

The Short Version of IPIP-BFM Scale Properties Based on Bugis-Makassar Cultural Background: Do the Items Match with Javanese Culture?

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Abstract

Cultural difference is one of the elements that form individuals. It corresponds with attitudes and beliefs that influence human cognition and behavior. As a response, it is essential to study cultural differences to develop an appropriate measurement tool. This study aims to (1) evaluate the psychometric properties of the IPIP-BFM short version scale based on the Bugis-Makassar cultural setting and also (2) compare with Javanese cultural background results. A total of 430 students participated (78% women and 22% men). We observed that the Item-total correlation ranged from 0.51 to 0.74, with reliability coefficient: intellectual (0.85); consciousness (0.85); extraversion (0.85); agreeableness (0.79); and neuroticism (0.89). The Kaiser Meyer-Olkin was 0.87, and the Bartlett Test of Sphericity was 5191,3 ($p < 0.01$). All the items had a factor loading >0.60 ; variance explained 63.1 (63%) and clear factorial structures. The short version scale had good psychometric properties. Meanwhile, the items comparison of the two measurement tools from both cultural backgrounds reveals that two-item were the same in factors: intellectual, extraversion, and emotional, while four items were in consciousness. However, on the agreeableness factor, all items were the same. It shows that cultural variations indeed affect an individual's perception of an item.

Keywords: big five personality, measurement, short version scale, validity, reliability

Abstrak

Perbedaan budaya merupakan salah satu unsur pembentuk kepribadian individu. Hal tersebut dapat berupa sikap dan keyakinan yang kemudian mempengaruhi pemikiran dan perilaku manusia. Sebagai respon hal tersebut, penting untuk mempelajari perbedaan budaya agar dapat mengembangkan alat ukur yang tepat. Penelitian ini bertujuan untuk (1) mengevaluasi properti psikometri skala IPIP-BFM versi pendek berdasarkan latar budaya Bugis-Makassar, dan juga (2) melakukan perbandingan dengan hasil pengukuran dari latar belakang budaya Jawa. Sebanyak 430 siswa berpartisipasi (78% perempuan dan 22% laki-laki). Kami mengamati bahwa korelasi item-total berkisar antara 0,51 hingga 0,74, dengan koefisien reliabilitas: intellectual (0.85); conciousness (0.85); extraversion (0.85); agreeableness (0.79); dan neuroticism (0.89). KMO (Kaiser Meyer-Olkin) sebesar 0.87, dan Bartlett Test of Sphericity 5191.3 ($p < .01$). Semua item memiliki koefisien muatan faktor >0.60 ; mampu menjelaskan varians sebesar 63.1 (63%) dan memiliki struktur faktorial yang jelas. Skala versi pendek ini memiliki properti psikometrik yang baik. Sementara itu, perbandingan item dari kedua latar belakang budaya menunjukkan bahwa dua aitem dinyatakan sama pada masing-masing faktor: intellectual, extraversion, dan emotional, sedangkan empat item sama pada consciousness. Namun, pada faktor agreeableness, semua item dinyatakan sama. Hal tersebut menunjukkan bahwa perbedaan budaya dapat mempengaruhi persepsi individu terhadap suatu aitem.

Kata kunci: kepribadian big five, pengukuran, skala versi pendek, validitas, reliabilitas

Introduction

The most critical aspect of any research activity is measurement. It is the heart of all science and its applications (Furr; Bacharach, 2014). One of the most important reasons is that measurement results are frequently used to make decisions. Meanwhile, accurate decisions are commonly based on good assessments. Thus, measurement tools are required to function optimally. It is concerned with psychometric qualities. As a consequence, evaluating the instrument's attributes becomes crucial.

Psychometric properties are the primary indicator of good measurement tools. The instrument must be supported with acceptable validity and reliability values. These two components are the essential characteristics that must be owned by each measurement tool to obtain accurate measurements (Azwar, 2016; Furr; Bacharach, 2014). The validity refers to the ability of the measurement tool to function correctly. At the same time, reliability is the trustworthiness shown by the measurement results (Aiken, 1985; Azwar, 2014; Furr; Bacharach, 2014; Nunnally & Berstaein, 1994).

