Structural Validity and Reliability of the Indonesian Version of PID-5

Study on Community and Student Sample

Widhi Adhiatma^{id} and Magdalena S. Halim

Faculty of Psychology, Atma Jaya Catholic University of Indonesia, Jakarta, Indonesia

Abstract. Many studies have evaluated the Personality Inventory for DSM-5 (PID-5) validity and reliability. Unfortunately, research on PID-5 in Southeast Asian countries is still limited. This study aimed to identify the structural validity and reliability of the Indonesian version of PID-5. We involved 963 participants, and 68 of these participants filled the PID-5 twice. Facets and domains showed a satisfactory test-retest reliability (median r for facets = .84; median r for domains = .88), and acceptable McDonald's omega indices (median ω for facets = .85; median ω for domains = .79). The hierarchical factor structure suggested that five-factor solution was interpretable, and this model showed a high congruency to its original version (ϕ = .97). Unfortunately, we could not achieve a model fit of this five-factor model. We hypothesized that the cultural influence and sample characteristics might explain this poor model fit. Finally, cautious administration and interpretation of PID-5 in Indonesia are highly recommended.

Keywords: DSM-5, PID-5, structural validity, factor analysis, reliability

The Personality Inventory for DSM-5 (PID-5) is a self-report which assesses the pathological personality traits described in the Alternative Model of Personality Disorder (AMPD) in Section III of DSM-5. PID-5 measures 25 facets, and these facets delineate five domains of pathological personality, specifically Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism (Krueger et al., 2012). These five personality domains are maladaptive variants of the “Big Five” or Five-Factor Model (FFM) of Personality. The AMPD characterizes personality disorder as dimensional, in which all people can occupy the spectrum of trait continuum. The FFM pole captures the healthy personality, and the AMPD captures the pathological personality. Besides, this personality pathology model also inherits a hierarchical structure of personality, in which the facet measures a certain specific and narrow range of behaviors, and the domain describes a broad and wide range of behavioral propensities (American Psychiatric Association [APA], 2013).

Extensive studies attempted to investigate the AMPD structure since the PID-5 construction to support its construct validity. However, some investigations suggested that AMPD and FFM did not converge perfectly, specifically between Psychoticism and Openness to Experience. One explanation on this issue is because the Openness to Experience also generally converged to the Intellect factor and Intellect itself did not converge to Psychoticism (De Young et al., 2016). Other factors also

influenced this divergency such as the measure that was utilized (Quilty et al., 2013; Thomas et al., 2013) or the sample characteristic (clinical versus nonclinical sample; Watters et al., 2019). However, it was important to note that the association between Psychoticism and Openness to Experience was robust on the lower-order level (Suzuki et al., 2017).

Other investigations attempted to examine the facets' structure of the AMPD. Some findings implied that the facets' structure seemed to be inconsistent across studies. For instance, Depressivity loaded significantly in the Detachment and Negative Affectivity domain (Griffin & Samuel, 2014; Suzuki et al., 2019), but another study indicated this facet loaded in the Detachment and Disinhibition domain (Wright et al., 2012). It represents the complexity of AMPD hierarchical structure resembles its counterpart, the FFM, which is depicted by interstitiality between the facets (described as cross-loading in Factor Analysis; Krueger & Markon, 2014). Despite cross-loading issues in lower-order levels, most studies could obtain convergence and replicate the five-factor of AMPD (Al-Dajani et al., 2016).

The complexity of personality structure is also delineated from a cross-cultural study on the FFM personality in Asian countries, in this case, the study of NEO Personality Inventory-Revised (NEO PI-R). A study of FFM in Indonesia, China, and Japan indicated that, generally, FFM was documented and well-replicated in those countries based on their factor congruence. However, the cultural

factor accounted for the difficulty in identifying the expected factor structure during the initial analysis. Two personality domains, namely Extraversion and Agreeableness, had a different meaning in Indonesia and Japan compared to Western culture. Data from Indonesian and Japanese samples suggested that Extraversion and Agreeableness were more suitable to be interpreted as interpersonal axes of Love and Dominance. In a similar vein, Indonesia and Malaysia failed to produce a high congruence coefficient on the Openness factor, presumed by the similarity of “dogmatic attachment to values” in their culture. Despite such obstacles, it is necessary to highlight that the NEO PI-R serves its purpose well (Halim et al., 2004; McCrae et al., 1996). There are several explanations for these differences between Asian and Western cultures. Researchers often explain this difference from the Individualistic vs. Collectivistic basis (Triandis, 1988).

The findings of Laajaj et al. (2019) also substantiate the generalizability of the FFM outside western, educated, industrialized, rich, and democratic (WEIRD) countries. Nevertheless, they emphasize the significance of addressing the personality test's nature, especially when administered outside their original country. As a proxy to measure the intended personality traits, the items can also capture other variables, such as cognition, and finally leads to systematic response bias. These biases could blur the distinction between the different personality traits. To conclude, as they state, inferences regarding personality traits will be conclusive when preceded by the factor structure confirmation evidence (Laajaj et al., 2019). Also, the participants' cultural background can make them interpret the personality test items differently (Riegel et al., 2018). Cultural influence on personality tests serves intricately; many variables involve and interact in numerous ways. Finally, it prompts the personality test results to be interpreted differently by people from different cultural backgrounds.

