Assessing Personality Using Self-Report Measures with Asians and Asian Americans

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Overview of Asians and Asian-Americans

Despite the fact that Asians comprise the majority of the world's inhabitants, the majority of the research in psychology has focused on WEIRD (Western, educated, industrial, rich, democratic) populations (Henrich, Heine, & Norenzayan, 2010). One of the challenges of studying Asians and Asian-Americans as a group is the breadth of diversity among the Asian subgroups. Individuals who identify as Asian-American come from over 43 different countries from the continent of Asia as well as the islands in the Pacific and Indian oceans (Liu, Murakami, Eap, & Hall, 2009). The linguistic, religious, and economic diversity represented among Asians contributes to the difficultly in generalizing between subgroups. Additionally, the various migration histories of different Asian-American subgroups suggest that each group have vastly different experiences living in the USA that in turn affects their psychological profiles. For instance, the major influx of Asians migrating to the USA took place in three waves under vastly different social and political circumstances. In contrast, the group known as Pacific Islanders include Hawaiians, Guamanians, and Samoans are automatically US citizens. Although most Americans either explicitly or implicitly perceive Asian-Americans as foreign (Devos & Banaji, 2005), those whose ancestries originate from one of the above US territories have a lineage that makes them nonnaturalized citizens. The circumstances related to citizenship and migration contributes to differences in economic and social standing that may lead to differences in psychological profiles.

Despite these differences, there are some cultural commonalities between Asian subgroups. Many countries in Asia are influenced by Buddhist and Confucian tenets. Buddhism began in India and spread to East and Southeast Asia. Values such as Filial Piety stem from Buddhist theology and may influence parent–child relationships in Asian cultures. Buddhist philosophy also promotes acceptance as a coping strategy, which has been shown to be utilized among Asian-Americans more frequently than among European Americans (Taylor et al., 2004). Moreover, Asian cultures, like many non-Western cultures, also tend to be collectivistic (Oyserman, Coon, & Kemmelmeier, 2002). This collectivistic orientation influences perceptions of the self and, by extension, socioemotional experiences and behavior. These traditionally Asian values may be held by many Asian subgroups, suggesting that, although Asians may

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have very different historical experiences and cultural practices, there are similar underlying processes that justify examining Asians and Asian-Americans as a group.

Personality and Culture

The study of personality and culture has generated a large amount of debate. Triandis and Suh (2002) define personality as "a configuration of cognitions, emotions, and habits activated when situations stimulate their expression" (p. 136). The study of personality rests on the assumption that personality is predictable. There has been a long-standing debate between personality theorists on whether personality reflects an individual state or a trait. A personality state is transient and can change from situation to situation. A personality trait is more enduring, consistent, and is thought to reflect a genetic predisposition. Self-report measures of personality are based on trait models because it relies on behavioral consistencies.

Personality has been examined extensively cross-culturally, namely through self-reports (Heine & Buchtel, 2009). These efforts to study personality in different cultures have been driven by a desire to understand "national character," personality characteristics unique to each country (Terracciano et al., 2005). Early personality theorists believed that the number of distinct personality dimensions were universal because they were selected for as an adaptation to increase survival (e.g. Goldberg, 1981). Cross-cultural researchers, however, have challenged this assumption. Scholars make a distinction between an emic, or relativistic, and an etic, or constructivistic approach, towards measuring personality (Benet-Martínez & Oishi, 2008). An emic perspective assumes that conceptualization of personality can only be understood within a specific culture and that personality traits imposed by outside cultures are irrelevant when applied to diverse groups. An etic perspective postulates a universal conceptualization of personality. Cross-cultural researchers point out that the two different approaches yield different results.

Although both perspectives advocate seemingly contradictory approaches, there is evidence for both universal and culturally specific features relevant to personality among Asians and Asian-Americans. For this reason, Cheung, van de Vijver, and Leong (2011) advocate a third framework, which combines both an emic and etic approach for measuring and conceptualizing personality. They point out that emic and etic approaches each have limitations. According to Cheung et al., researchers identifying indigenous personality dimensions were not able to consistently establish reliable and valid measures, nor have they been able to establish appropriate norms. Personality researchers have also pointed out that traits identified as culturally specific might actually be universal. These findings underscore the weaknesses of an emic approach. An etic approach, however, tends to focus on traits important to Western cultures. Additionally, traits that have been purported to be universal have failed to yield strong coherence in non-Western cultures. One such example is the openness dimension from the Big Five theory of personality. A combined approach incorporates the strengths of an emic and etic perspective, while minimizing the limitations of both. This chapter will review the available research on personality assessment with self-reports with Asians and Asian-Americans.

Developing Self-Report Measures of Personality

There are several methods for developing a self-report measure of personality. Each of these methods has implications for its applicability to diverse populations. Many self-report measures of personality are developed through the lexical method. This process involves using words found in language that describe personality and then utilizing a statistical method called factor analysis to reduce the number down to the most important dimensions (Saucier & Goldberg, 1996). Factor analysis incorporates the statistical correlations between items to determine how many unique factors emerge from the data. For instance, the Big Five Model (FFM) of personality,

discussed in more detail in the section below, was developed using the lexical method. English contains over 17,000 words to describe personality (Allport & Odbert, 1936). Because languages differ in the number of words that are available for a given concept, it is not surprising that applying a lexical approach with different languages also yields a different number of personality dimensions as well as different categories of personality. For instance, using words in the English language has consistently yielded five factors of personality, using words in Tagalog has yielded seven traits, five that are similar to the Big Five (Church, Reyes, Katigbak, & Grimm, 1997), and using Greek words has yielded six traits (Saucier, Georgiades, Tsaousis, & Goldberg, 2005). An emic approach utilizes words in the native language of a culture to understand personality. An etic approach, on the other hand, assumes that the personality structure that emerges in English is universal to all cultures.

