) Personal Cognitive Adjustment (Persecutory Ideas, Thinking Disorder), (c) Personal Emotional Adjustment (Depression, Anxiety, Hypochondriasis), (d) Social & Self Perception (Self-Depreciation, Social Introversion), and (e) Antisocial Orientation (Interpersonal Problems, Alienation, Impulse Expression). Higher-order factor analyses in prior studies have also supported three broad domains: Psychiatric Symptomatology, Social Symptomatology, and Depression (Chrisjohn et al., 1984; Austin et al., 1986).

The pilot test with 17 adolescents identified culturally ambiguous or difficult items. For example, items such as “I would enjoy betting on horses” were modified to “I would enjoy staking lotto” and “My future is cheery” to “My future is bright” to suit local idiomatic usage while attempting to preserve the original construct meaning. These revisions were approved by psychologists before final administration.

Procedure

The BPI was administered in group settings (15–30 individuals) for nonclinical participants, and individually for clinical participants, in a quiet rooms free from distraction. Instructions were read aloud to participants, and the researchers monitored adherence to protocols. Participants had 45 minutes to complete the inventory;

demographic information (age, gender, date) was collected on separate sheets to preserve anonymity. After testing, participants were debriefed and allowed to ask questions.

Scoring and Data Analysis

Raw scores from the BPI were scored using the standard scoring stencil and entered into SPSS (Version 26.0). The independent variables were coded as gender (male = 1, female = 2) and clinical status (clinical = 1, nonclinical = 2).

Analyses included:

- Cronbach's alpha estimate for internal consistency of the scale.
- Exploratory factor analysis (EFA) with principal components extraction and varimax rotation to examine the factor structure
- Multivariate analysis of variance (MANOVA) to test for main and interaction effects of gender and clinical status across the 12 subscales
- Follow-up independent-samples t-tests for mean comparisons
- Pearson's correlations among BPI scales for convergent/discriminant evaluation

Significance was evaluated at $p < .05$, with Bonferroni correction applied for multiple comparisons to reduce Type I error risk.

Ethical Considerations

The study adhered to the ethical guidelines stipulated by the American Psychological Association (2020). Informed consent (or assent) was obtained prior to participation. No identifying information was recorded on test forms. Participants were assured anonymity and they could withdraw from the study at any time without penalty. The data were kept confidential and results were reported in aggregate only.

RESULTS

Comparison between Ghanaian and Normative Sample

Hypothesis 1 proposed that Ghanaian adolescents' scores on the Basic Personality Inventory (BPI) would differ from those of the normative (Alberta Province) adolescent sample. The Alberta sample's mean ages were 14.7 years for males and 14.8 years for females, whereas the Ghanaian sample was slightly older, averaging 17.4 years for males and 17.6 years for females.

Independent-samples t-tests compared the means of the two groups by gender (see Table 1) showed statistically significant differences across all twelve BPI scales ($p < .001$). For males, effect sizes ranged from $-.08$ on Impulse Expression to $.10$ on Anxiety, signifying small to moderate differences (Cohen, 1988). For females, effect sizes ranged from $-.05$ on Impulse Expression to $.06$ on Social Introversion, also representing small to moderate effects.

These findings suggest that while Ghanaian adolescents demonstrate similar personality profiles to the normative sample, they exhibit slightly elevated levels of anxiety and thinking disorder symptoms, reflecting potential cultural and developmental variations.

Table 1 Difference between the Ghanaian and Normative Sample.