Validity concerns "the degree to which an instrument truly measures the constructs to measure" (Mokkink et.al, 2010). Reliability can be understood as the inverse of measurement error: the less error a measurement contains, the higher its reliability, and vice versa (Furley, Rost, & Barth, 2020). Respectable validity and reliability correlate positively with the quality of the items, such as the clarity of language, culture bound-free, and the number of items (Azwar, 2016; Furr; Bacharach, 2014). However, the quality of a measurement tool did not depend on the number of items but instead on the ability of items to represent behavioral indicators.

The value of validity and reliability is positively correlated with the quality of the items, so there is no guarantee that a higher number of items will lead to a higher index of validity (Azwar, 2016; Furr; Bacharach, 2014; Kurpius; Stafford, 2006). A good validity of the item can be seen from its loading factor. If an instrument has many items and is not supported by good loading factors, the items cannot measure optimally. Therefore, a higher number of items does not guarantee the quality of the resulting measurement tool. Even though the number of items is limited, if the loading factor of each item is high, a high-quality instrument may be generated (Aswar, 2014; Brown, 2006; Furr; Bacharach, 2014; Nunnally & Berstaein, 1994). Such instruments are referred to as short-version measurement tools.

Short versions of scales are more economical, are less burdensome on participants, and often have comparable psychometric properties to their more extended versions (Ames, Rose, & Anderson, 2006). A minimum of three items per scale is generally suggested (Marsh, Hau, Balla, & Grayson, 1998). It is essential to consider the respondents' fatigue and willingness to participate in filling out the measuring instrument (DeVellis, 2003; Nunnally & Berstaein, 1994). Thus, as long as concise scales adequately capture the latent traits measured by longer scales, they could be advantageous for both participants and researchers (Özsoy, Rauthmann, Jonason, & Ard, 2017).

This study examined a short version of the measurement tool used to assess individual personalities, particularly in the Bugis-Makassar cultural setting. The Big Five personality was used to describe the traits of individuals that differentiate them from others. It identifies five primary dimensions: openness, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae & Costa, 1999; Power & Pluess, 2015; Strus, Ciecuch, & Rowinski, 2014). These dimensions are considered diverse item content depending on individual cultural backgrounds.

It is critical to investigate personality characteristics based on cultural differences since cultural variations are an element that can influence behavior (Gelfand & Kashima, 2016). This behavior tends to be in line with cultural background. In other words, individual behavior reflects their background. Previous research (Akhtar and Azwar, 2019) only focused on Javanese people. As a result, the measurement tool will not be optimal when used in other cultural backgrounds. Gelfand and Kashima (2016) argued that cultural

differences become determinants of individual personalities. The essence of culture is fundamental and is believed to color human thought and behavior (Gelfand & Kashima, 2016). Therefore, personality measurement tools must be developed based on the background culture of respondents.

This study aims to reveal personality conditions in the Bugis-Makassar culture. We built the qualified short version scale: it had five items in each factor, referred to as a factor loading ≥ 0.5 , and they were grouped into similar factors. The reliability value in each aspect was ≥ 0.70 and 0.30 for item-total correlations for internal consistency acceptable levels (Nunnally & Berstaein, 1994). Finally, variance explained more than 50% and clear factorial structures. All of the items were chosen based on the fifth-highest score. Only the best quality items were included in the instrument. We began by explaining the theoretical concept of IPIP-BFM as a Big Five personality measurement tool, followed by the impact of culture on individual personalities.

We intended to answer the following questions:

1. What were the properties of the IPIP-BFM short version scale in Bugis-Makassar's cultural background?
2. Are the items of the short version measurement tool in the Bugis-Makassar background the same as in the Javanese background?

Big Five Personality and IPIP-BFM (International Personality Item Pool-Big Five Markers)

A trait approach is a common theoretical concept for describing human personality. Traits are characteristics that tend to settle on an individual and become a unique characteristic of his personality. This concept emphasizes that traits determine human behavior. Researchers categorized traits into bipolar dimensions known as the Big Five (Feish, 2008; Hogrefe & Huber, 2002). Many studies used the trait structure provided by the Five Factor Model because it is considered capable of providing a comprehensive picture of personality and has strong validity and reliability (McCrae & Costa, 1999).

