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Psychopathic Traits in Individualist and Collectivist Cultures: A Comparison in a North American and Asian Sample

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By

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B.A., Rice University, 2001

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An abstract of a thesis submitted to the Faculty of the Graduate School of Emory University in partial fulfillment of the requirements for the degree of
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Abstract

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Potential cross-cultural differences in the expression of psychopathic personality traits were investigated in a group of Caucasian American (n=559), Asian international (n=78), and International (n=128) students in Georgia. Convenience sampling was used to recruit students to fill out an online survey consisting of self-report measures of personality, attitudes, and behavior. Psychopathic personality traits were assessed by the Psychopathic Personality Inventory (Lilienfeld, 1990) and Levenson's Self-Report Psychopathy Scale (Levenson & Fitzpatrick, 1995). Asian international and International students reported higher levels of psychopathy, particularly PPI Factor 2 attributes, than Caucasian American students. Although higher levels of psychopathy were related to higher levels of individualism across all three groups, PPI Factor 2 traits were positively related to individualism only among Asian international students. Measures of psychopathy were positively related to somatization and alcohol abuse only among Caucasian American students. Such differences warrant further investigation in studies better able to address methodological concerns inherent in the cross-cultural study of personality.

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Table of Contents

Although classic research suggests that many cultural groups share a concept of psychopathic personality (psychopathy; Murphy, 1976), it remains unclear whether psychopathy is relevant to all cultures. Research on psychopathy has been limited mostly to Caucasian men, particularly inmates (Lynam, Whiteside, & Jones, 1999). Psychopathy research among other cultures and races in noninstitutionalized samples may lead to valuable information about the origins of this personality disorder and how cultural and social practices shape its expression.

Psychopathy in North America

In North America, interest in psychopathy among researchers and the general public has increased over the past few decades. Research findings have created a picture of a multi-faceted personality construct encompassing a constellation of traits that may lay the foundation for either failure or success (sometimes both) in today's society. For instance, psychopathy has been shown to be a potent predictor of violence and criminal recidivism (Salekin, Rogers, & Sewell, 1996). A substantial number of prison inmates can be identified as psychopaths, suggesting that psychopathic characteristics are linked to antisocial and criminal behavior. At the same time, some researchers hypothesize that these personality features underlie the adventurous, ruthless, and fearless qualities of many of the world's most successful business and political leaders (Lykken, 1995).

Psychopathy has traditionally been viewed as a constellation of traits that can be grouped into two broad and partly overlapping factors (Cooke & Michie, 2001), the first composed of such personality characteristics as guiltlessness, callousness, and superficial charm, and the second representing a behavioral tendency towards recklessness, rule-breaking, and impulsivity (Harpur, Hakstian, & Hare, 1988). The results of a number of

studies have demonstrated that this second factor, but not the first, is moderately to highly related to the diagnosis of antisocial personality disorder (APD) in the Diagnostic and Statistical Manual of Mental Disorders (Harpur, Hakstian, & Hare, 1989). Hence, APD is an overlapping but by no means identical concept to psychopathy (Hare, 2003; Lilienfeld, 1994; Lykken, 1995).

More recent factor analytic research suggests that three or four factors may provide a better model of psychopathy (Cooke & Michie, 2001; Hare, 2003). In the model proposed by Cooke and Michie (2001), interpersonal, affective, and behavioral aspects of psychopathy form three separate factors, whereas in four factor models behavioral aspects are further divided into a "lifestyle" factor composed of impulsive, sensation seeking tendencies and a factor composed of antisocial behaviors (Hare, 2003; Neumann, Vitacco, Hare, & Wupperman, 2005). Although no model has yet replaced the traditional two factor model as a benchmark in the psychopathy literature, subsequent investigations have provided further evidence of construct validity for both three and four factor models in adult and adolescent samples (Hall, Benning, & Patrick, 2004; Salekin, Zalot, Leistico, & Neumann, 2006; Skeem, Mulvey, & Grisso, 2003; Vitacco, Rogers, Neumann, Harrison, & Vincent, 2005). Cooke, Michie, Hart, and Clark's (2005) studies using confirmatory factor analyses and item response theory methods to compare psychopathy ratings among U.S., European, and United Kingdom participants offer evidence that the three factor solution proposed by Cooke and Michie (2001) provides a good fit cross-culturally.