The cultural influence causes an impact on the translation and adaptation of personality disorder instruments, in this case, the PID-5. The PID-5 factor structure generalizability was founded outside the US samples in the study by Somma et al. (2019), in which a clear five-factor structure emerged in the PID-5 in the non-US sample. Again, this study also supported that the PID-5 factor structure was far from a simple structure by identifying the interstitiality in several facets. Albeit the support on the generalizability, the authors admitted their non-US samples mainly were from European countries; there were only two Asian versions of the PID-5 included in this study, Arabic and Farsi. Therefore, the PID-5 factor structure's generalizability in other Asian countries remained dearth (Somma et al., 2019). The Arabic version study showed the five-factor of AMPD could be replicated; nevertheless,

some facets (i.e., Impulsivity, Intimacy Avoidance, Irresponsibility, Submissiveness, and Manipulativeness) did not indicate a good fit (Al-Attayah et al., 2017). Similar results also appeared on the Farsi version of the PID-5, in which the factors of AMPD were replicated. This study also reported the goodness-of-fit indices, but the cross-loading phenomenon still occurred on several facets (Lotfi et al., 2018).

These findings suggest the significance of structural validity testing toward the adapted version of the PID-5, so the clinicians could be cautious when the PID-5 is administered toward people outside its cultural origin. Eventually, psychometric examination results, specifically the structural validity, can help clinicians interpret the PID-5 test data correctly. Therefore, we would like to examine if the PID-5 operates adequately in Indonesia. Indonesia is the largest and most populous country in Southeast Asia, and most of the Indonesian people use Bahasa Indonesia in daily activities or the formal situation (e.g., educational institution; Ningrum et al., 2017). Despite the most frequently used language in Indonesia, people in Indonesia also have their local language. These various local languages are caused by the heterogeneity of ethnic background in Indonesia, and each ethnicity has its cultural traditions (Ananta et al., 2015). This cultural characteristic will cause PID-5 evaluation in Indonesia to become appealing. This study's goal was twofold: (1) examining the structural validity and (2) examining the reliability of the Indonesian version of PID-5.

Material and Methods

Sample

A total of 1,103 participants comprising students ($n = 797$) and community samples ($n = 306$) participated in this study. The participants were recruited from the class or individually by the test administrator. All participants filled the Indonesian version of PID-5 once. Then, we voluntarily asked participants from the student sample for their willingness to fill the PID-5 twice with 2 weeks of interval ($n = 75$). We only offered it to students because we have more access to ensure the interval is controlled. Each participant received souvenirs as a reward for their participation. This study was approved by the Ethics Commission, Atma Jaya Catholic University of Indonesia. Before starting the analyses, we screened the participants' responses to detect inconsistency responding using the Inconsistency Scale. This scale consisted of 20 pairs of items with a high correlation between pairs (above .6; Keeley et al., 2016). Also, we excluded participants who

had missing response(s). After these screenings, we retained 963 participants (704 students and 259 community samples), aged 16 to 78 years ($M = 24.4$, $SD = 9.9$), with 68.8% women; meanwhile, 68 participants who completed PID-5 twice were between 19 and 22 years ($M = 20.3$, $SD = 0.6$), with 91.2% women. Ethnic group and educational background were displayed in Tables S1 and S2 in ESM 1. The three highest ethnic groups were Chinese (22.3%), Javanese (20.4%), and Sundanese (6.3%). Despite the diversity of the ethnic group, all participants are fluent in Bahasa. Furthermore, most of the participants have completed their senior high school degree (76.53%).

Material

The PID-5 is a self-report inventory that consists of 220 items. Each item is rated with four options, ranging from 0 (*very false or often false*) to 3 (*very true or often true*). PID-5 has five personality domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism, and 25 facets are underlying these domains (Krueger et al., 2012).

The original PID-5 was adapted into Bahasa Indonesia through two translation steps: forward translation and backward translation. We involved four translators in these two steps. All translators were Indonesian, had adequate English skill (indicated by a minimum Test of English as a Foreign Language [TOEFL] score of 600), and had a psychology background. These criteria were determined to optimize the quality of the translation (International Test Commission, 2017). The first two translators did the forward translation; then, the first author reconciled these two translations. Afterward, the reconciled result was back-translated from Bahasa Indonesia into English by the subsequent two translators. The back-translation results, then, were compared with the original version of the PID-5. Based on this comparison, the first author revised the reconciled of Bahasa Indonesia translation.

A pilot study was conducted on this translation by involving 80 participants. We examined the corrected item-total correlation in each facet item. To determine whether the item needed revision, we used a cutoff of 0.3, which indicated the item had less discrimination ability (Crocker & Algina, 1986). We identified 44 items indicated for revision. After a thorough examination, we found that only 16 items should be revised due to translation inaccuracy. For instance, "People would describe me as reckless" (Item 3) from the Risk Taking facet. Before the item analysis, "reckless" was translated as "sembrono." In addition to "reckless," this word could also mean "careless" so that the nuance had more resemblance with (lack of) Rigid Perfectionism. To

anticipate this misperception, we changed "sembrono" to "nekat," which had no "careless" meaning. These revisions resulted in the final Indonesian version of the PID-5.

Statistical Analysis

Descriptive statistics were reported on all domains and facets. To determine the reliability, we used two approaches, namely internal consistency and test-retest. Several studies evidenced that the PID-5 had a complex structure that led to interstitiality at the factor level, and there was a heterogeneous facet (i.e., Emotional Lability; Zimmermann et al., 2019). McDonald's omega was utilized to measure internal consistency because this technique was more suitable if the unidimensionality assumption was violated (Deng & Chan, 2017). We also analyzed the corrected item-total correlation in each item, and we used 0.3 as the minimum value to ensure the internal consistency (Cristobal et al., 2007). Furthermore, the test-retest index was obtained by correlating the first and second administration of PID-5. The time interval between these administrations was 2 weeks. These reliability analyses were conducted on facet and domain levels, except for the corrected item-total correlation, which was only conducted on the facet level.