The Big Five is a personality taxonomy based on the lexical method, which groups words used in everyday life to describe the traits of individuals that differentiate them from others. This model identifies five basic dimensions of individual personality, labeled openness, conscientiousness, extraversion, agreeableness and neuroticism (McCrae & Costa, 1999; Power & Pluess, 2015; Strus, Cieciuch, & Rowinski, 2014).

The dimension of openness captures the imagination and intellectual curiosity. It is commonly regarded as intellectual property. Individuals with a high score of this attribute have a diverse set of interests. They are curious about the world, ready to learn new things, interested in travel, and have many different hobbies. On the other hand, individuals with poor scores on this aspect will exhibit the opposite: dislike change, do not enjoy new things, dislike abstract concepts, etc (McCrae & Costa, 1999; Power & Pluess, 2015).

Conscientiousness relates to thoroughness, long-term plans, good impulse control, technical expertise, leadership skills and organizational abilities. Individuals with a high score on this attributes are detail-oriented and well-organized. They prepare ahead of time, consider how their actions influence others, and keep deadlines in mind. On the other hand, individuals with low scores on this aspect, will dislike structure and schedules, tend to procrastinate, be careless, etc (McCrae & Costa, 1999; Power & Pluess, 2015).

Extraversion is characterized by pleasant feelings, such as gregariousness, social skills, numerous friendships, and participation in club memberships. Individuals with a high score on this attribute will like meeting new individuals, enjoy starting talks and being the center of attention, feel energized when around other people, etc. On the contrary, individuals with low scores find it challenging to initiate conversations. They think carefully before speaking and dislike being the center of attention, etc (McCrae & Costa, 1999; Power & Pluess, 2015).

Agreeableness defines a person level of cooperation and compassion. Its adaptation characteristics included forgiving attitudes, kindness, unobtrusive language, affection, and other positive social behaviors. Individuals with a high level of this trait care about others, feel empathy, help others in need, etc. Individuals with low scores, on the other hand, do not care how other people feel, have no interest in other people's issues, manipulate others to achieve what they want, etc. (McCrae & Costa, 1999; Power & Pluess, 2015)

Neuroticism encompasses negative feelings, such as anxiety and despair, and is often regarded as emotional instability, pessimistic attitude, sadness, and moodiness. Individuals with a high level of this trait tend to experience mood swings, anxiety, impatience, low self-esteem, and sadness. On the other hand, individuals with low scores are emotionally stable, seldom depressed, calm, and handle stress well (McCrae & Costa, 1999; Power & Pluess, 2015).

International Personality Item Pool (IPIP) is a site for scientific collaboration to develop advanced measures of personality and other individual differences. The site includes over 3,000 items and over 250 scales that have been constructed. The items and scales are in the public domain, requiring no permissions or fees. The IPIP Translation Page now includes the 40 languages into which IPIP components have been translated (<https://ipip.ori.org/>).

One of the most prominent scales on the IPIP website is the IPIP-BFM scale which has two variants: the 100-item version (IPIP-BFM-100) and the 50-item version (IPIP-BFM-50). IPIP-BFM-100 has 100 items, whereas IPIP-BFM-50 has 50 items of short phrases, and each component includes ten items. The items are brief sentences stated in behavioral terms (Hogrefe & Huber, 2002; John, Robins, & Pervin, 2008; Ramdhani, 2012; Saucier & Goldberg, 2002). All items from the IPIP-BFM-50 are included in the IPIP-BFM-100 scale, and correlations between the scales of the two versions varied from .94 to .96 (Saucier & Goldberg, 2002).

Impact of Culture on Individual Personality

Differences in personality styles are influenced by cultural factors (Kanas et al., 2009). Our cultural background influences all of us, influencing our personality, behavior, cognition, etc (Kanas et al., 2009). The essence of culture is very basic and is believed to color human thought and behavior (Gelfand & Kashima, 2016). Personality is influenced by both hereditary and environmental factors. Cultural influences are among the most important of the latter. Language and behavioral modeling are ways of transmitting culture (Triandis & Suh, 2002). Cultural elements are shared common operating procedures, norms, values, assumptions, habits, etc (Triandis & Suh, 2002). As a result, knowing cultural variations is critical for completely understanding individuals.