The etiology of psychopathy remains undetermined; however, researchers have proposed several biologically based models to explain the finding that most psychopaths

exhibit deficits in the ability to learn from punishment (Lykken, 1957;1995). Lykken (1995), for example, argued that fearlessness, a trait that is substantially genetically influenced, forms the core of psychopathy by creating a child temperament that resists socialization. Newman and colleagues (Newman, Patterson, & Kosson, 1987; Nichols & Newman, 1986; Patterson & Newman, 1993) have focused on the finding that psychopaths have difficulty learning from punishment and proposed that psychopaths have poor response modulation. Once fixated on reward, psychopaths find it difficult to disengage and to attend to extraneous stimuli, including punishment cues (Arnett & Newman, 1997). A theoretical model proposed by Fowles and Gray (Fowles, 1980; Gray, 1982) posits impairment of behavioral inhibition and activation systems (Behavioral Inhibition System (BIS) and Behavioral Activation System (BAS)) that control avoidance and approach of stimuli, respectively, and may lead to the risk-taking and poor impulse control associated with psychopathy. Still other authors have argued that specific areas of the psychopathic brain, such as the orbitofrontal cortex, are defective (Anderson, Bechara, Damasio, Tranel, & Damasio, 1999; Bechara, Tranel, Damasio, & Damasio, 1996). These areas, among others, help to mediate behavioral inhibition (Lykken, 1995).

Psychopathy, Race, and Culture

Although the etiological pathways to psychopathy have yet to be fully established, research suggests that the constellation of personality traits associated with psychopathy has meaning the world over, from the Scots (Cooke, 1996; Cooke, Kosson, & Michie, 2001) to the Yorubas of Nigeria and the Eskimos of northwest Alaska who use terms such as *Arankan* and *Kunlangeta*, respectively, to refer to someone “who always goes his own way, regardless of others” (Yorubas) and whose “mind knows what to do but he

does not do it" (Eskimos; Murphy, 1976, p. 29). Studies within the U.S. similarly suggest that psychopathy is a relevant construct among multiple ethnicities including African and Hispanic Americans (Kosson, Smith & Newman, 1990; Skeem, Edens, Camp, & Colwell, 2004; Sullivan, Abramowitz, Lopez, & Kosson, 2006). Nevertheless, the cross-ethnic and cross-cultural study of psychopathy has not been extensive, leaving unanswered a number of questions regarding the role of culture and ethnicity in shaping the manifestation of psychopathic traits.

Cross-ethnic comparisons have been limited largely to Caucasian, African or Hispanic American groups, whereas cross-cultural comparisons have been limited largely to cross-national comparisons of samples recruited from North American and other Western, industrialized countries (Cooke, 1996; Cooke, Hart, & Michie, 2004). These comparisons do not address the possibility that psychopathy is manifested differently in settings in which cultural values and norms differ from those widely held and practiced in North American society. In addition, these comparisons have been limited largely to incarcerated male samples and have employed the Psychopathy Checklist Revised (PCL-R) as the measure of psychopathy (e.g., Cooke, Kosson, & Michie, 2001; Skeem, Edens, Camp, & Colwell, 2004). Psychopathy has yet to be studied systematically in noninstitutionalized cross-cultural samples.

Differences in prevalence and level of psychopathic traits

Cross-racial comparisons within the United States have revealed few differences in the prevalence or level of psychopathic traits between Caucasian, African and Hispanic Americans (Cooke, Kosson, & Michie, 2001; Kosson, Smith & Newman, 1990; Skeem, Edens, Camp, & Colwell, 2004; Sullivan, Abramowitz, Lopez, & Kosson, 2006).

However, Cooke's (1996) cross-cultural investigation comparing North American and Scottish inmates suggests that North Americans exhibit both higher prevalence and levels of psychopathy (Cooke, 1996).

According to Cooke, only 3% of Scottish inmates as opposed to 23% of North American inmates were identified as psychopathic based on their PCL-R scores (the standard cutoff of 30 was used). The North American inmates' mean PCL-R score of 23.63 was also significantly higher than the 13.82 mean score of Scottish inmates. It should be noted, however, that these samples of inmates were not necessarily matched in representativeness of the general prison population. The North American inmates were not selected to be representative of the general prison population, nor were the samples matched in terms of such variables as type of offense and age (Cooke, 1996). Cooke, Hart, and Michie (2004) extended Cooke's (1996) findings by comparing raters of Scottish and Canadian inmates. Analyses confirmed that the difference in PCL-R scores between Scottish and Canadian inmates was not due to rater bias across cultures. Such findings indicate that some substantial differences in mean levels of psychopathic traits may exist cross-culturally.