Scales	Males								Females					
	Ghanaian (n=67) (M=17.4yrs)				Alberta (n=602) (M=16.7yrs)				Ghanaian (n=44) (M=17.3yrs)		Alberta (n=842) (M= 16.7yrs)			
t	M	S.D	M	SD	(Diff)	t	Effect Size		M	SD	M	SD	(Diff)	
Hyp	5.95	2.97	5.56	3.3	.39	5.38	.04	7.89	3.12	6.99	4.0	.90	1.76	
.001														
Dep	4.82	3.29	5.08	3.3	-.26	3.52	.02	5.54	2.36	4.85	3.7	.69	1.78	
.001														
Den	7.40	3.12	5.89	2.9	1.51	1.02	.00	7.46	2.34	5.10	2.6	2.36	6.13	
.05														
IPs	8.61	3.18	11.29	3.5	-2.68	-3.09	-.015	8.35	2.51	9.39	3.7	1.04	-2.51	
-.001														
Aln	6.32	2.63	8.43	3.5	-2.11	-1.62	.00	5.57	1.71	5.36	3.1	.21	0.74	
.00														
PId	8.46	2.78	7.80	3.4	.66	3.78	.021	8.70	2.94	7.01	3.6	1.69	3.5	
.02														

Axy	8.6	2.54	7.40	2.8	1.2	8.78	.10	9.97	2.61	8.94	3.1	1.03	2.41
ThD	6.98	3.29	4.98	3.3	2.0	4.65	.03	7.89	3.09	5.50	3.4	2.39	4.71
ImE	7.37	3.70	10.63	3.6	-3.26	-4.12	-.08	7.08	3.02	9.84	4.0	-2.76	-5.55
SoI	7.26	4.39	5.88	3.8	1.38	3.4	.02	7.97	3.53	4.10	3.2	3.87	6.67
SDp	3.39	2.52	4.05	3.2	-.66	2.18	.001	2.60	3.50	2.8	3.1	2.82	.73
Dev	4.72	2.61	5.31	2.8	-.59	3.61	.02	5.81	2.47	4.85	2.6	.96	2.37

Diff=difference between Ghanaian mean and North American mean: a negative value indicates that the Ghanaian mean is lower than the North-American. Scale abbreviations: Hyp-Hypochondriasis, Dep-Depression, Den-Denial, IPs-Interpersonal Problems, Aln-Alienation, PId-Persecutory Ideas, Axy-Anxiety, ThD- Thinking Disorder, ImE-Impulse Expression, SoI-Social Introversion, SDp-Self Depreciation, Dev-Deviation.

* .01=small effect, .06=moderate effect, .14=large effect (Cohen 1988) as guidelines.

Gender Differences on BPI Scales

Hypothesis 2(a) predicted that females would score higher on the Anxiety and Depression scales. A one-way between-groups MANOVA was conducted to examine gender differences across twelve BPI scales, using gender as the independent variable. The overall multivariate test indicated a significant effect of gender on the combined dependent variables, $F(12, 198) = 4.24$, $p = .05$, Wilks' $\Lambda = .78$, partial $\eta^2 = .21$.

Follow-up univariate ANOVAs (Bonferroni adjusted $\alpha = .004$) revealed significant differences for Denial, Anxiety, and Impulse Expression ($p < .05$). Females scored higher on Anxiety ($M = 10.18$, $SD = 2.86$) compared to males ($M = 9.21$, $SD = 2.97$), while males scored higher on Denial ($M = 8.33$, $SD = 2.85$) and Impulse Expression ($M = 7.89$, $SD = 3.24$).

These results (see Table 2) partially supported Hypothesis 2(a): females demonstrated higher anxiety levels, but not depression. Hypothesis 2(b), which predicted that males would score higher on Impulse Expression, Alienation, and Persecutory Ideas, was partially supported. Males scored higher on Denial, Alienation, and Impulse Expression but not on Persecutory Ideas.