To evaluate the structural validity, we used several steps. First, we determined the number of factors extracted based on empirical guides and also theory and interpretability. We utilized the parallel analysis (Hayton et al., 2004) and minimum average partial (MAP) test (Velicer, 1976) to determine the optimum number of factors to be extracted empirically. Then, we continued with the bass-ackwards technique, which was conducted at the facet level. The exploratory factor analyses (EFAs) were executed by extracting the PID-5 facets from one to five factors using Maximum Likelihood Estimation. Each hierarchical level was then correlated to represent the structure of personality pathology. The second- to fifth-factor solutions were rotated using the orthogonal varimax rotation to optimize the factor development and made the factors unrelated to each other. The number of factors was determined based on the factor structure's interpretability (Goldberg, 2006; Wright et al., 2012). In addition, to examine the possibility that the PID-5 might generate more than five factors, we also extracted six-factor solutions and investigated their interpretability.

Second, we examined the PID-5 factor structure replicability by performing additional EFA and analyzed the factor congruence. The additional EFA was performed to identify the fit indices, which were calculated from the χ^2 test and RMSEA (below .08; Hu & Bentler, 2009), so instead of using the varimax rotation, we conduct the

geomin rotation and Maximum Likelihood Estimation for extraction (Hattori et al., 2017). Afterward, factor congruence was obtained by using Procrustes rotation. This procedure rotated the observed matrix (factor structure of the Indonesian version of the PID-5) into a target matrix (McCrae et al., 1996). We rotated the factor structure of the Indonesian version of PID-5 from the bass-ackwards (the five-factor solution) to the original version of PID-5 from the Wright et al. (2012) factor structure in their bass-ackwards analysis as the target matrix, as their study incorporated students as their samples, which we considered pretty similar to our study. Then, we rotated our factor structure to the Wright et al. (2012) bass-ackward factor structure. The congruency was marked by Tucker's ϕ and .90 was considered the minimum value (van de Vijver & Leung, 1997). SPSS 21, Orthosim, and R version 4.0.3 were used to run the analyses.

Results

Descriptive and Distributions

The *M* and *SD* scores of all facets and domains are illustrated in Table 1, with the range 0.47 (Cynicism) to 1.50 (Anxiousness). All mean scores were below 2.00, and most of the facet distributions were positively skewed at a moderate level, which indicated that the participants had lower personality trait dysfunction in general.

Reliability

McDonald's omega index ranged from .64 (Suspiciousness) to .94 (Eccentricity; see Table 2). Suspiciousness was the only facet that had McDonald's omega below .70. All domains showed an excellent McDonald's omega index, ranging from .72 (Detachment) to .80 (Disinhibition). All facets showed an index of corrected item-total correlation above .30, which indicated an excellent internal consistency. Furthermore, the test-retest suggested all facets and domains had a satisfactory index of reliability, which ranged from .70 (Submissiveness, Restricted Affectivity, and Grandiosity) to .91 (Anhedonia) at the facet level and from .83 (Antagonism) to .92 (Detachment) at the domain level.

Factor Analysis

There were two assumption tests before the EFA was performed. The Kaiser-Meyer-Olkin index was .92, which

Table 1. Descriptive data on facets and domains (*n* = 963)

PID-5 facets and domains	<i>M</i>	<i>SD</i>	Skewness
Emotional Lability	1.19	0.73	0.33
Anxiousness	1.50	0.69	0.14
Separation Insecurity	0.98	0.64	0.53
Submissiveness	1.40	0.59	−0.20
Hostility	0.97	0.58	0.53
Perseveration	1.10	0.52	0.12
Withdrawal	0.90	0.55	0.63
Intimacy Avoidance	0.73	0.52	0.89
Anhedonia	0.81	0.51	0.78
Depressivity	0.69	0.54	1.29
Suspiciousness	1.19	0.48	0.57
Restricted Affectivity	1.19	0.50	0.13
Manipulativeness	0.91	0.59	0.53
Deceitfulness	0.67	0.47	0.81
Grandiosity	0.96	0.55	0.41
Attention Seeking	1.17	0.62	0.23
Callousness	0.47	0.39	1.33
Irresponsibility	0.75	0.44	0.41
Impulsivity	1.01	0.59	0.41
Distractibility	1.09	0.61	0.31
Risk Taking	1.35	0.42	0.17
Rigid Perfectionism	1.41	0.57	−0.07
Eccentricity	0.79	0.65	0.71
Perceptual Dysregulation	0.64	0.49	1.00
Unusual Beliefs and Experiences	0.66	0.60	1.18
Negative Affectivity	1.22	0.57	0.25
Detachment	0.81	0.42	0.73
Antagonism	0.85	0.44	0.58
Disinhibition	0.95	0.47	0.35
Psychoticism	0.70	0.50	0.84

indicated that the number of samples was adequate. Bartlett's Test of Sphericity showed a significant value ($p < .01$), which meant there were some relationships between facets being analyzed (Fields, 2009). Both Velicer's MAP and parallel analysis suggested a four-component solution. The first five components' eigenvalues were 9.48, 2.43, 1.85, 1.54, and 1.09. Variance explained from one to five components was 37.93%, 47.65%, 55.06%, 61.20%, and 65.56%.