As Cooke (1996) pointed out, other statistical work and cross-cultural research support the idea that prevalence and level of psychopathy may be higher in North America than in other societies. For example, psychopathy has been linked to violence and criminal behavior. Cooke cited the International Crime Survey, showing that the US and Canada have a higher risk of sexual crimes and assault than many European and some Asian countries. Higher rates of criminal behavior may suggest higher levels of

psychopathy, although criminality and psychopathy are only moderately related (Lykken, 1995). Not all psychopaths are criminals and not all criminals are psychopaths.

Culture also influences social sanctions for violent and aggressive behavior. The majority of cross-cultural comparative studies have focused on the ways in which individualistic versus collectivistic social norms and values differentially influence the expression of behavior (Oyserman, Coon, & Kemmelmeier, 2002; Triandis, 1995). Groups typically identified as high in collectivism tend to place higher value on the good of the group, respecting duties towards others, and on maintaining relationships with other group members (Triandis, 1995). Groups typically identified as high in individualism tend to place higher value on independence and personal needs, wants, and rights (Triandis, 1995). Cooke (1996) and Cooke and Michie (1999) suggested that the values held by more individualistic (competitive, self-focused) North American societies may permit the expression of a greater range of the characteristics associated with psychopathy.

Differences in the external correlates of psychopathy

One way to examine the construct validity of psychopathy in other ethnicities and cultures is through analysis of the relationship of psychopathic personality traits to behavioral responses and other personality traits typically associated with psychopathy in Caucasian American samples. Although these investigations have been limited largely to cross-ethnic comparisons between Caucasian and African American inmates, this growing body of research suggests that race and culture play an important, though yet undetermined, role in influencing the manifestation of psychopathic traits.

For example, the pattern of laboratory deficits typically associated with psychopathic traits among male Caucasian inmates has been found to differ somewhat among African American inmates (Cooke, Kosson, & Michie, 2001). Psychopathy has traditionally been associated with a diminished ability to learn from punishment on passive avoidance learning tasks among Caucasian Americans (Kosson & Newman, 1986). In particular, these findings suggest that once focused on reward, Caucasian Americans with higher levels of psychopathic traits are less likely to learn from punishment than Caucasian nonpsychopaths. Similarly, Newman, Schmitt, and Voss (1997) established that Caucasian American psychopaths exhibit deficient response modulation, a decreased ability to attend to peripheral stimuli when engaged in goal-directed behavior.

Some authors have also suggested that psychopaths tend to interpret others' behavior as more hostile and aggressive than do nonpsychopaths (Blackburn & Lee-Evans, 1985), hence displaying a hostile attribution bias. Doninger and Kosson (2001) found that Caucasian American psychopaths demonstrated this type of social-cognitive appraisal bias only in certain situations, tending to interpret others' cold, unsympathetic, or insensitive behavior from written scenarios as more hostile and aggressive than did nonpsychopathic Caucasians.

Such findings, however, have not consistently replicated among African American samples. In these same studies, African American psychopaths did not commit a greater number of passive avoidance errors or demonstrate deficient response modulation in comparison with nonpsychopathic African Americans (Kosson, Smith, & Newman, 1990; Lorenz & Newman, 2002; Newman & Schmitt, 1998; Newman, Schmitt,

& Voss, 1997) In Doninger and Kosson's (2001) study, African Americans' tendency to interpret others' behavior as aggressive and hostile depended not just on higher psychopathy scores but also, and sometimes solely, on higher levels of negative affectivity. These differences suggest that the cognitive deficits and biases typically related to psychopathy among Caucasians may be less valid indicators of psychopathy among African Americans.

Outside of the laboratory, researchers have reported similar correlations between psychopathy and markers of criminal behavior in Caucasian and African American inmates (Kosson, Smith, & Newman, 1990) and found few differences between the two groups on measures of the antisocial tendencies typically associated with both antisocial personality disorder and psychopathy (Skeem et al., 2004). However, the relationship between psychopathic personality traits and antisocial behavior has yet to be thoroughly investigated in cultural groups outside the United States, where cultural norms and values may differ to a larger degree.