Some research reported personality variations based on cultural background. We emphasized the disparity between eastern and western cultures in terms of cognition, motivation, emotion, self-described personality traits, and well-being. People in eastern cultures perceive their environment as more or less fixed (solid norms, obligations, and duties) and themselves as adaptable. They are motivated because they wish to satisfy the social environment's needs. However, in western cultures, motivation increases following success (Heine, Ide, & Leung, 2001). Westerners perceive themselves as more or less stable (stable attitudes, personality) and the environment as adjustable (Chiu, 1999; Hong, Ip, Chiu, Morris, & Menon, 2001).

People in eastern cultures show more interpersonally engaged emotions (friendly feelings, respect). In western cultures, more felt superior and proud (Kitayama, Markus, & Kurokawa, 2000). People in eastern cultures had higher levels of focus on attentiveness, respectfulness, humility, and cooperativeness, but lower independence, pleasure-seeking, and assertiveness (Triandis & Suh, 2002). People in western cultures had higher levels of self-esteem than those in eastern cultures (Heine et al., 2001). People in eastern cultures were born or married into groups, but people in western cultures frequently had to earn their membership in a group (Triandis & Suh, 2002).

Indonesia generally follows eastern cultures. Indonesia is led by the slogan "Bhinneka Tunggal Ika," which translates as "diverse yet still one." It has many subcultures or races (Hasanuddin, 2017). The Bugis and Javanese people are two different Indonesian cultures. The Bugis people mainly inhabited the island of Sulawesi, particularly the southern part, whereas the Javanese primarily inhabited the island of Java.

The Bugis people uphold the principle of "siri", "sipakatau", "sipakainge" and "sipakalebbi". Siri denotes shyness (self-esteem). It is linked to honor, self-esteem, and dignity as a human being. These traits are used to defend honor against those who would degrade personal self-esteem. "Sipakatau" denotes mutual respect. "Sipakainge" means to remind each other if there is something wrong. Other terms that refer to a mode of living for the Bugis are "*Sibaliperrri*" means mutual aid, and "*Sisaro mase*" meaning mutual love (Humaeni, Wazin, & Bahtiar, 2016; Salim, Salik, & Wekke, 2018). Meanwhile, Javanese people uphold several terms that describe the formation of their personality, for example "dadi wong", "*dadi Jowo*" or "*manungsa tanpa ciri*" who are not determined by age alone, but rather the acquisition of good personality (Trimulyaningsih, 2017). Individuals, who have matured in the setting of Javanese culture, will have personal strength, allowing them to determine attitude and determine what is good or wrong.

Both cultures appear to have their own philosophies that try to establish a good society while adhering to the life ideals of their ancestors. These cultural principles are passed down from generation to generation and have an impact on how individuals behave. They aim to preserve their culture while also adapting to the environment (Humaeni et al., 2016; Salim et al., 2018).

Methods

A total of 430 university students were involved, minimum age of 17 years old, with Bugis or Makassar cultural backgrounds. Data were collected using questionnaires from an adapted IPIP-BFM-50 version (Akhtar & Azwar, 2019). The data collection instrument used a 5-point Likert-type measurement tool for self-assessment.

The data analysis began with reliability tested by Cronbach alpha, with a minimum 0.7 result. Internal consistency was checked by the acquisition of item-total correlation scale values. The expected minimum value was above 0.3, as is the characteristic of a tricky item (Anastasi & Urbina, 2007; Azwar, 2016; Nunnally & Berstain, 1994). This test aimed to determine the ability of an item to distinguish individuals who had or did not have the attributes measured (Azwar, 2016). The test computed the correlation coefficients between the scores of each item with the overall scale score distribution. The Items that did not meet the minimum criteria were not analyzed in the next stage.

The Confirmatory Factor Analysis (CFA) determined the construct validity (Azwar, 2016; Furr; Bacharach, 2014). The construct analysis test found the loading factor of each item, which then became the second filter in choosing a quality short version item. The results of the analysis are an evidence-based internal structure of IPIP BFM. The acquisition value of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) must exceed 0.80, the test of sphericity is below 0.01, and the standardized factor loading of each item on factor should be >0.50 and statistically significant (Hair, Black, Babin, Anderson, & Tatham, 2010).