The hierarchical factor structure was started with a one-factor solution without any rotation (see Figure 1). The first factor was labeled as Personality Pathology. On the second level, Internalizing and Antagonism factors were extracted. It was quite different from previous findings: Antagonism appeared clearly in the second hierarchical level and facets

Table 2. Reliability indices

PID-5 facets and domains	ω	Corrected item-total correlation		Test-retest
		r	Range	
Emotional Lability	.91	.67	.53–.73	.88
Anxiousness	.90	.69	.26–.79	.83
Separation Insecurity	.85	.59	.37–.66	.85
Submissiveness	.70	.46	.34–.50	.70
Hostility	.88	.52	.40–.68	.89
Perseveration	.83	.47	.37–.61	.86
Withdrawal	.88	.54	.49–.66	.85
Intimacy Avoidance	.77	.44	.34–.66	.89
Anhedonia	.83	.46	.22–.60	.91
Depressivity	.93	.65	.33–.76	.88
Suspiciousness	.65	.35	.00–.47	.83
Restricted Affectivity	.70	.35	.17–.38	.70
Manipulativeness	.78	.50	.46–.56	.84
Deceitfulness	.84	.53	.07–.63	.81
Grandiosity	.79	.48	.44–.59	.70
Attention Seeking	.88	.59	.43–.68	.90
Callousness	.87	.50	.31–.70	.83
Irresponsibility	.70	.37	.23–.48	.75
Impulsivity	.80	.54	.31–.63	.74
Distractibility	.89	.57	.56–.71	.89
Risk Taking	.81	.37	.05–.63	.73
Rigid Perfectionism	.86	.52	.47–.66	.85
Eccentricity	.95	.71	.61–.76	.88
Perceptual Dysregulation	.86	.51	.40–.63	.74
Unusual Beliefs and Experiences	.87	.57	.41–.63	.78
Negative Affectivity	.79			.88
Detachment	.73			.92
Antagonism	.79			.83
Disinhibition	.81			.88
Psychoticism	.79			.87

from Disinhibition converged into Internalizing (for factor structure of one- to four-factor solution, see Table S3 and Table S4 in ESM 1). The Internalizing factor was divided into Negative Affectivity and Detachment factor on the third level, while the Antagonism did not yield any new factors. On this level, facets from Disinhibition were inclined to merge into the Negative Affectivity factor, which suggested negative emotionality nuance in these facets. The Disinhibition factor was unfolded on the fourth level and correlated significantly with the third level's Detachment factor. Finally, the Psychoticism factor appeared on the fifth level and correlated significantly with the fourth level's Antagonism factor. We attempted to extract six factors

solution; the sixth factor consisted of Rigid Perfectionism, Grandiosity, and Attention Seeking (see Table S5 in ESM 1 for the factor loadings). This factor indicated resemblance to the Histrionic Personality feature; further explanation would be elaborated in the Discussion. In addition, the factor structure from the five-factor solution (see Table 3) was reasonably interpretable, despite some unexpected cross-loadings between factors (e.g., Callousness and Distractibility). It could be concluded that five factors were the most optimal number of factor solutions based on interpretability.

Comparison between the Indonesian PID-5 five-factor solution to Wright et al.'s (2012) findings using Procrustes rotation indicated a congruency between these models (total congruency was .97; see Table 3). At the facet level, the congruency coefficient ranged from .90 (Emotional Lability) to 1.00 (Anxiousness, Suspiciousness, Anhedonia, Unusual Beliefs and Experiences, and Perceptual Dysregulation). Furthermore, the factor level's congruency coefficient ranged from .95 (Disinhibition and Psychoticism) to .98 (Negative Affectivity). Furthermore, the five-factor solution indicated that the five-factor solution did not show a model fit ($\chi^2 = 1,451.7$ [$df = 185$], $p < .05$; RMSEA = .084; see Table 4 for the factor structure).

Discussion

In general, reliability analysis showed acceptable results, which can be concluded that the Indonesian version of the PID-5 is reliable and could produce a stable result. This result was consistent with previous findings, which showed a high stability result for 2 weeks of interval administration (Suzuki et al., 2017). All facets indicated satisfactory internal consistency based on the median value of corrected item-total correlation. However, it is noteworthy to note that some items had a low correlation with their total score in certain facets (e.g., Suspiciousness, Deceitfulness, and Risk Taking). The possible explanation was that the items from respected facets were poor despite some revisions after our pilot study or the involvement of healthy participants, as suggested by previous research, which is the PID-5 tends to have higher internal consistency on the clinical sample (Gutiérrez et al., 2017). Another explanation was that these items did not measure the intended facet accurately due to the cultural factor. Consequently, we hypothesized it could affect the unidimensionality at the facet level, and finally, could also influence the structural validity.

Compared to its original version (see Wright et al., 2012), our hierarchical factor structure indicated slightly different results, especially in the second and third levels.

Figure 1. Hierarchical factor structure of the Indonesian version of PID-5. Three facets with the highest loadings were reported for each factor. Correlation $\geq .30$ was displayed. The solid line indicated the highest correlation between factors. PID-5 = Personality Inventory for DSM-5.

However, the five-factor solution from our hierarchical factor structure delineated the resemblance with the Big Five's pathological form; specifically, the FFM was highly interpretable (Harkness & McNulty, 1994). The Procrustes rotation also supported this finding, in which there was a high congruency between the Indonesian and original version of the FFM PID-5. Besides, it was intriguing to examine the new factor in the six-factor solution from the bass-ackwards result. We considered that this factor depicted the Histrionic Personality feature, in which Attention Seeking is the main feature. In this case, Rigid Perfectionism has meaning as a tendency to be uncomfortable when one does not display themselves perfectly to gain attention, and Grandiosity is a required self-image for someone to get attention from others. These traits could be considered as the pathological personality traits for diagnosing the Histrionic Personality Disorder, as Section III of DSM-5 has not mentioned the pathological personality traits criteria for this disorder (APA, 2013). Nevertheless, further research should be conducted to confirm this hypothesis.