Significant differences between the U.S. and some other countries in the prevalence of APD suggest the possibility that sociocultural differences play a role in suppressing and/or facilitating the expression of some of the behavioral aspects of psychopathy (Cooke & Michie, 1999). Cooke and Michie (1999), for example, discussed the higher rates of APD reported in the U.S. in comparison with countries like Taiwan. They suggested that American individualistic values and changing norms, including weakening family and communal ties, may be partially responsible for facilitating the expression of psychopathic traits. These values and norms stand in contrast to the more collectivistic (group and relationship oriented) values maintained in many countries and

that have been particularly identified with Eastern, Asian cultures. Comparisons between American and Asian cultural groups may afford a particularly rich field of investigation in studying the cross-ethnic and cross-cultural generalizability of psychopathy.

Differences in the key features of psychopathy

Cross-ethnic and cross-cultural studies of the factor structure of psychopathy support the ability of widely employed measures of psychopathy, such as the PCL-R and the Psychopathic Personality Inventory (PPI; Lilienfeld, 1990), to capture the construct in an unbiased way among nonwhite ethnicities within the U.S. and in Western cultural groups besides the U.S. (Cooke, Kosson, & Michie, 2001; Cooke & Michie, 1999). These and similar studies, however, suggest the possibility of group differences in the relevance and expression of some of the features typically found to be moderately to highly correlated with psychopathic personality in Caucasian North American samples. These findings again support the potential role of social and cultural factors in shaping the underpinnings and manifestation of psychopathic personality traits.

Kosson, Smith, and Newman (1990), for example, reported item to total correlations suggesting that some items on the PCL-R are less predictive of psychopathy among African Americans than Whites. In particular, “pathological lying and deception” (PCL-R item number five), was less indicative of psychopathy among African Americans than Caucasians. These authors also reported that self-report measures of impulsivity, typically related to psychopathy in white samples, were not significantly related to psychopathy among African Americans. These findings indicate that PCL-R items assessing these features of psychopathy may possess less ability to discriminate psychopaths from nonpsychopaths among African Americans.

Cooke, Kosson, and Michie (2001) used item response theory (IRT) analyses to further explore the relevance of each of the PCL-R items to assessing psychopathy in African and Caucasian Americans. In contrast to Kosson, Smith, and Newman (1990), they reported no differences in the discriminatory power of any PCL-R items, suggesting the personality features captured by the PCL-R are equally relevant to psychopathy in both ethnic groups. They did, however, report item level differences in the expression of particular traits at different levels of psychopathy among African and Caucasian Americans. Certain psychopathic traits, all of them related to the Impulsive and Irresponsible Behavioral Style factor identified in the study, appear to be expressed only at higher or lower levels of psychopathy in these ethnic groups.

Cooke and Michie (1999) identified similar differences in a cross-cultural study of North American and Scottish inmates. Although IRT analyses indicated equal relevance of the PCL-R items to detecting psychopathy in both groups, item level differences again emerged when examining different levels of psychopathy. Specifically, glibness/superficial charm and grandiosity appeared as relevant aspects of psychopathy among all North American inmates identified as psychopaths by the PCL-R, but appeared relevant in the Scottish sample only among inmates with the highest PCL-R scores. Cooke and Michie (1999) argued that sociocultural norms in Scotland may play a role in suppressing the behaviors associated with these traits in all but the most psychopathic individuals. Cooke, Michie, Hart, and Clark's (2005) study comparing PCL-R scores between samples from North America and the United Kingdom revealed that although PCL-R items appeared equally relevant in both cultures, the same level of psychopathy produced lower PCL-R scores among U.K. participants than among U.S. participants.

This finding was replicated in Cooke, Michie, Hart, and Clark's (2005) study comparing a continental European sample (including participants from Belgium, Denmark, Norway, Sweden, Germany, and Spain) with a U.S. sample.

The importance of these findings remains in question, but it is clear that more cross-racial and cross-cultural comparisons are needed to ascertain the role of culture and ethnicity in shaping the expression of psychopathic traits. Studies have been based almost exclusively on assessments of psychopathy using the PCL-R in incarcerated samples. Cross-ethnic studies have been limited largely to comparisons between African and Caucasian Americans, and cross-cultural comparisons have been limited to Western nations with largely similar sociocultural values and norms. Even this limited number of studies, however, suggests that important cross-ethnic and cross-cultural differences in the prevalence and correlates of psychopathy have yet to be explored. As Cooke (1996) suggested, the greater depth of understanding offered by this research is likely to shed light not only on issues of generalizability, but on unanswered etiological questions.