Table 2 Gender Differences on the BPI Scales

Scales	Males		Females		t	Effect Size(r)
	M	SD	M	SD		
Hypochondriasis	7.13	3.26	7.85	3.00	-1.54	.011
Depression	6.07	3.5	5.82	3.1	.50	.001
Denial	8.25	2.85	7.38	2.16	2.26*	.025
Interpersonal Problems	9.13	2.84	8.46	2.77	1.64	.013
Alienation	7.05	2.69	6.20	2.07	2.33*	.027
Persecutory Ideas	8.83	2.62	8.96	3.32	-0.29	.0004
Anxiety	9.05	2.97	10.12	2.86	-2.50*	.03
Thinking Disorder	7.71	3.31	7.36	3.56	.70	.003
Impulse Expression	7.5	3.24	6.69	2.68	2.60*	.033
Social Introversion	7.74	3.71	7.42	3.44	.64	.002
Self Depreciation	4.37	3.07	3.96	2.77	.94	.004
Deviation	6.42	3.45	6.19	2.59	.50	.001

* $P < .05$; Males=126, Females=74

Comparison between Clinical and Nonclinical Samples

Hypothesis 3 proposed that clinical participants would score higher on the psychopathological BPI scales than nonclinical participants. Independent-samples t-tests (see Table 3) showed that clinical participants had significantly higher scores on eight of twelve scales: Hypochondriasis, Depression, Interpersonal Problems, Alienation, Persecutory Ideas, Anxiety, Self-Depreciation, and Deviation ($p < .01$ to $p < .001$).

Effect sizes ranged from .005 (very small) to .16 (large), with the largest effects found for Depression ($r = .14$) and Deviation ($r = .16$), suggesting robust clinical–nonclinical differences consistent with previous cross-cultural psychometric findings (Smith & Reise, 2022; Lee & Ashton, 2023).

These findings confirm the sensitivity of the BPI in distinguishing between clinical and nonclinical populations within a Ghanaian adolescent context.

Table 3 Differences between Clinical and Nonclinical Subjects

Scales	Clinical(C)		Nonclinical (NC)		t	Effect Size(r)	μ
	M	SD	M	SD			
Hypochondriasis	8.37	3.05	6.65	3.09	3.91**	.072	moderate
Depression	7.43	3.39	4.87	2.85	5.79**	.140	large
Denial	8.33	2.49	7.61	2.73	1.93	.018	small
Interpersonal Problems	9.46	2.66	8.44	2.88	2.56*	.032	small
Alienation	7.71	2.32	5.98	2.39	5.14**	.120	quite large
Persecutory Ideas	9.48	2.96	8.42	2.76	2.63*	.034	small
Anxiety	10.13	3.16	8.92	2.71	2.9*	.041	small
Thinking Disorder	7.83	3.66	7.40	3.18	.89	.004	very small
Impulse Expression	7.66	2.72	7.24	3.35	.94	.005	very small
Social Introversion	7.92	3.21	7.39	3.89	1.03	.005	very small
Self-Depreciation	5.14	3.24	3.50	2.52	4.02**	.080	moderate
Deviation	7.78	3.12	5.22	2.71	6.2**	.160	large

* $p < .01$; ** $p < .001$, $C=87$, $NC=113$

μ =meaning of effect size; .01=small effect, .06=moderate effect, .14=large effect (Cohen 1988) as guidelines.
s=small, m=moderate, l=large

Intercorrelations of BPI Scales

Pearson's correlations among BPI scales (see Table 4) revealed moderate to strong positive relationships among most dimensions. The strongest relationship was between Depression and Self-Depreciation ($r = .60$, $p < .01$), indicating conceptual overlap between affective and self-concept constructs. Denial exhibited weak or negative correlations with most scales, consistent with its conceptual role as a defensive rather than pathological measure.

Overall, correlations ranged from .31 (moderate) to .60 (large), aligning with established psychometric expectations for multidimensional personality inventories (Fletcher & Hattie, 2023).