Additional EFA to examine the model fit revealed interesting findings. In general, most of the facets indicated

a (marginally) significant factor loading on their expected factor. Nevertheless, this analysis denoted that a model fit was not achieved. This result was different from other Asian countries' translations, namely Arabian and Persian, whereas a model fit was achieved (Al-Attayah et al., 2017; Lotfi et al., 2018). However, the study of the PID-5 in Czech was consistent with our finding, which is the FFM was not fit when applied to 220 items and 25 facets (Riegel et al., 2018). The finding from this study also strengthened the notion that the FFM of PID-5 was not a simple structure. In addition, the Czech study confirmed that some facets were multidimensional. As the authors mentioned, some facets in the Czech study, namely Risk Taking and Callousness, were multidimensional. They believed this multidimensionality explained why the model fit was poor (Riegel et al., 2018). Unfortunately, this study did not conduct the factor analysis at the facet level, so we could not confirm the multidimensionality issue further. Krueger et al. (2012) mentioned in their initial construction of PID-5 that the unidimensionality of PID-5 facets could occur because cross-loadings were inevitable.

We also hypothesized that some PID-5 facets were comprehended differently in Indonesia. For instance, most

Table 3. Factor loading of the Indonesian version of PID-5 and Wright et al. (2012) and congruence coefficient between them

PID-5 facets	Negative Affectivity	Detachment	Antagonism	Disinhibition	Psychoticism	Φ
Emotional Lability	.61 (.77)	.30 (.14)	.17 (.08)	.23 (.11)	.13 (.16)	.90
Anxiousness	.79 (.73)	.27 (.39)	-.02 (.06)	.03 (-.07)	-.02 (.14)	1.00
Hostility	.43 (.40)	.44 (.31)	.36 (.48)	.22 (.08)	.11 (.15)	.98
Separation Insecurity	.70 (.63)	.00 (.14)	.17 (.14)	.09 (.11)	.08 (-.00)	.98
Perseveration	.62 (.58)	.29 (.35)	.20 (.26)	.24 (.16)	.36 (.40)	.99
Depressivity	.58 (.50)	.55 (.46)	-.04 (.04)	.29 (.20)	.12 (.09)	.98
Suspiciousness	.41 (.35)	.39 (.46)	.19 (.28)	.13 (.05)	.17 (.22)	1.00
Submissiveness	.48 (.39)	.03 (.17)	.21 (.10)	.14 (.01)	.03 (.02)	.94
Withdrawal	.17 (.11)	.76 (.77)	.07 (.16)	.02 (-.13)	.02 (.29)	.99
Restricted Affectivity	.05 (-.25)	.44 (.55)	.15 (.28)	-.06 (.01)	.21 (.30)	.92
Intimacy Avoidance	.05 (-.06)	.49 (.52)	-.06 (.14)	.07 (.02)	.10 (.26)	.97
Anhedonia	.41 (.33)	.65 (.83)	-.08 (.02)	.28 (.06)	.00 (.05)	1.00
Grandiosity	.11 (.02)	.01 (.03)	.67 (.67)	-.15 (-.05)	.28 (.24)	.95
Manipulativeness	.16 (.08)	.10 (.03)	.75 (.80)	.15 (.14)	.09 (.13)	.99
Attention Seeking	.48 (.27)	-.15 (-.22)	.60 (.56)	.10 (.27)	.20 (.09)	.96
Deceitfulness	.23 (.18)	.26 (.28)	.63 (.76)	.40 (.24)	.04 (.11)	.99
Callousness	.06 (-.02)	.53 (.47)	.47 (.61)	.35 (.13)	.13 (.17)	.99
Irresponsibility	.38 (.19)	.20 (.47)	.16 (.35)	.60 (.42)	.10 (.16)	.92
Impulsivity	.30 (.15)	.11 (.11)	.22 (.27)	.62 (.70)	.21 (.20)	.95
Distractibility	.59 (.43)	.23 (.36)	.02 (.13)	.49 (.44)	.16 (.27)	.97
Rigid Perfectionism	.47 (.46)	.25 (.06)	.32 (.26)	-.38 (-.31)	.20 (.31)	.99
Risk Taking	-.12 (.14)	-.04 (-.11)	.34 (.31)	.19 (.59)	.35 (.17)	.91
Unusual Beliefs and Experiences	.22 (.18)	.32 (.24)	.29 (.30)	.04 (.16)	.68 (.66)	1.00
Eccentricity	.22 (.30)	.41 (.32)	.30 (.19)	.33 (.28)	.45 (.53)	.94
Perceptual Dysregulation	.44 (.35)	.39 (.40)	.19 (.25)	.23 (.28)	.60 (.61)	1.00
Factor/total congruence (ϕ)	.98	.97	.97	.95	.95	.97

Note. Factor loadings in parentheses and italicized were Wright et al. (2012) result. Factor loadings $\geq .40$ are in bold type. ϕ = congruency coefficient. Extraction method: Maximum Likelihood. Rotation: varimax.

facets from Disinhibition were converged to the Negative Affectivity factor on the third level of hierarchical structure. It implied that some of the facets under Disinhibition were perceived to have negative emotionality nuance in Indonesia compared to other countries. In a similar vein, the Risk Taking facet was converged strongly to the Psychoticism factor, so the nuance of this facet shifting in this study. As the most dominant group, the Javanese cultural influences could be found in Indonesian people, regardless of their ethnicity. *Isin* (shame) is one of the essential values for Javanese people, and by understanding and exercising *isin*, one is considered to have a quality of a mature personality. One of the main functions of *isin* is self-control, whereas every act should be thought out carefully and cautiously, so someone could be spared from embarrassment. Furthermore, self-control also leads someone to avoid a negative outcome, such as rejection from others or conflict. Inability to have the *isin* could lead

to embarrassment and sharp criticism from others (Budiarto et al., 2020). Therefore, someone who behaved recklessly could be considered “strange” or “peculiar” because they did not have *isin*. A higher score on Risk Taking items (e.g., 3: “People would describe me as reckless”; 98R: “I prefer to play it safe rather than take unnecessary chances”) seemed to depict the inability to maintain *isin*. Therefore, it was very reasonable to deem any incautious behavior as “peculiar” or “unusual,” which was the element of Psychoticism, especially in healthy individuals.