Universal and Culture-specific Aspects of Psychopathy

A growing body of evidence supports the existence of both universal and culture-specific dimensions of personality (see Smith, Spillane, & Annus, 2006, for a review). Although studies suggest the North American construct of psychopathy is relevant across cultural and ethnic groups (Cooke & Michie, 1999; Cooke, Kosson, & Michie, 2001; Cooke, Michie, Hart, & Clark, 2005), suggesting a degree of universality, it is important to determine which aspects of psychopathy are the most subject to the pathoplastic effects of culture.

Based on their cross-cultural studies in Europe, the United Kingdom, and the United States, Cooke, Michie, Hart, and Clark (2005) proposed a “pan-cultural” core for psychopathy based on the psychopathic traits associated with deficient affect. Their confirmatory factor analyses of PCL-R scores and item response theory methods demonstrated that the three factor model of psychopathy provided a good fit across cultures, providing some evidence that the interpersonal, affective, and behavioral dimensions of the construct are universally relevant in assessing psychopathy. However, Cooke, Michie, Hart, and Clark (2005) also reported that PCL-R items differed in their usefulness as indicators of psychopathy cross-culturally. Specifically, items capturing aspects of psychopathy associated with deficient affect were the most invariant in predicting psychopathy cross-culturally, whereas interpersonal and behavioral/lifestyle aspects of psychopathy appeared to be more subject to cultural influences. These researchers argue their findings support a cultural facilitation model that suggests social and cultural factors play an especially important role in shaping the expression of interpersonal behaviors.

The inclusion of these culture-specific factors is likely to bear on the assessment of psychopathy in forensic and clinical settings. Characteristics now considered essential to the diagnosis of psychopathy may not be the strongest correlates of psychopathy among other cultures. For example, given that psychopathy is a potent predictor of violence and criminal recidivism (Salekin et al. 1996), it is important to know whether such predictions are more valid in certain ethnic and cultural groups than in others.

The Individualism/Collectivism distinction and psychopathy

If, as recent research is beginning to suggest (see discussion of Cooke, Michie, Hart, & Clark, 2005, above), culture-specific factors play an important role in influencing the expression of psychopathy cross-culturally, further investigations are needed to identify and capture them. Despite recent critique and controversy, substantial evidence continues to support individualism/collectivism as a meaningful distinction capturing such culture-specific influences on the expression of universal human needs and traits (Oyserman, Coon, & Kemmelmeir, 2002; see Smith, Spillane, & Annus, 2006, for a review). Cooke (1996) and Cooke and Michie (1999) proposed that this distinction may be particularly useful in explaining cross-ethnic and cross-cultural differences in the expression of psychopathic personality traits.

These researchers argue that the individualist-collectivist distinction recommends itself for use in psychopathy research because of the striking similarities between the societal characteristics attributed to individualism and the personality characteristics attributed to psychopaths, including competitiveness, a focus on the self as opposed to a group, and a preference for temporary relationships. As previously discussed, there is some evidence that the behavioral components of psychopathy are also more prevalent in some individualist nations (Cooke, 1996, Cooke & Michie, 1999).[1] In contrast, a collectivist emphasis on cooperation, harmony, and group cohesion seems antithetical to many psychopathic personality traits, leading one to wonder whether the condition is as prevalent in these cultures and, if so, whether it is expressed differently.

[1] It should be noted, however, that even if researchers were to establish this correlation, there is no evidence suggesting that individualism itself predisposes to psychopathy.

Psychopathy in Asian cultures

Eastern Asian cultural groups, particularly Chinese, have typically been identified largely collectivist, whereas Western, North American cultures, particularly Americans, have been identified as largely individualist. No research has examined the concept of psychopathy in Asian cultures where such differences in values may be most likely to produce differences in the manifestation of psychopathic traits.

For example, a strong association between psychopathy and direct aggression has been well established in North American samples (Cale & Lilienfeld, 2006), but this relationship has not been investigated in Asian populations, in which a collectivist focus on maintaining harmonious relationships and avoiding public displays of emotion is likely to contribute to a cultural preference for indirect communication and perhaps indirect aggression (Gao, Ting-Toomey, & Gudykunst, 1996). Tedeschi and Bond (2001) likewise proposed that a collectivist desire to maintain social harmony often leads to more avoidance as opposed to assertive interpersonal conflict resolution tactics (Ohbuchi, et al, 1999; cited by Tedeschi & Bond, 2001). Such tendencies could lead aggression to be expressed in more subtle pathways in collectivist than in individualist cultures. Indeed, collectivist values appear to exert an inhibitory effect on overt displays of aggression and on self-serving behavior (Ohbuchi, et al., 1999; cited by Tedeschi & Bond, 2001). For example, in a study examining conflict resolution among Japanese and American participants, researchers found that Japanese preferred avoidance tactics, whereas Americans preferred assertive tactics (Ohbuchi, et al., 1999). Given collectivist cultural prohibitions against seeking self-assertion and personal gain, it is possible that psychopathy in collectivist cultures is more marked by indirect conflict and aggression.