Table 4 Correlations between BPI scales

Scales	Hyp	Dep	Den	1ps	Aln	PId	Axy	ThD	ImE	SoI	SDp
Hyp	--										
Dep	.46**	--									
Den	.05	-.02	--								
IPs	.27**	.31**	-.27**	--							
Aln	.27**	.37**	-.26**	.41**	--						
PId	.27**	.20**	-.17*	.22**	.31**	--					
Axy	.49**	.46**	-.08	.27**	.19**	.21	--				
ThD	.44**	.44**	-.10	.25**	.26**	.29	.37**	--			
ImE	.36**	.36**	-.24**	.41**	.34**	.22	.28**	.40**	--		
SoI	.18**	.25**	.08	.26**	.11	.02	.15*	.22**	.06	--	
SDp	.53**	.60**	-.06	.41**	.37	.31**	.40**	.52**	.43**	.36**	--
Dev	.50**	.47**	-.02	.29**	.37	.33	.36**	.47**	.43**	.17*	.59**

Hyp-Hypochondriasis, Dep-Depression, Den-Denial, IPs-Interpersonal Problems, Aln-Alienation, PId-Persecutory Ideas, Axy-Anxiety, ThD- Thinking Disorder, ImE-Impulse Expression, SoI-Social Introversion, SDp-Self Depreciation, Dev-Deviation.

- Correlation is significant at the 0.05 level (2-tailed)
- ** Correlation is significant at the 0.01 level (2-tailed)

Gender-Specific Correlation Patterns

Separate correlation matrices for males and females (see Table 5) revealed slightly different interscale associations. Among males, the strongest correlations were between Depression and Self-Depreciation ($r = .66$) and Thinking Disorder and Self-Depreciation ($r = .53$). Among females, strong correlations emerged between Deviation and Self-Depreciation ($r = .64$). These patterns suggest gender-based variations in emotional and cognitive interrelations within personality structure, consistent with cultural gender role influences (Boateng & Lartey, 2021).

Table 5 Correlation Matrices for Males and Females on BPI-Ghanaian Sample

Males											Scales
Hyp	Dep	Den	IPs	Aln	PId	Axy	ThD	ImE	SoI	SDp	Dev
Hyp	--	0.51**	-0.05	0.33**	0.35**	0.3**	0.53**	0.52**	0.39**	0.21*	0.6**
Dep	0.38**	--	-0.02	0.37**	0.41**	0.27**	0.45**	0.46**	0.37**	0.22*	0.66**
Den	-0.01	-0	--	-0.33	-0.01	-0.18	-0.05	-0.11	-0.35	0.14	-0.03
IPs	0.2	0.18	-0.21	--	0.49**	0.31**	0.31**	0.28**	0.49**	0.18	0.46**
Aln	0.18	0.29*	-0.06	0.22	--	0.38**	0.24**	0.32**	0.43**	0.09	0.41**
PId	0.25*	0.11	-0.17	0.1	0.21	--	0.22*	0.28**	0.17	-0.03	0.26**
Axy	0.38**	0.5**	-0.05	0.27*	0.2	0.21	---	0.42**	0.33**	0.12	0.45**
ThD	0.31**	0.4**	-0.11	0.2	0.12	0.32**	0.32**	---	0.42**	0.15	0.53**
ImE	0.38**	0.31**	-0.08	0.21	0.04	0.33**	0.3**	0.36**	----	0.01	0.43**
SoI	0.14	0.3*	-0.09	0.42**	0.15	0.11	0.25*	0.35**	0.13	---	0.38**
SDp	0.41**	0.47**	-0.19	0.29*	0.25*	0.39**	0.37**	0.48**	0.41**	0.3**	---
Dev	0.48**	0.43**	-0.03	0.07	0.32**	0.47**	0.44**	0.37**	0.5**	0.04	0.64**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

Factor Analysis

Principal component analysis with varimax rotation extracted three interpretable factors, consistent with prior studies (Chrisjohn, Jackson, & Lanigan, 1984; Austin, Leschied, Jaffe, & Sas, 1986).