Finally, we believed that our heterogeneous sample also contributed to this result. Although our samples were not representative of all Indonesian ethnic groups, methodologically, the participants’ various characteristic backgrounds could cause the poor model fit (Fischer & Karl, 2019). As elaborated above, every ethnic group in Indonesia had their tradition, which led to some values or

Table 4. Factor loading of the Indonesian version of PID-5 for fit indices examination (geomin rotation)

PID-5 facets	Negative affectivity	Detachment	Antagonism	Disinhibition	Psychoticism
Emotional Lability	.61	.05	.12	.08	.07
Anxiousness	.95	.00	-.14	-.02	-.12
Hostility	.39	.26	.37	-.03	.01
Separation Insecurity	.75	-.27	.05	.02	-.02
Perseveration	.54	-.03	.06	.05	.36
Depressivity	.60	.32	-.06	.15	.12
Suspiciousness	.40	.20	.13	-.06	.13
Submissiveness	.48	-.15	.18	.06	-.06
Withdrawal	.23	.69	.08	-.18	-.02
Restricted Affectivity	.03	.36	.06	-.24	.21
Intimacy Avoidance	.05	.45	-.07	-.04	.14
Anhedonia	.46	.51	-.02	.14	-.01
Grandiosity	.00	-.12	.53	-.40	.15
Manipulativeness	.01	.02	.83	-.14	-.10
Attention Seeking	.37	-.38	.52	-.10	.05
Deceitfulness	.05	.17	.82	.10	-.10
Callousness	-.11	.48	.63	.03	.06
Irresponsibility	.22	.06	.33	.46	.09
Impulsivity	.06	-.03	.37	.46	.23
Distractibility	.50	-.01	.06	.38	.18
Rigid Perfectionism	.59	.00	.02	-.55	.07
Risk Taking	-.36	-.09	.33	.02	.40
Unusual Beliefs and Experiences	.05	.04	.01	-.22	.78
Eccentricity	.02	.21	.25	.06	.51
Perceptual Dysregulation	.28	.07	-.02	-.01	.70

Note. Factor loadings $\geq .40$ are in bold type. Extraction method: Maximum Likelihood Estimator. Rotation: geomin.

norm differences between them, and finally, this could affect the participants in responding to the personality test.

In conclusion, we considered that the AMPD was replicable in Indonesia as the five-factor solution was congruent with its original version and highly interpretable. However, clinicians should take very cautiously in interpreting the PID-5 results. Even though the five-factor of the PID-5 was replicated, some facets (e.g., Distractibility and Risk Taking) might be differently comprehended because they have specific meanings for Indonesian people. In this case, considering the patient background (e.g., ethnicity) before interpreting the PID-5 result is highly recommended for the clinicians. In addition, administering the PID-5 to the people outside our participant characteristics, such as an individual in rural area or patient in mental health facilities, should also be taken cautiously, as this study only involved the healthy participants from Greater Jakarta, which is considered as well-educated and can easily comprehend the test. Therefore, the clinician must ensure that the

patient is familiar with and understands how to complete the test.

Certain limitations of this study need to be considered. First, we did not directly examine the unidimensionality at the facet level. Accordingly, we could not ascertain which facets were multidimensional. Second, our samples were still far from representing the Indonesian population, especially on ethnic groups. Albeit the importance of collecting more representative data, we considered collecting data in a homogenous group could be advantageous for analyzing the model fit. Third, we only involved healthy participants in this study so that the utility of PID-5 in the clinical population remained unknown. As the previous study suggested, the PID-5 operated more adequately in the clinical sample. Therefore, the involvement of the clinical sample in future studies was encouraged. Fourth, this study did not incorporate another measure, so we could not evaluate to what degree the PID-5 scores reflected other criteria (e.g., symptom distress). Furthermore, we could depict neither the convergence nor the

discrimination of this test to the various range of personality dimensions.

Electronic Supplementary Material

The electronic supplementary material is available with the online version of the article at <https://doi.org/10.1027/2698-1866/a000010>

ESM 1. Table S1 and Table S2 show ethnic group and educational background. Table S3 and Table S4 present factor structure of one- to four-factor solution. Table S5 shows six-factor loadings.