KMO and Bartlett tests were used to determine the complexity of the scale content and sample size. The next qualification was that each item must be distributed together in each dimension, and the total variance explained must exceed 50%. We established numerous criteria above and beyond the usual criteria used to obtain the highest quality items. Table 1 below shows the minimum standard of items that were included in the short version of the IPIP BFM personality scale. Following that, we compare the current short version of the measurement tools (Javanese culture), to see how comparable the item is in both measurement tools.

Table 1. Researchers Expected Values.

Focus analysis	Score
Reliability Coefficient	>0.75
Total correlation items	>0.5
KMO as Sampling Adequacy	>0.8
Bartlett test for significance	<0.01
Loading Factor	>0.5
Item distribution	Match the theory
Variance explained	>50%

Results and Discussion

Properties of IPIP-BFM Short Version Scale

Reliability and item-total correlation values were estimated from a set of 430 respondents aged from 17 to 31 years. There were 93 males (21.6%) and 337 females (78.4%). The reliability coefficient analysis showed the highest reliability coefficient was in the emotional factor (0.89), followed by the consciousness factor (0.85); intellectual factor (0.85); and extraversion factor (0.85); whereas the agreeableness factor showed the lowest result (0.79). Nevertheless, the agreeableness factors far exceeded the minimum criterion of 0.70 (Aswar, 2014; Nunnally & Berstaein, 1994).

While the item-total correlation of items (r_{rix}) for each factor exceeded 0.50 as a minimum threshold to be expected. Item-total correlations were lowest for agreeableness (0.51); extraversion (0.58); emotional (0.65); extraversion (0.68), and the highest was the intellectual factor (0.74). The items that did not meet the specified item qualifications were removed. The scale summary is shown in Table 2.

Table 2. Item-Total Correlation and Reliability.

Factors	Cronbach's Alpha	Item-total correlation of items
Intellectual	0.85	0.56 - 0.74
Consciousness	0.85	0.63 - 0.68
Extraversion	0.85	0.58 - 0.71
Agreeableness	0.79	0.51 - 0.63
Emotional	0.89	0.65 - 0.68

The overall internal consistency of the short version of the IPIP BFM score was acceptable: it ranged from 0.51 (Agreeableness) to 0,74 (Intellectual). The internal consistency was seen from the corrected item-total correlation for each dimension. The highest score was on the intellectual dimension, which ranged from 0.56 to 0.74, followed by extraversion 0.58 - 0.71, consciousness 0.63 - 0.68, Emotional 0.65 - 0.68, and agreeableness 0.51 - 0.62. This suggested that all items strongly portrayed the same thing in their core elements.

The acquisition value indicated that all items that formed the short version of the IPIP BFM personality measurement instrument were strong and exceeded the minimum criterion, 0.25 (Kline, 1986) or 0.30 (Azwar, 2016). All values were above 0.50 on each factor so that it is correlated with the respected alpha value (Anwar, 2015). It showed that all items were able to distinguish between individuals who had and did not have the measured attributes.

Reliability was seen from the value of the alpha reliability coefficient and accepting estimates >0.70 (Nunnally & Berstaein, 1994). The reliability coefficient showed the lowest number is in the agreeableness factor (0.788), while the highest is in the emotional stability factor (0.889). The reliability coefficient of

agreeableness was the lowest among other factors because the acquisition of internal consistency was also the lowest. As we know that the reliability coefficient is positively correlated with the internal consistency of the measurement tool, as can be seen from the item-total item correlation value.

The Cronbach Alpha reliability coefficient values showed a positive correlation to the value of item-total item correlation. Thus the higher value of internal consistency will be the higher of reliability coefficient will be generated. The reliability coefficients above confirmed that each scale had satisfactory reliability, so measurements using the short version of IPIP-BFM could be trusted.

The CFA was used to evaluate whether the five-factor models were supported by theory. The factors analysis showed that the value of KMO at 0.86 with a significance level of the Bartlett Test of Sphericity was 5191.3 with $p < 0.01$. Thus there was a significant correlation between the variables. As a result, the adapted version of the IPIP BFM scale met the criteria, and factor analysis could be continued.