Another method is an empirical (criterion) keying approach. The MMPI/MMPI-2 was derived using this method. This process involves identifying a criterion group and comparing that group to a noncriterion group. For instance, in order to differentiate between a group with antisocial personality disorder and a group without a researcher would compare the responses of the individuals from each group on a set of questions. Items that are responded to differently between the two groups would be included in the final measure to distinguish between people with antisocial personality tendencies and those who do not exhibit those tendencies.

Rationally or theoretically derived measures formulate scale items based on how theorists expect different people to respond based on their idea or conceptualization of the personality or based on a theory. The Myers-Briggs Type Indicator (MBTI; Briggs Myers, McCaulley, Quenk, & Hammer, 2003), which is loosely based on the Jungian model of personality is a theoretically derived model. Despite its popularity in the business sector, many call into question its validity (e.g., Arnau, Green, Rosen, Gleaves, & Melancon, 2003), suggesting that a theoretically derived approach may not be the most psychometrically valid way to develop a measure. Nonetheless, a meta-analysis from Capraro and Capraro (2002) of 210 studies has found reliability between 0.55 and 0.97 across different studies. However, only a small percentage of the available studies reported a measure of reliability on the MBTI. The study with the highest reliability coefficient (0.97) included over a 1,000 participants from six different continents. Additionally, Furnham, Moutafi, and Crump (2003) has found convergent validity between MBTI and the NEO-PI-R, replicating earlier results from McCrae and Costa (1989).

Given that the most commonly used and researched measures of personality were developed by people from the West, they have been criticized for not being applicable to diverse populations. Lexical models of personality can only include words that exist within any given language. Forcing one language structure onto another is problematic because some words do not have an equivalent word in a different language. Using an empirical method can also be inaccurate if a criterion group for one cultural group is then applied to a different cultural group. The criterion group for each cultural group may not share the same characteristics. Hence, the criterion group would be inappropriate to use. A measure based on theory may not reflect actual traits. Research has shown that intuition or perception about personality does not always accurately predict reality (Terracciano et al., 2005).

Personality is one of the most extensively researched topics cross-culturally. As such, there are a number of self-report measures of personality. While most of these measures have demonstrated strong psychometric properties in many different Asian groups, there are still caveats to using them. The next section will review the most common measures of personality. While the majority of these measures were derived from a universal framework (although some may argue they reflect a Western framework), there are a few indigenous or emic measures available for Asian or Asian-American populations.

Self-Report Measures of Personality for Asians/Asian-Americans

Self-report is the most widely used method of assessing personality differences among individuals (McCrae & Terracciano, 2005). There are a number of self-report measures for measuring personality that have been validated with an Asian or Asian-American sample. Although a more extensive review of the different self-report measures is beyond the scope of this chapter, this section will review a few of the most commonly used measures to assess personality. Some measures are utilized in clinical settings to assess for psychopathology. Other measures are utilized in applied and research settings to predict a wide range of behaviors in academic and occupational settings. Because acculturation has been shown to influence the expression of personality among Asian-Americans (e.g., Güngör et al., 2012), a few of the most commonly used acculturation and cultural measures will also be discussed.

Etic Measures

The MMPI-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) is widely used in clinical, occupational, and research settings. It is also commonly used in international settings, including many Asian countries such as China, Korea, Japan, Thailand, and the Philippines (see Butcher, Cheung, & Kim, 2003) for a more complete review). Due to the widespread utilization of the MMPI-2, it is subject to rigorous standards when adapted to cross-cultural populations. Many of the studies include a large sample size in order to establish appropriate norms. Translations of the MMPI-2 into different Asian languages have also undergone translation and back translation methods to ensure that items accurately capture the original meaning. In the U.S., however, there is a dearth of studies that utilize large samples of Asian-Americans. Indeed the MMPI-2 standardization sample included less than 1 % of the total sample (Butcher et al., 1989). Hall, Bansal, and Lopez's (1999) meta-analysis examining ethnic differences in the MMPI-2 did not discuss Asian-Americans due to the limited research that included an adequate number of Asian-American participants. Of the available studies, the evidence suggests that Asian-Americans do not have elevated validity scales (Tsushima & Tsushima, 2009) or clinical scales (Stevens, Kwan, & Graybill, 1993) relative to European Americans. These findings, however, may be misleading as extant literature suggests that MMPI-2 subscale scores are associated with acculturation, with low acculturated Asian-Americans having elevated scores relative to a European American norm and highly acculturated Asian-Americans (Sue, Keefe, Enomoto, Durvasula, & Chao, 1996; Tran, 1996; Tsai & Pike, 2000). Highly acculturated Asian-Americans scored similarly to European Americans. Despite its drawbacks, the MMPI-2 has the advantage of being available in several different Asian languages including Japanese, Korean, Chinese, Thai, Vietnamese, and Hmong (Okazaki & Sue, 2000). Test-retest reliability for the MMPI-2 among Asian-Americans ranges between 0.38 to 0.87 (Okazaki & Sue, 2000).