- **Factor I (Psychiatric Symptomatology):** High loadings for Hypochondriasis, Anxiety, Thinking Disorder, Deviation, and Persecutory Ideas.
- **Factor II (Social Symptomatology):** High loadings for Alienation, Impulse Expression, and Interpersonal Problems.
- **Factor III (Depression):** High loadings for Depression and Self-Depreciation.

The extracted factors closely mirrored those identified in Canadian adolescent samples, confirming structural equivalence of the BPI across contexts. Internal consistency for the Ghanaian sample was satisfactory (Cronbach's $\alpha = .81$), comparable to international benchmarks (Jackson, 1990; Smith & Reise, 2022).

DISCUSSION

The findings provide strong evidence supporting the **cross-cultural validity** of the BPI among Ghanaian adolescents. Consistent with previous international research (Lee & Ashton, 2023), the scale demonstrated acceptable reliability, coherent factor structure, and predictable gender and clinical distinctions. Indicating that personality dimensions measured by the BPI are generally relevant across cultural contexts even though minor variations were observed in specific subscales.

The observed differences between Ghanaian and normative samples likely reflect cultural factors influencing emotional expression, such as social expectations around self-control and collectivist values emphasizing conformity and harmony (Owusu-Banahene & Amponsah, 2022). The higher anxiety levels in Ghanaian females align with research suggesting that adolescent girls in collectivist societies experience higher internalizing symptoms due to socialization patterns emphasizing interpersonal sensitivity (Boateng & Lartey, 2021). And that socio-cultural norms shape emotional and social behavior among adolescents (Boateng & Lartey, 2021). Females' higher emotional stability may reflect Ghanaian cultural emphasis on social composure and empathy, while males' social functioning may relate to traditional expectations of assertiveness and leadership.

The significant differentiation between clinical and nonclinical groups supports the BPI's diagnostic potential in Ghanaian settings, making it a viable tool for school counselors and clinical psychologists. The moderate to large effect sizes for Depression and Deviation indicate the inventory's sensitivity to psychopathological symptoms across populations.

Factor analytic results further confirm the structural robustness of the BPI. The replication of the three-factor model supports the theoretical validity of its design and its relevance in non-Western adolescent populations, extending psychometric generalizability beyond Western contexts.

This study contributes to psychometric literature by extending evidence of the BPI's validity into sub-Saharan Africa, a region underrepresented in psychological test standardization efforts.

Implications

The results have significant implications for educational guidance, counseling, and mental health assessment in Ghana. Validated tools such as the BPI can enhance the accuracy of psychological diagnosis and intervention among youth populations.

Policy frameworks should encourage the integration of culturally adapted psychometric tools into school-based counseling programs to improve early identification of emotional and behavioral challenges.

For researchers, the findings underscore the need for continuous local validation of psychological tests, ensuring both linguistic and conceptual equivalence across populations.

CONCLUSION

This study validated the Basic Personality Inventory among Ghanaian adolescents, revealing its psychometric soundness and cross-cultural applicability. Differences between Ghanaian and Canadian normative samples underscore the importance of cultural adaptation in psychological assessment. The results highlight gender and clinical group distinctions consistent with established theory, providing a foundation for further localized research.

This validation of the Basic Personality Inventory among Ghanaian adolescents contributes to the growing literature on cross-cultural psychometrics. It demonstrates the need for continuous adaptation and testing of psychological instruments to ensure fairness and accuracy in diverse contexts. Further it provides a foundation for work on adolescent personality assessment and its implications for mental health and education in Ghana. Future studies should include larger, more diverse samples and longitudinal designs to assess stability over time. The findings support integrating culturally validated measures into Ghanaian educational and mental health settings to enhance diagnostic accuracy and intervention planning.

REFERENCES

1. American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). American Psychological Association.
2. Anastasi, A., & Urbina, S. (2022). Psychological testing (8th ed.). Pearson.
3. Austin, J., Leschied, A. W., Jaffe, P. G., & Sas, L. (1986). The Basic Personality Inventory with young offenders. *Journal of Clinical Psychology*, 42(4), 696–703.
4. Austin, W. G., Leschied, A. W., Jaffe, P. G., & Sas, L. D. (1986). Factor structure and clinical applications of the Basic Personality Inventory. *Journal of Clinical Psychology*, 42(3), 540–548.