References

- Adhiatma, W. (2020). *Structural validity and reliability of the Indonesian version of PID-5: Study on community and student sample* [Data set]. <https://osf.io/4n7ce/>
- Al-Attayah, A. A., Megreya, A. M., Alrashidi, M., Dominguez-Lara, S. A., & Al-Sheerawi, A. (2017). The psychometric properties of an Arabic version of the Personality Inventory for DSM-5 (PID-5) across three Arabic-speaking Middle Eastern countries. *International Journal of Culture and Mental Health*, 10(2), 197–205. <https://doi.org/10.1080/17542863.2017.1290125>
- Al-Dajani, N., Gralnick, T. M., & Bagby, R. M. (2016). A psychometric review of the Personality Inventory for DSM-5 (PID-5): Current status and future directions. *Journal of Personality Assessment*, 98(1), 62–81. <https://doi.org/10.1080/00223891.2015.1107572>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorder: DSM-5*.
- Ananta, A., Arifin, E. N., Hasbullah, M. S., Handayani, N. B., & Pramono, A. (2015). *Demography of Indonesia's ethnicity*. ISEAS Publishing.
- Budiarto, Y., Adiyanti, M. G., Febriani, A., & Hastuti, R. (2020). Why know and have shame are important? The Indonesian adolescents' experience. *Open Journal for Psychological Research*, 4(1), 17–30. <https://doi.org/10.32591/coas.ojpr.0401.02017b>
- Cristobal, E., Flavián, C., & Guinalíu, M. (2007). Perceived e-service quality (PeSQ): Measurement validation and effects on consumer satisfaction and web site loyalty. *Managing Service Quality*, 17(3), 317–340. <https://doi.org/10.1108/09604520710744326>
- Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory*. Wadsworth Group/Thomson Learning.
- Deng, L., & Chan, W. (2017). Testing the difference between reliability coefficients alpha and omega. *Educational and Psychological Measurement*, 77(2), 185–203. <https://doi.org/10.1177/0013164416658325>
- DeYoung, C. G., Carey, B. E., Krueger, R. F., & Ross, S. R. (2016). Ten aspects of the Big Five in the personality inventory for DSM-5. *Personality Disorders: Theory, Research, and Treatment*, 7(2), 113–123. <https://doi.org/10.1037/per0000170>
- Fields, A. (2009). *Discovering statistics using SPSS* (3rd ed.). SAGE Publications Ltd.
- Fischer, R., & Karl, J. A. (2019). A primer to (cross-cultural) multi-group invariance testing possibilities in R. *Frontiers in Psychology*, 10, 1–18. <https://doi.org/10.3389/fpsyg.2019.01507>
- Goldberg, L. R. (2006). Doing it all bass-ackwards: The development of hierarchical factor structures from the top down. *Journal of Research in Personality*, 40(4), 347–358. <https://doi.org/10.1016/j.jrp.2006.01.001>
- Griffin, S. A., & Samuel, D. B. (2014). A closer look at the lower-order structure of the Personality Inventory for DSM-5: Comparison with the five-factor model. *Personality Disorders: Theory, Research, and Treatment*, 5(4), 406–412. <https://doi.org/10.1037/per0000074>
- Gutiérrez, F., Aluja, A., Peri, J. M., Calvo, N., Ferrer, M., Baillés, E., Gutiérrez-Zotes, J. A., Gárriz, M., Caseras, X., Markon, K. E., & Krueger, R. F. (2017). Psychometric properties of the Spanish PID-5 in a clinical and a community sample. *Assessment*, 24(3), 326–336. <https://doi.org/10.1177/1073191115606518>
- Halim, M. S., Derksen, J. J. L., & van der Staak, C. P. F. (2004). Development of the revised NEO Personality Inventory for Indonesia: A preliminary study. In *Ongoing themes in psychology and culture* (pp. 533–548). The International Association for Cross-Cultural Psychology.
- Harkness, A. R., & McNulty, J. L. (1994). The personality psychopathology five (PSY-5): Issues from the pages of a diagnostic manual instead of a dictionary. In S. Strack & M. Lorr (Eds.), *Differentiating normal and abnormal personality* (pp. 291–315). Springer Publishing Company.
- Hattori, M., Zhang, G., & Preacher, K. J. (2017). Multiple local solutions and geomin rotation. *Multivariate Behavioral Research*, 52(6), 720–731. <https://doi.org/10.1080/00273171.2017.1361312>
- Hayton, J. C., Allen, D. G., & Scarpello, V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, 7(2), 191–205. <https://doi.org/10.1177/1094428104263675>
- Hu, L., & Bentler, P. M. (2009). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- International Test Commission. (2017). The ITC guidelines for translating and adapting tests. In *International Test Commission (ITC)* (2nd ed.).
- Keeley, J. W., Webb, C., Peterson, D., Roussin, L., & Flanagan, E. H. (2016). Development of a response inconsistency scale for the Personality Inventory for DSM-5. *Journal of Personality Assessment*, 98(4), 351–359. <https://doi.org/10.1080/00223891.2016.1158719>
- Krueger, R. F., Derringer, J., Markon, K. E., Watson, D., & Skodol, A. E. (2012). Initial construction of a maladaptive personality trait model and inventory for DSM-5. *Psychological Medicine*, 42(9), 1879–1890. <https://doi.org/10.1017/S0033291711002674>
- Krueger, R. F., & Markon, K. E. (2014). The role of the DSM-5 personality trait model in moving toward a quantitative and empirically based approach to classifying personality and psychopathology. *Annual Review of Clinical Psychology*, 10, 477–501. <https://doi.org/10.1146/annurev-clinpsy-032813-153732>
- Laajaj, R., Macours, K., Alejandro, D., Hernandez, P., Arias, O., Gosling, S. D., Potter, J., Rubio-Codina, M., & Vakis, R. (2019). Challenges to capture the big five personality traits in non-WEIRD populations. *Science Advances*, 5(7), 1–13. <https://doi.org/10.1126/sciadv.aaw5226>
- Lotfi, M., Bach, B., Amini, M., & Simonsen, E. (2018). Structure of DSM-5 and ICD-11 personality domains in Iranian community sample. *Personality and Mental Health*, 12(2), 155–169. <https://doi.org/10.1002/pmh.1409>
- McCrae, R. R., Zonderman, A. B., Costa, P. T., Bond, M. H., & Paunonen, S. V. (1996). Evaluating replicability of factors in the revised NEO personality inventory: Confirmatory factor analysis versus procrustes rotation. *Journal of Personality and Social*