The Big Five personality traits have also been closely examined among Asian and Asian-American populations. Indeed, of all the self-report personality measures, the Big Five (BF) may be the most thoroughly culturally investigated model of personality. The Big Five theory of personality posits that there are five important personality dimensions; Extraversion, Neuroticism, Openness, Conscientiousness, and Agreeableness. The Big Five is commonly measured with the NEO-PI (McCrae, 2001) but can also be measured with the Big Five Inventory (BFI; John & Srivastava, 1999). Both the Neo-PI and the BFI have been validated among a wide range of Asian populations from countries such as Bangladesh, India, Indonesia, Malaysia, Philippines, Hong Kong, Japan, the Republic of Korea, and Taiwan (Schmitt, Allik, McCrae, & Benet-Martínez, 2007). The Big Five has shown cross-cultural robustness across different samples. Nonetheless, the data is weaker in some geographical regions. For instance, Schmitt et al. (2007) found that participants from South and Southeast Asia yielded a lower congruence coefficient for

the factor structure of the BFI than other geographical regions, excluding South Africa. The congruence coefficient for these regions did not exceed 0.90, the value that would be considered robust. This lowered congruence was often due to a poor translation or a single item that did not seem to apply to the population. East Asia, however, did yield a robust factor structure. The difference observed between East Asian and South and Southeast Asian populations suggests that there are important cultural dissimilarities on personality between different groups in Asia. McCrae and Terracciano (2005) examined the NEO-PI-R in 50 different cultures using peer reports rather than self-reports and found very similar results. Only India (0.89) showed a lower overall congruence coefficient relative to the other Asian cultures, but the congruence is still high even though it is just shy of 0.90. It is also important to note that the majority of the participants in both studies were college students, which limits the generalizability of the results to the culture as a whole.

Despite the strong evidence for the total Big Five measure, some researchers have found that some of the big five dimensions are problematic in certain cultures and in some studies, only four out of the five dimensions emerged. Should be Schmitt et al. (2007) found that Agreeableness had a weaker internal reliability score (0.57) among South and Southeast Asians relative to other world regions. More commonly, it is the Openness dimension that has been problematic among an Asian or Asian-American sample (Triandis & Suh, 2002). In a study involving 50 countries, McCrae and Terracciano (2005) found that the Openness did not clearly emerge in developing Asian countries such as India (0.59), Malaysia (0.59), Thailand (0.75), and Indonesia (0.71). Cheung et al. (2008) were not able to identify an Openness dimension when combining an etic and emic approach to measuring personality.

Eap et al. (2008) has found that the coherence coefficient of the NEO-PI is affected by culture. Among an Asian-American male sample, they found that participants with lower scores on acculturation and higher scores on the Asian value of Loss of Face (LOF) had a lower factor coherence coefficient relative to European Americans. The LOF did not affect the factor structure for European Americans, suggesting that personality among Asian-Americans may be more strongly influenced by contextual or environmental factors than personality predisposition. Allik and McCrae (2004) found in a study on 36 different cultures that geographically proximal countries shared similar personality profiles. Because countries that are geographically close also tend to be culturally similar, their study lends further support to the role of culture in shaping personality.

Although generally the BF has a strong factor structure, studies have consistently found differences between people of Asian descent and European Americans on the five dimensions. People from Asian countries typically score lower on extraversion higher on neuroticism, higher on agreeableness, and lower on the openness dimensions relative to European Americans (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998). These differences have also been replicated with Asian-Americans (e.g. Eap et al., 2008). Differences on the BF between Asians, Asian-Americans, and European Americans have been accounted for by levels of acculturation (Güngör et al., 2012); Asian-Americans that are highly acculturated have similar personality scores to European Americans. Nonetheless, the NEO-PI and the BFI are robust measures with strong reliability and validity. Interestingly, the correlation between NEO-PI and the BFI is not as strong as one would expect given that the two instruments purportedly measure the same construct (Schmitt et al., 2007). People utilizing this measure should be aware of some of the weaknesses that have been identified when the measure has been applied to diverse non-Western cultures.

The Eysenck Personality Questionnaire (EPQ; Eysenck & Eysenck, 1975) theorizes a four-factor structure of personality: Psychoticism, Extraversion, Neuroticism, and Social Desirability. The EPQ has been translated into Asian languages such as Chinese, Japanese, Korean, and Thai (Cheung, 2004). Barrett, Petrides, Eysenck, and Eysenck (1998) examined the validity of the EPQ among 34 different countries including Hong Kong, India,

Table 9.1 Summary of available indigenous measures of personality

Measure	Authors	Population/language	Scales	Cronbach alpha
Panukat ng Pagkataong Pilipino (PPP)	Carlota, 1985, as cited in Guanzon-Lapeña et al., 1998	Philippines/Tagalog	19 scales	0.52–0.87
Panukat ng Mga Katangian ng Personalidad (PKP)	Church et al. (1997), Katigbak et al. (2002)	Philippines/Tagalog	9 dimensions	0.81–0.90
Five-Factor Personality Questionnaire (*FFPQ*)	Tsuji (1998)	Japan/Japanese	5 supertraits	Unable to report

Adopted from Cheung, Cheung, Wada, and Zhang (2003)

Japan, Korea, Singapore, and Sri Lanka and found that the four factors were robust cross-culturally. However, they averaged responses across the different countries and did not report cross-cultural differences in their study. Van Hemert, van de Vijver, Poortinga, and Georgas (2002) found that the correlations between the four dimensions were different for the Asian countries China, India, and Japan, as well as Uganda. They also point out that for those countries, the psychological meaning of extraversion and neuroticism was similar between and within cultures, but that this was not found with Psychoticism and Social desirability. This supports the potential universality of the extroversion and neuroticism dimensions but call into question the cross-cultural validity of Psychoticism and Social Desirability.