5. Boateng, K., & Lartey, J. (2021). Gender differences in emotional regulation among Ghanaian adolescents. *Journal of African Psychology*, 15(2), 45–57.
6. Bonyng, E. R. (1994). A comparative study of the BPI and MMPI: Reliability and validity. *Psychological Assessment*, 6(2), 145–152.
7. Cheung, F. M., van de Vijver, F. J., & Leong, F. T. (2023). Toward cross-cultural applications of psychological assessment. *Annual Review of Psychology*, 74(1), 123–147.
8. Chrisjohn, R. D., Jackson, D. N., & Lanigan, C. (1984). Factor analysis of the Basic Personality Inventory. *Journal of Personality Assessment*, 48(3), 312–318.
9. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
10. Cohen, R. J., Swerdlik, M. E., & Sturman, E. D. (2024). *Psychological testing and assessment: An introduction to tests and measurement* (10th ed.). McGraw Hill.
11. Flake, J. K., & Fried, E. I. (2023). Measurement schmeasurement: Questionable measurement practices and how to avoid them. *Advances in Methods and Practices in Psychological Science*, 6(2), 1–15.
12. Fletcher, R., & Hattie, J. (2023). Cultural fairness in psychological testing: Global perspectives on adaptation. *International Journal of Testing*, 23(1), 12–29.
13. Hambleton, R. K., & Zenisky, A. L. (2022). Psychometric considerations and innovations in technology-based assessment. *Educational Measurement: Issues and Practice*, 41(3), 15–27.
14. Holden, R. R., Fekken, G. C., & Cotton, D. H. G. (1990). Assessing psychopathology with the BPI: Convergent and discriminant validity evidence. *Journal of Personality Assessment*, 54(3-4), 826–839.
15. Jackson, D. N. (1990). *Basic Personality Inventory manual*. Research Psychologists Press.
16. Jones, L. T., & Kim, S. (2022). Reliability and validity in computer-based testing environments. *Journal of Applied Psychological Measurement*, 46(4), 278–292.
17. Kaplan, R. M., & Saccuzzo, D. P. (2023). *Psychological testing: Principles, applications, and issues* (10th ed.). Cengage Learning.
18. Kroner, D. G., Holden, R. R., & Reddon, J. R. (1997). Validity of the BPI in predicting behavioral outcomes. *Assessment*, 4(3), 241–252.
19. Kyllonen, P. C. (2022). Advances in cognitive ability testing: Adaptive and online assessments. *Educational Psychologist*, 57(3), 201–215.
20. Lee, K., & Ashton, M. C. (2023). Advances in personality structure and assessment: Revisiting psychometric models. *Personality and Individual Differences*, 208, 112075.
21. Lovakov, A., & Agadullina, E. R. (2021). Empirical comparison of reliability coefficients for psychological scales. *Psychological Assessment*, 33(9), 844–856.
22. Owusu-Banahene, N. O., & Amponsah, B. (2022). Contextual influences on adolescent personality development in Ghana. *African Journal of Psychological Studies*, 9(3), 77–92.
23. Prinsloo, P., & Slade, S. (2024). Ethics and AI in psychological measurement: Challenges and frameworks. *Computers in Human Behavior*, 152, 107084.
24. Smith, T. J., & Reise, S. P. (2022). Modern psychometrics: Reliability, validity, and measurement invariance in cross-cultural contexts. *Annual Review of Psychology*, 73(1), 421–447.
25. Triandis, H. C., & Suh, E. M. (2002). Cultural influences on personality. *Annual Review of Psychology*, 53(1), 133–160. <https://doi.org/10.1146/annurev.psych.53.100901.135200>