Table 3. KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.86
Bartlett's Test of Sphericity	Approx. χ^2	5191,3
	df	300
	Sig.	<0.001

Meanwhile, the distribution of items in each dimension was in accordance with the blueprint scale. The pattern matrix below is suggested as a very clear five-factor solution with no shared variance between components. All items on intellectual dimensions were simultaneously distributed to the fourth factor; the extraversion dimension was at the third factor; the dimension of agreeableness was in the fifth factor; consciousness in the first factor, and emotional dimensions in the second factor.

It meant that all items on the scale were declared to meet the psychometric properties that are required for good items. Meanwhile, the factor loading values in each factor varied, intellectual (0.637-0.842); consciousness (0.69-0.83); extraversion (0.68-0.76); agreeableness (0.68 - 0.8); and neuroticism (0.77 - 0.88). Overall, the short version of IPIP BFM was generally supported by the original factor structure and respectable factor loading. The distribution of the factors loading of each item is shown in Table 4.

Table 4. Items Distribution of the Factors Loading.

Items	Component				
	1	2	3	4	5
Have a rich vocabulary.	.027	.110	-.988	.637	-.038
Have a vivid imagination	-.028	.018	.124	.783	-.032
Have excellent ideas	.041	.017	-.039	.840	.028
Am quick to understand things	.477	-.091	.003	.743	-.048
Am full of ideas	.002	-.029	-.081	.842	.013
Don't talk a lot	.111	.003	.833	-.047	.106
Keep in the background	-.193	-.078	.692	.087	-.080
Have a little to say	.168	-.016	.834	-.047	.145
Don't like to draw attention to myself	-.102	.025	.760	-.012	-.051
Am quiet around strangers	-.076	.069	.746	-.067	-.079
Am interested in people	-.056	.067	-.073	-.026	.684
Sympathize with others' feelings	-.042	-.031	-.048	.008	.685
Take time out for others	.002	-.031	.121	-.004	.689
Feel others' emotions	.041	-.050	.052	-.030	.765
Make people feel at ease	-.999	.046	-.024	-.062	.728
Am always prepared.	.679	.060	-.081	-.055	-.230
Pay attention to details	.795	-.003	-.031	.019	.001

Like order	.747	-.043	.018	-.037	-.988
Follow a schedule	.800	.002	.027	.444	.045
Am exacting in my work.	.719	.012	-.045	.161	.016
Am easily disturbed.	.042	.798	.026	.085	.116
Get upset easily	-.86	.837	-.102	-.101	-.017
Change my mood a lot	-.017	.879	.030	.000	-.101
Have frequent mood swings	.000	.875	.052	-.031	-.151
Often feel blue	.053	.767	.011	-.028	-.080

Table 5 explains the value of the Total Variance that can be explained by all five factors reached 63.1. Thus the short version of the measurement tool was able to explain 63% of the personality of individuals with a Bugis-Makassar cultural background, exceeding the initial criteria set at >50%.

Table 5. Total Variance Explained.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.4	25.5	25.6	6.4	25.5	25.5	4.3
2	3.5	14.	39.6	3.5	14	39.6	3.6
3	2.4	9.8	49.4	2.5	9.8	49.4	3.8
4	1.9	7.5	56.9	1.9	7.5	56.9	4.3
5	1.5	6.1	63.1	1.5	6.1	63.1	3.9
6	.80	3.2	66.3				
7	.74	2.9	69.2				
8	.72	2.9	72.1				
9	.69	2.7	74.9				
10	.62	2.5	77.4				
11	.59	2.4	79.8				
12	.54	2.1	81.9				
13	.53	2.1	84				
14	.49	1.9	86				
15	.47	1.9	87.9				
16	.33	1.7	89.6				
17	.39	1.6	91.2				
18	.38	1.5	92.7				
19	.37	1.5	94.3				
20	.34	1.3	95.6				
21	.28	1.1	96.7				
22	.25	1	97.7				
23	.23	.93	98.7				
24	.19	.78	99.4				

Confirmatory Factor Analysis (CFA) checked whether the distribution of items was in accordance with the blueprint. Items that had a loading factor above 0.4 were feasible and could be retained (Stevens, 1992). CFA aims to confirm a test's dimensionality (Brown, 2006; Furr; Bacharach, 2014). Here, CFA evaluated whether the five-factor models supported by previous literature fit the current data (Hyland et al., 2019).