The Myers-Briggs Type Indicator (MBTI; Briggs Myers, McCaulley, Quenk, & Hammer, 2003) is the most widely used personality instrument in the world. It is used in academic and occupational settings to predict performance and as a method of identifying the most appropriate careers for people seeking career counseling. Despite its common usage, there are few available empirical studies on its applicability to diverse populations. The MBTI is composed of four bipolar dimensions: Extroversion-Introversion (E-I), Sensing-Intuition (S-I), Thinking-Feeling (T-F), and Judging-Perceiving (J-P). These bipolar dimensions are combined, resulting in 16 possible personality profiles. Given the frequency in which the MBTI is used internationally, it is surprising that there is a dearth of available empirical research on Asian and Asian-American populations. There have been three published studies examining the MBTI among a Chinese population (Broer & McCarley, 1999; Jie & Xiaoqing, 2006; Sharp, 2008). These studies identified a high percentage of participants that were classified as sensing (S), which describes an individual that gathers information through the five senses and is drawn to a more methodological and concrete approach to decision making. Given that the majority of these studies utilized university samples, this finding may not be unexpected. Additionally, the S dimension corresponds with low scores on the openness dimension of the FFM, which is consistent with past research.

Emic Approaches

Cheung, Cheung, Wada, and Zhang (2003) reviewed several self-report personality measures from India, Korea, Japan, and the Philippines (see Table 9.1). They observed that many of the indigenous personality measures tend to emphasize relationships when describing conceptions of the self. One of the measures they describe is the *Panukat ng Pagkataong Pilipino* (PPP; Carlota, 1985, as cited in Guanzon-Lapeña, Church, Carlota, & Katigbak, 1998). The measure was developed by asking people from the local culture to generate a list of words to describe personality as well as by finding words through written text. Utilizing the lexical approach, Church et al. (1997) developed the *Panukat ng Mga Katangian ng Personalidad* (PKP), which identified seven personality dimensions: Conscientiousness, Concern for Others versus Egotism, Religiosity, Temperamentalness, Self-Assurance, Intellect, and

Gregariousness. Katigbak, Church, Guanzon-Lapeña, Carlota, and del (2002) later added Negative Valence and Positive Valence. The Five-Factor Personality Questionnaire (FFPQ; Tsuji, 1998 as cited in Cheung, Cheung, Leung, Ward, & Leong, 2003) was developed in Japan in an attempt to improve the structure fit of the FFM developed in the West. The FFPQ has the following supertraits: Introversion/extraversion, separateness/attachment, naturality/controlling, and unemotionality/emotionality, practicality/playfulness. Cheung et al. reported that the authors were able to find statistical coherence for their measure and were able to establish concurrent validity with the NEO-PI-R and the Big Five Scale.

Despite the availability of different indigenous self-report measures, some of the self-report instruments reviewed by Cheung et al. lacked psychometric data. Only the PPP and PKP have been included in English journals with published reliability and validity data.

Combined Etic and Emic Measure

The Chinese Personality Assessment Inventory and CPAI-2 (CPAI; Cheung et al., 1996) were developed as an alternative to the MMPI-2 and combine both an emic and etic approach to the assessment of personality. Cheung et al. searched for relevant personality constructs by examining contemporary Chinese literature, proverbs, asking professionals (e.g. nurses, social workers, teachers, and psychologists), and collecting statements of self-descriptors in an informal street survey. The CPAI-2 includes 28 scales not found in Western personality measures such as *harmony* (avoidance of conflict and achievement of inner peace), *face* (orientation describing a concern with bringing shame to one's in-group), and *Modernization* (attitude towards modernization versus tradition). These personality scales yield a total of four factors (*Social Potency/Expansiveness*, *Dependability*, *Accommodation*, and *Interpersonal Relatedness*) and the 12 clinical scales load onto two factors (*Emotional Problem* and *Behavioral Problem*) (Cheung et al., 2008). Initial test-retest reliability ranged between 0.56 and 0.94. Congruence coefficients ranged between 0.77 and 0.98. Cheung et al. (2001) has found that the CPAI was a better fit among a Chinese population relative to the NEO-PI-R (Costa & McCrae, 1992). The CPAI is also available in English and has obtained strong reliability and validity among a European American sample as well as an Asian-American sample (Cheung, 2009; Cheung, Cheung, Leung, et al., 2003). In addition to English and Chinese, the CPAI and CPAI-2 are also available in Korean, Japanese, and Vietnamese (Cheung et al., 2011). The CPAI-2 has been renamed the Cross-Cultural Chinese Personality Assessment Inventory.

An issue that has not been addressed in the CPAI studies is variability within China. China is a country of more than a billion people who vary along multiple dimensions such as ethnicity, class, and local culture that may influence personality. Similar to the criticisms of the measures above, it is unlikely that a single measure can capture all the personality diversity in China.