- Psychology*, 70(3), 552–566. <https://doi.org/10.1037/0022-3514.70.3.552>
- Ningrum, R. K., Waluyo, H. J., & Winarni, R. (2017). BIPA (Bahasa Indonesia Penutur Asing) sebagai upaya internasionalisasi universitas di Indonesia [BIPA (Bahasa Indonesia for foreign speakers) as an effort to internationalize universities in Indonesia]. In R. Arjanggih, N. Hartono, N. Muna, D. Jiwandono, R. Permatasari, I. Nurhamidah, C. Anwar, M. M. Maharani, & M. N. Zuhri (Eds.), *The 1st education and language international conference proceedings* (pp. 726–732). Center for International Language Development, Sultan Agung Islamic University. https://www.academia.edu/42883762/Center_for_International_Language_Development_i
- Quilty, L. C., Ayeart, L., Chmielewski, M., Pollock, B. G., & Bagby, R. M. (2013). The psychometric properties of the Personality Inventory for DSM-5 in an APA DSM-5 field trial sample. *Assessment*, 20(3), 362–369. <https://doi.org/10.1177/1073191113486183>
- Riegel, K. D., Ksinan, A. J., Samankova, D., Preiss, M., Harsa, P., & Krueger, R. F. (2018). Unidimensionality of the Personality Inventory for DSM-5 facets: Evidence from two Czech-speaking samples. *Personality and Mental Health*, 12(4), 281–297. <https://doi.org/10.1002/pmh10.1002/pmh.1423>
- Somma, A., Krueger, R. F., Markon, K. E., & Fossati, A. (2019). The replicability of the Personality Inventory for DSM-5 domain scale factor structure in U.S. and non-U.S. samples: A quantitative review of the published literature. *Psychological Assessment*, 31(7), 861–877. <https://doi.org/10.1037/pas0000711>
- Suzuki, T., Griffin, S. A., & Samuel, D. B. (2017). Capturing the DSM-5 alternative personality disorder model traits in the five-factor model's nomological net. *Journal of Personality*, 85(2), 220–231. <https://doi.org/10.1111/jopy.12235>
- Suzuki, T., South, S. C., Samuel, D. B., Wright, A. G. C., Yalch, M. M., Hopwood, C. J., & Thomas, K. M. (2019). Measurement invariance of the DSM-5 section III pathological personality trait model across sex. *Personality Disorders: Theory, Research, and Treatment*, 10(2), 114–122. <https://doi.org/10.1037/per0000291>
- Thomas, K. M., Yalch, M. M., Krueger, R. F., Wright, A. G. C., Markon, K. E., & Hopwood, C. J. (2013). The convergent structure of DSM-5 personality trait facets and five-factor model trait domains. *Assessment*, 20(3), 308–311. <https://doi.org/10.1177/1073191112457589>
- Triandis, H. (1988). Collectivism and individualism: A reconceptualization of a basic concept in cross-cultural psychology. In G. K. Verma & C. Bagley (Eds.), *Personality, attitudes, and cognitions* (pp. 60–95). MacMillan. https://doi.org/10.1007/978-1-349-08120-2_3
- van de Vijver, F. J. R., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. SAGE.
- Velicer, W. F. (1976). Determining the number of components from the matrix of partial correlations. *Psychometrika*, 41(3), 321–327. <https://doi.org/10.1007/bf02293557>
- Watters, C. A., Sellbom, M., Ulaszek, A. A., & Bagby, R. M. (2019). Clarifying the interstitial nature of facets from the Personality Inventory for DSM-5 using the five factor model of personality. *Personality Disorders: Theory, Research, and Treatment*, 10(4), 330–339. <https://doi.org/10.1037/per0000327>
- Wright, A. G. C., Thomas, K. M., Hopwood, C. J., Markon, K. E., Pincus, A. L., & Krueger, R. F. (2012). The hierarchical structure of DSM-5 pathological personality traits. *Journal of Abnormal Psychology*, 121(4), 951–957. <https://doi.org/10.1037/a0027669>
- Zimmermann, J., Kerber, A., Rek, K., Hopwood, C. J., & Krueger, R. F. (2019). A brief but comprehensive review of research on the alternative DSM-5 model for personality disorders. *Current Psychiatry Reports*, 21(92), 1–19. <https://doi.org/10.1007/s11920-019-1079-z>

History

Received August 14, 2020

Revision received June 6, 2021

Accepted June 7, 2021

Published online July 29, 2021

Section: Clinical Psychology

Acknowledgments

We want to thank Justinus Budi Santoso, Yenny Astria Siahaan, Clarisa Sutjiatmadja, and Jessica Utomo for contributing to the data collection. We also thank Eugenia Emile Natasha for her assistance in data preparation and analysis.

Open Data

Code and data can be found at <https://osf.io/4n7ce> (Adhiatma, 2020).

Funding

The study was partially funded by the Research and Community Service Center, Atma Jaya Catholic University of Indonesia.

ORCID

Widhi Adhiatma

<https://orcid.org/0000-0002-0052-0183>

Widhi Adhiatma

Faculty of Psychology

Atma Jaya Catholic University of Indonesia

Jalan Jenderal Sudirman 51

DKI Jakarta, 12930

Indonesia

widhi.adhiatma@atmajaya.ac.id