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value is 0.86, with a significance level of the Bartlett Test of Sphericity was 5191.3 with $p < 0.01$: $p < 0.05$ was considered statistically significant. The sample size, for continuing factor analysis, needs to have a KMO value >0.60

and a statistically significant Bartlett's test of Sphericity (Büyükoztürk, 2018). Factor analysis shows that the items are well-grouped according to their dimensions: loading factors in each factor varied from intellectual (0.64 - 0.84); consciousness (0.69 - 0.83); extraversion (0.68 - 0.76); agreeableness (0.68 - 0.8); and neuroticism (0.77 - 0.88). Bartlett's Sphericity Test returned 5191.3 with $p < 0.01$; thus, there was a significant correlation between the variables.

These results indicated that the model was a good fit, and the structural model of the Short Version of IPIP-BFM was well matched to the Bugis-Makassar culture. The short versions of IPIP BFM items in accordance with the Bugis-Makassar culture are in Table 6.

Table 6. Item 25 Version of the Bugis-Makassar Culture.

No	ITEMS	
	English	Bahasa Indonesia
IN1	Have a rich vocabulary.	Menguasai banyak kosakata
IN3	Have a vivid imagination	Memiliki imajinasi yang sangat kuat
IN5	Have excellent ideas	Memiliki ide-ide yang cemerlang
IN7	Am quick to understand things	Cepat dalam memahami sesuatu
IN10	Am full of ideas	Memiliki banyak ide
EX2.	Don't talk a lot	Tidak banyak berbicara
EX4.	Keep in the background	Lebih suka bekerja di belakang layar
EX6.	Have a little to say	Sedikit berkata
EX8	Don't like to draw attention to myself	Tidak suka menjadi pusat perhatian
EX10.	Am quiet around strangers	Tidak banyak berbicara pada orang yang tidak dikenal
AG2	Am interested in people	Peduli dengan orang lain
AG4	Sympathize with others' feelings	Bersimpati dengan perasaan orang lain
AG8	Take time out for others	Meluangkan waktu untuk orang lain
AG9	Feel others' emotions	Memahami perasaan orang lain
AG10	Make people feel at ease	Membuat orang lain merasa nyaman
CO 1	Am always prepared.	Selalu mempersiapkan segala hal
CO 3	Pay attention to details	Memperhatikan hal-hal secara rinci
CO 7	Like order	Menyukai keteraturan
CO 9	Follow a schedule	Melakukan aktivitas sesuai jadwal atau agenda
CO 10	Am exacting in my work.	Telaten dalam mengerjakan tugas
EM 5	Am easily disturbed.	Mudah merasa terganggu
EM 6	Get upset easily	Mudah merasa kesal
EM 7	Change my mood a lot	Memiliki perasaan yang berubah-ubah
EM 8	Have frequent mood swings	Memiliki suasana hati yang sering berubah-ubah
EM 10	Often feel blue	Sering merasa sedih

The items above had the best quality among all items from the perspective of respondents. Each item was able to represent the Bugis-Makassar community in terms of personality depictions. These items function well for the Bugis-Makassar culture but may be less appropriate in other cultures.

Comparison between Bugis-Makassar and Javanese Cultural Background

There are similarities and differences between the results of the IPIP-BFM short version analysis on Javanese and Bugis-Makassar culture. We compare the item on both measurement tools to see how many items are the same. The two-item were the same in intellectual factors, extraversion, and emotional, whereas, in consciousness, four items were the same. On the agreeableness factor, all items were the same. It meant that only items on agreeableness were really the for the two cultures, while other factors were not entirely the same. It can be seen in table 7 below.