Acculturation and Measures of Culture

Because validity and reliability of different measures has been shown to be influenced by the degree of acculturation, measures of acculturation and other measures of culture may be appropriate to use with personality measures. Although there a variety to choose from, there are some specific to Asian-Americans including the Suinn-Lew Acculturation Scale (SL-ASIA; Suinn, Ahuna, & Khoo, 1992), and East Asian Acculturation Measure (EAAM; Barry, 2001). Aside from acculturation, there are other aspects of culture that can be measured. For instance, ethnic identity can be measured with the Multigroup Ethnic Identity Measure (Phinney, 1992); cultural values with the Asian Values Scale (Kim, Atkinson, & Yang, 1999); and face concerns with the Loss of Face Questionnaire (Zane & Mak, 2003). Ethnic identity and specific cultural values can yield valuable information about individual variables relevant to

personality and other psychological constructs. For instance, Loss of Face has found to be associated with personality (Eap et al., 2008), sexual aggression (Hall, Teten, DeGarmo, Sue, & Stephens, 2005), and depression (Zane & Yeh, 2002) among Asian-Americans.

There is debate among personality researchers on whether personality traits are universal or culturally specific. In general, there are robust self-report measures of personality. However, there are limitations to their generalizability. The majority of validity studies with Asian participants are conducted in Asia initiated by Asian researchers overseas rather than in the U.S. When Asian-Americans are recruited for studies, they tend to be college students, fluent in English, and economically advantaged (Okazaki, Lee, & Sue, 2007). Likewise, studies conducted in Asia also typically recruit college students (Matsumoto, 2006). College students may be more Westernized than the rest of the Asian population, suggesting that measures of culture should accompany any comparison between cultures. Kinzie et al. (1982) contended it that may be inappropriate to apply any scale validated with one cultural group to another. Kinzie's perspective is influenced by an emic approach towards mental health assessment. Kinzie's views on adapting measures to different cultures may be extreme in light of the inefficiency associated with developing measures unique to each population. Additionally, some groups may not be culturally dissimilar enough to warrant different assessment measures. Clinicians and researchers interested in adapting one measure from one culture to another should keep in my mind some important factors that may compromise the validity of measures when used with Asian-Americans.

Problems Related to Self-Report Measures

Whenever self-report measures are developed and validated within one cultural group and then applied to another, there is the potential for bias. Leong and Chou (1997) suggest that this bias is likely the result of neglecting cultural variables (as cited in Leong & Lau, 2001). They recommend that researchers and clinicians should exercise diligence in maintaining the integrity of cultural validity, which would in turn strengthen psychometric validity. They identify that cultural validity can be compromised by a number of factors including language, conceptual disagreement, and response bias. The section below will review sources of bias related to self-report methods.

Response Bias

There is evidence that response styles are influenced by culture, underscoring the importance of validating with specific populations rather than generalizing from a European American population. One common issue is the tendency for people of Asian descent to resort to middle (Chen, Lee, & Stevenson, 1995) or acquiescent response styles (Johnson, Kulesa, Llc, Cho, & Shavitt, 2005) more frequently than non-Asian respondents. Moderate responding tends to be more pronounced when people from East Asia respond to measures in their native language rather than to a translated measure (Kuroda, Hayashi, & Suzuki, 1986). This type of response style is problematic as it may nullify results.

Researchers suspect that some of the cross-cultural differences observed on self-report measures of personality are attributed to response biases. One particularly problematic trait is the Conscientious trait from the FFM. Conscientiousness describes the tendency to be meticulous, responsible, and orderly. When different cultures are ranked on this trait based on national averages, Japan has been shown to score the lowest among 36 different countries (McCrae, 2002), a finding that is counterintuitive for an industrialized, highly educated, and wealthy country. These findings, as well as other counter-intuitive findings, have led researchers to conclude that the responses may actually be due to response biases rather than reflecting real differences in personality.

The lower levels of extreme responding and tendency for moderate responding observed in East Asian cultures have been attributed to a

dialectical thinking style. Hamamura, Heine, and Paulhus (2008) examined the relationship between thinking style and response patterns on the Big Five Inventory between European Canadians and East Asian Canadians. They calculated moderate responding by calculating the number of times an individual endorsed the midpoint choice for the 26 items that were not significantly different between the two groups. They found evidence that people of East Asian descent were more likely to endorse the midpoint more often and that this tendency was explained by the greater tendency towards dialectical thinking.

Uskul, Oyserman, Schwarz, Lee, and Xu (2013) also suggested that cultural orientations of collectivism, honor, and individualism can also affect survey responses by influencing question comprehension, recall, and response editing. They point out that features of a self-report, such as using a Likert scale that ranges from 0 to 10 versus one that ranges from −5 to 5, changes the meaning of a psychological construct even when the verbal anchors are the same between both scales. The former suggests a unipolar dimension (more or less of something) while the latter implies a bipolar dimension (where success and failure are both measured). People from collectivistic cultures may be more likely to give themselves low ratings due to concerns regarding modesty.

Some of these problems associated with moderate or acquiescent responding could be mitigated by employing certain strategies. Mõttus et al. (2012) suggest one possible method of investigating and correcting for response bias called anchoring vignettes. Participants were asked to rate themselves on conscientiousness before rating the conscientiousness of 30 hypothetical people from a set of brief vignettes. Because all responses were to the same vignettes, the authors reasoned that scores would reflect individual differences in response styles rather than real differences. They investigated this method with almost 3,000 people from 20 different countries, including China, Hong Kong, Japan, and South Korea, Malaysia, and the Philippines. They found that people from Hong Kong, Japan, and South Korea had the lowest scores on extreme responses, and countries such as mainland China, Malaysia, and the Philippines had the highest scores on extreme responses. Correcting for this response bias, Mõttus et al. (2012) demonstrated that this shifted national rankings on conscientiousness and reduced the problematic negative correlations with country Gross Domestic Product (GDP), but did not eliminate it completely.

McCrae, Herbst, and Costa (2001) contended that acquiescence bias can be statistically controlled for when comparing scores cross culturally. By calculating a score for acquiescence bias, McCrae and Terracciano (2005) demonstrated that acquiescence was significantly correlated with only the Openness dimension of the BF. Given the problematic nature of this factor in cross-cultural studies, their results provide an explanation for its relative psychometric weakness. Schmitt et al. (2007) controlled for acquiescence bias in their study by creating an acquiescence index, a score composed of an equal number positively and negatively keyed items which are scored in the same direction. They were able to improve convergent correlations after controlling for acquiescence bias.

Additionally, questionnaires can be created to eliminate the middle option of a Likert scale in order to deter moderate responding. Researchers can also choose items that are most likely to elicit strong responses. Another solution is to utilize Item Response Theory (IRT) to analyze responses on a self-report rather than looking at statistical norms such as means, reliability, or variance. IRT examines the degree to which items on a self-report measure fit the expected pattern of response for a given psychological construct between different groups. Moreover, IRT examines item characteristic curves (ICC) for different groups. ICCs that are shaped differently and do not correspond suggest the presence of measurement bias.

Culture may also influence memory bias, which can affect scores on self-reports. Thus, methods that rely on retrospective recall will likely result in differences that are not due to actual experiences. For instance, Oishi (2002) found that European Americans tend to report higher levels of mood and well-being retrospectively but did not differ from Asian-Americans in

their daily reports. She found that these differences were due to the tendency for European Americans to weight their positive experiences more than Asian-Americans when retrospectively evaluating their week, whereas Asian-Americans weighted both equally. Lee, Okazaki, and Yoo (2006) demonstrated the same phenomenon with negative emotions. Despite experiencing the same number of events that elicit anxiety, Asian-Americans retrospectively reported higher scores on measures of anxiety. It is possible that self-reports developed and validated among Western cultures might also reflect this tendency towards what Oishi defines as the "optimism of memory," the tendency to feel more positive about events than was initially experienced.

Cross-Cultural Equivalence

When using self-report measurement scales between ethnic groups, one must also consider the degree of cross-cultural equivalence found between ethnic groups. Cross-cultural equivalence refers to the extent to which the responses obtained from members of one population are interpreted in the same way as the responses obtained from a different population. For instance, do elevated scores on the extraversion measure sociability and gregariousness in all cultures?

Marsella, Dubanoski, Hamada, and Morse (2000) have identified four conditions that must be satisfied in order to establish cross-cultural equivalence: conceptual equivalence, linguistic equivalence, metric equivalence, and normative equivalence. First, conceptual equivalence establishes that the meaning of a construct being measured is the same in different cultures. For instance, does the concept of *dependency* have the same connotations when used in different cultures? In cultures that value individualism, dependency is viewed more negatively than in collectivistic cultures. Secondly, researchers must establish linguistic equivalence. Linguistic equivalence describes the degree of similarity between translations of measured from one language to another. Translational accuracy is typically verified through translation and back translation of people who are fluent in both languages. Both conceptual and linguistic equivalences are particularly difficult to establish without inside cultural knowledge. The third condition has to do with metric equivalence establishes that participants are using the same scale when responding to an item. Metric equivalence can be determined by using factor analyses, comparing psychometric properties from different subgroups and cultures. Metric equivalence is compromised when people have different baselines for a behavior. This is known as the reference-group effect (RFE; Heine, Lehman, Peng, & Greenholtz, 2002). Because people have a tendency to respond to questions by comparing themselves to others, researchers examining mean differences between cultures may draw erroneous conclusions. For instance, if the average height is taller in the USA than it is in Thailand, a respondent who is 5 ft 7 in. tall may indicate that he is tall because he compares himself to the people around him. A person of the same height in the U.S. may respond that he is short. Objectively, they are the same height but subjectively, one feels taller than the other. As such, their metric scale is not the same. When applied to personality measures, participants responding to a question such as "I am a good public speaker" would require individuals to first decide how good others are and then decide how good he or she is compared to their perception of the others. The RFE is a problem whenever mean differences are compared between cultural groups that do not share the same context. Questions that require subjective interpretations are especially vulnerable to the reference group effect. Lastly, normative equivalence refers to the statistical norms obtained with a particular group. Norms taken from a European American group may not be appropriate to use with a different population. The MMPI utilizes different norms for people from Asian countries than among Americans (Cheung, 2004).

It is clear that the use of any self-report across ethnic or cultural group is problematic because of its susceptibility to response bias.

Any of the above measures may be compromised if individuals are unfamiliar with paper-and-pencil testing, or more common recently, Internet surveys. Cheung (2004) suggests that this type of testing is associated with evaluation in many Asian cultures, which may increase anxiety and cause people to respond in socially desirable ways.