Table 7. Items Compared to Bugis-Makassar and Javanese Versions

Factors	Bugis-Makassar	Javanese
Intellectual	Have a vivid imagination	same item
	Am full of ideas	same item
	Have a rich vocabulary	Am not interested in abstract ideas
	Have excellent ideas	Have difficulty understanding abstract ideas
	Am quick to understand things	Don't have a good imagination
Extraversion	Have a little to say	same item
	Don't like to draw attention to myself	same item
	Don't talk a lot	Start conversations
	Keep in the background	Talk to a lot of different people at parties
	Am quiet around strangers	Am the life of the party
Agreeableness	Am interested in people	same item
	Sympathize with others' feelings	same item
	Take time out for others	same item
	Feel others' emotions	same item
	Make people feel at ease	same item
Consciousness	Am always prepared	same item
	Like order	same item
	Follow a schedule	same item
	Am exacting in my work.	same item
	Pay attention to details	Get the chores done right away
Emotional	Change my mood a lot	same item
	Have frequent mood swings	same item
	Am easily disturbed	Get stressed out easily
	Get upset easily	Worry about things
	Often feel blue	Get irritated easily

The same items on the intellectual aspect were “have a vivid imagination” and “am full of ideas”; extraversion contained “have a little to say” and “don't like to draw attention to myself”; agreeableness contained all items, including “am interested in people”, “sympathize with others' feelings”, “take time out for others”, “feel others' emotions” and “make people feel at ease”. For consciousness, the same items were “am always prepared”, “like order”, “follow a schedule” and “am exacting in my work” and for the emotional aspect, “change my mood a lot” and “have frequent mood swings” both appeared. There were 15 items that were declared the same and 10 items that were different. This showed that cultural differences were real in shaping an individual's perception of an item.

The contrasts noted above were closely tied to the two civilizations' life philosophy, which differs in many ways. For instance, Bugis people uphold a life philosophy like, “*siri*”, “*sipakatau*”, “*sipakainge*”, “*sipakalebbi*”, “*Sibaliperri*” and “*Sisaro mase*” which consequently influences their behavior (Humaeni, Wazin, & Bahtiar, 2016; Salim, Salik, & Wekke, 2018). However, Javanese people upheld various terms that explain the formation of personality, such as “*dadi wong*”, “*dadi jowo*,” or “*manungsa tanpa ciri*,” which are not defined just by age but rather by the acquisition of a quality of personality (Trimulyaningsih, 2017). Each of these life philosophies has a profound meaning and tends to impact the way each member of the cultural group lives in society.

This study showed that the differences in a culture really need to be considered in making a psychological measurement tool.- see table 7. This suggests that there are differences in the sound of

items due to differences in the respondents' cultural backgrounds. Gelfand & Kashima (2016) stated that culture is one of the factors that shape individuals and correlates with attitude and belief that gives color to human thought and behavior. Understanding the various personality characteristics of every human being from a diverse cultural background is intriguing. Differences in cultural backgrounds correlate with differences in personality characteristics of individuals (Gelfand & Kashima, 2016). In sum, the short version of IPIP- BFM was able to perform a multidimensional assessment of respondents with a Bugis-Makassar cultural background and acceptable measured psychometric properties.

Conclusion

The short version of IPIP- BFM is a personality measurement tool with 25 items distributed among five items in each factor. The analysis showed the short version of IPIP- BFM was supported by strong psychometric properties and met the target criteria. This measurement tool can be used to reveal personality types, especially for individuals in Bugis-Makassar culture. Some similarities and differences were found between Bugis-Makassar and Javanese cultures. Two items were the same in intellectual, extraversion, and emotional factors, while consciousness had four matching items. Meanwhile, all items in the agreeableness factor were the same. In total, 15 items were declared the same (have a vivid imagination; am full of ideas; have a little to say; don't like to draw attention to myself; am interested in people; sympathize with others' feelings; take time out for others; feel others' emotions; make people feel at ease; am always prepared; like order; follow a schedule; am exacting in my work; change my mood a lot; have frequent mood swings) and ten items were declared different.

Thus there was a clear cultural distinction between the two groups. Cultural differences certainly exist and have a role in molding an individual impression of an item. Several limitations were identified - the respondents only came from a sample of students in Makassar, and there was limited demographic information. As a result, this measurement tool was only appropriate for individuals in the early adult age range. Future studies are expected to broaden the characteristics of respondents from various demographic backgrounds so that the measurement tool produced is able to represent the Bugis-Makassar cultural background as a whole. Furthermore, the demographic diversity of the respondents must be considered so that each respondent group is well represented.

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