Personality and Psychological Adjustment

Personality measures can be used to predict psychological adjustment among the general population. For instance, the scores on the Big Five dimensions are associated with positive affect. Low scores on Neuroticism and high scores on the Extraversion have been associated with high levels of subjective well-being (Steel, Schmidt, & Shultz, 2008). This relationship has been replicated with Asian samples from South Korea (Ha & Kim, 2013). Oishi, Diener, Suh, and Lucas (1999) suggested that the association between personality and well-being depends on individual values. For instance, they found that people who valued academic achievement incorporated academic achievement into their judgments of life satisfaction.

Matsumoto, Nakagawa, and Estrada (2009) investigated the mediating role of personality on explaining cross-cultural differences on psychological adjustment among American and Japanese participants and found that the Big Five traits significantly explained differences found on psychological adjustment. The psychological adjustment of the Japanese was lower than that of American participants, which was explained by higher scores on Neuroticism and lower scores on Extraversion reported among Japanese participants relative to Americans. They concluded that personality may be a more important explanation of cross-cultural differences than perceptions of the self. One of the problems related to Matsumoto's study was that the research variables were measured simultaneously rather than longitudinally, precluding a determination of causality.

The relationship between personality and psychological adjustment may be more complex than simply personality traits causing psychological vulnerabilities. Fulmer et al. (2010) proposed the person-culture match hypothesis to explain the relationship between personality and well-being among people from different cultures. Their theory predicts that when people possess a personality that is similar to the people in that culture, that match serves to enhance self-esteem and increase well-being. They found support for their theory for matching on individual level extraversion across 26 different countries. Despite personality differences observed among different cultures, Fulmer et al. (2010) found well-being, positive emotions, and life happiness were predicted based on country level similarity on extraversion. This suggests that Matsumoto's analysis may be simplistic and does not consider the context when evaluating psychological adjustment and personality variables.

Considering the context is important when evaluating the relationship between personality and psychological adjustment. For instance, the personality dimension extraversion may not have the same function among people from different cultures. Oishi, Krochik, Roth, and Sherman (2012) has found that extraversion served as a protective factor for European Americans against stress associated with residential mobility but did not buffer Asian-Americans or African-Americans. They suggest that one reason may be that European Americans are more likely to seek social support than Asian-Americans, which would be facilitated by an extroverted personality.

Personality has been shown in previous research to be associated with psychological adjustment. Low scores on extraversion and high scores on neuroticism, in particular, has been linked with depression (Steel, Smith, & Shultz, 2008). It has been suggested that cultural differences on personality traits reflect a biological predisposition toward negative affect (Matsumoto et al., 2009). However, there is evidence that the relationship between personality and psychological adjustment is better explained by the person-culture match hypothesis. Extraversion may not serve the same purpose among some cultural groups compared with European Americans.

Predictive Validity and Salience of Self-Report Measures

There is reason to believe that self-reports may not be as predictive of behavior for people from collectivistic cultures. People from Eastern cultures do not value self-consistency as highly as people from Western cultures. For instance, in East Asian cultures, it is common for emotional experiences to be minimized. People from Asian cultures might have emotional reactions similar to Americans in nonsocial situations, but suppress emotional responses in the presence of others, particularly in the presence of people they consider to be authority figures (Matsumoto & Kuppersbusch, 2001). People from Asian cultures may be less consistent across situations because they respond to contextual cues. People from individualistic cultures may be more likely to respond based on their own tendencies as opposed to people from collectivistic cultures, who are more likely to respond according to the situation.

This inconsistency may also influence the reliability of peer informants, which has also been utilized to assess personality (McCrae & Terracciano, 2005). Personality researchers have incorporated peer-informants in order to gather information from multiple perspectives. Using peer informants when it comes to Asians and Asian-Americans, however, may lead to conflicting information that might confuse rather than clarify. For instance, Suh (2002) compared Korean and American participants on peer and self-ratings of personality. She found lower correlations for Koreans than for Americans. This lack of agreement between self and others may also apply to Asian-Americans. Okazaki (2002) found that Asian-Americans and European Americans generally self-reported higher levels of depressive and anxiety symptoms than were reported for them by peers, but that peers tended to report fewer symptoms for Asian Americans than for European Americans. Although not directly measuring personality, Okazaki showed that peer report may be less concordant in an Asian-American population than in an European American population. These findings suggest that using multiple informants for Asian-Americans may not necessarily increase clarity.

Eastern and Western cultures have different views of the self which may influence definitions of personality. People from Eastern cultures do not value self-consistency as much as people from Western cultures (Suh, 2002). Indeed, people from Eastern cultures are more likely to view self as malleable and may be more accepting of self-contradictions within themselves (Boucher, Peng, Shi, & Wang, 2009). For instance, personality among people from Eastern cultures tends to be context dependent (Kanagawa, Cross, & Markus, 2001). Kanagawa et al. (2001) demonstrated that, compared with American participants, the self-descriptors given by Japanese participants depended on the testing conditions, whether they were alone, with a peer, or a professional. Consistent with this, Suh (2002) found that when Korean and American participants were asked to describe their personality with five different people as well as their general personality, Korean participants had much less consistency than American participants. English and Chen (2007) reported similar findings comparing Asian-Americans and European Americans. However, although Asian-Americans were less consistent relative to European Americans, they were consistent with their interactions within their social roles. This suggests that people of Asian descent are more likely shape their perception of their personality based on their roles and relationships whereas people from Western cultures are less likely to consider the situation when reflecting on their personality. This may be especially true for Asian-Americans who are bicultural. Mok and Morris (2009) demonstrated that bicultural Asian-Americans reported higher levels of Extraversion when primed with American images than when primed with images from Asia whereas Asian-Americans that were low on biculturalism demonstrated the opposite trend. People who are truly bicultural adapt their personality to different cultural contexts while those who are comfortable in one context may not truly show their personality because they don't feel as comfortable.

This tendency for explaining behavior in terms of the context rather than individual propensities among people of Asian descent is evidenced by the fact that Asians do not commit the fundamental attribution error (Choi, Nisbett, & Norenzayan, 1999). Church, Katigbak, Miramontes, del Prado, and Cabrera (2007) has found that people from individualistic cultures are more likely to endorse that personality is stable over time and important for predicting behavior. People from collectivistic cultures are more likely to believe that roles and obligations are important for predicting behavior.

As such, the construct of personality is likely to hold different meaning for people of Western versus Eastern cultures. This is illustrated in how people from Eastern cultures respond to feedback from personality tests. Spencer-Rodgers, Boucher, Peng, and Wang (2009) had Chinese, Asian-American, and non-Asian-American students take a series of personality tests and later gave them false feedback on the results of the personality tests. They found that non-Asians were more likely to respond to self-inconsistent feedback by resisting the information given to them whereas Chinese and Asian-American students responded to the feedback by changing their self-perceptions. Spencer-Rodgers et al. found that this was directly attributable to the tendency for dialectical thinking among people from East Asian cultures. Dialectical thinking is a cognitive style that recognizes the coexistence of contradictions whereas positive logical determinism assumes one truth (Peng & Nisbett, 1999). Eastern philosophy tends to reflect a more dialectical thinking pattern whereas Western philosophy is dominated by positive logical determinism. This difference in thinking styles may explain the cultural difference in the valuing of self-consistency.

Conclusions and Future Directions

The most commonly used self-report measures are well validated among Asian populations. However, Asian-Americans are typically underrepresented in the validation of personality self-report measures. There are few published studies that have empirically examined the MMPI/MMPI-2 among Asian-Americans and none that examined the MBTI.

Self-report measures are the most common way to measure personality. However, given the problems associated with bias, self-report is insufficient. Heine and Buchtel (2009) recommend that using multiple methods to assess personality is necessary for gathering evidence in support of observed differences or similarities between cultural groups. Interestingly, many well-validated self-report measures have failed to demonstrate convergent evidence when utilizing behavioral measures of personality in different cultures. For instance, people's perception of their country's level of conscientiousness was more strongly correlated to observed behaviors, such as the accuracy of clocks in public banks, and walking speed of the culture's citizens, than self-report responses on the NEO-PI-R and the BFI (Heine, Buchtel, & Norenzayan, 2008).

People from Eastern cultures have a different conceptualization of self than people from Western cultures. For instance, people from Eastern cultures are more likely to view the self as fluid rather than stable. Given that the assumption in personality research is that the self is stable and resistant to change, personality self-reports should be cognizant of the importance of social roles and context that shape conceptions of personality among people of Asian descent.

Based on the work of past researchers, we recommend the following with regard to measuring personality with self-report:

1. Include more Asian-Americans in personality self-report validation studies. Asians Americans are significantly underrepresented in personality research. There is more empirical work examining personality in Asia than there is in the U.S. Given the confounds that have been identified, including more Asian-Americans in personality research is essential for increasing the generalizability of commonly used self-report measures such as the MMPI/MMPI-2 and MBTI.
2. Evaluate levels of acculturation, ethnic identity, and cultural values. Because there is within group variability among Asians and

Asian-Americans, these measures may provide explanations for cross-cultural and multicultural differences. Research suggests that differences in personality are driven by culture. It is important to identify which aspects of culture are relevant to personality differences.

3. Consider the relevance of indigenous personality characteristics. There is evidence that personality traits have universal and culturally specific features. Research has shown that in some cases, combining indigenous measures with universal measures of personality may be a better model of personality for Asians than a purely universal conceptualization of personality (Cheung et al., 2001).
4. Measure personality in different contexts. There is evidence that people from Eastern cultures perceive themselves differently depending on their social roles (English & Chen, 2007). This flexibility in how people of Asian descent view themselves may decrease the saliency of self-report measures for people from Eastern cultures. As such, measuring personality in different contexts may increase the predictive validity of self-report measures for predicting behavior.
5. Include convergent evidence. The strongest evidence of validity is when multiple methods provide convergent validity. Researchers and clinicians should validate self-report measures with behavioral measures of personality. Relying on self-report measures can be problematic for a number of reasons. Given the relatively weak correlation between behavioral measures and self-report measures when measuring national character (Heine et al., 2008), it is imperative that personality researchers develop multiple methods to measures personality.

Asians and Asian-Americans are a heterogeneous group, which poses a significant challenge to generalizing research findings. Due to the diversity within the Asian and Asian-American groups, personality research should attempt to understand the social and cultural mechanisms that may influence ethnic differences rather than focus strictly on ethnic differences.

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