Coyne and Thomas (2008) found significant positive correlations between indirect aggression and psychopathy as measured by Levenson's Self-Report Psychopathy Scale (Levenson & Fitzpatrick, 1995) in a sample composed of British university students. This was one of the first studies to explore the link between indirect aggression and psychopathy in a non-clinical sample. It seems likely that psychopathy will be similarly related to indirect aggression in an American sample, but this relationship may be particularly marked among Asian individuals.

Cross-cultural research has already suggested important differences in the expression of psychopathology among Asian cultures that may have additional bearing on the expression of psychopathic traits within these groups. For example, somatization of emotional distress may be a more common approach to expressing distress among Eastern as opposed to more Western cultures (Kleinman, 1988). Kleinman argued that the stigma associated with any perceived form of mental disorder in some Asian societies may make physical complaints a more culturally sanctioned "idiom" for the expression of emotional distress (Kleinman, 1988). Somatization disorder has been linked to Factor II in psychopathy measures, thus relating it to chronic rule breaking, impulsivity, and recklessness (Lilienfeld & Hess, 2001), but not to Factor I, which comprises the core affective and interpersonal features of psychopathy. Factor II has also been positively associated with depression, anxiety, and psychological maladjustment (Patrick, Poythress, Edens, Lilienfeld, & Benning, 2006). If somatization is a more viable pathway of expressing psychological distress in some Asian societies than in Western societies, the Factor II attributes of psychopathy may be even more strongly related to symptoms of somatization disorder in these societies.

Other attributes of Asian peoples may affect certain manifestations of psychopathy, including substance abuse and low social anxiety. Psychopathy is moderately and positively correlated with substance abuse (Schuckit, 1973; Smith & Newman, 1990) among Caucasian Americans; however, evidence suggesting a relative genetic and social immunity to alcohol abuse in some Asian groups may preclude a similarly strong relationship between psychopathy and alcohol abuse. Variant alleles of two genes for aldehyde dehydrogenase and alcohol dehydrogenase, associated with decreased risk for alcohol dependence, are more prevalent among Asian than Caucasian populations (see Durcanceauzx, Schuckit, Luczak, Eng, Carr, & Wall, 2008 for a brief review). Possessing one of these alleles is associated with a discomfiting biological flushing in response to alcohol consumption, and having two is sometimes associated with nausea, vomiting, tachycardia, and hypotension in response to drinking (Fromme et al., 2004; Wall, Johnson, Horn, Carr, Smith, & Schuckit, 1999). This increased biological sensitivity to alcohol consumption frequently results in decreased drinking, reduced rates of alcohol-use disorders, and protection from a family history of alcoholism (Grant et al., 2004; Wall, et al., 1999). The higher prevalence of this increased alcohol sensitivity among some Asian groups and corresponding lower levels of alcohol dependency suggest that correlations between psychopathy and alcohol abuse among Asian populations may be reduced in comparison with similar correlations among Caucasian Americans.

Psychopathy is negatively correlated with social anxiety (Lilienfeld & Andrews, 1996). It follows that psychopathy should be negatively correlated with indigenous measures of social anxiety. Taijin Kyofusho, identified as a disorder involving intense fear of one's body giving embarrassing offense, appears in the appendix of the DSM-IV-

TR as a culture-bound syndrome among the Japanese and has been associated with an interdependent, collectivist self-construal. However, extreme social self-consciousness does not appear to be limited to the Japanese. Taijin Kyofusho has since been associated with an interdependent, collectivist self-construal in other countries, as well, including the U.S. (Dinnel, Kleinknecht, & Tanaka-Matsumi, 2002; McNally et al., 1990). Such "other-focused" anxiety is likely to correlate even more negatively with psychopathy, which is characterized by insensitivity, lack of empathy, and fearlessness. The higher prevalence of Taijin Kyofusho in some Asian cultures appears to reflect the collectivist orientation towards maintaining relationships and suggests a social prohibition against the expression of psychopathic traits.

Nevertheless, the individualist/collectivist distinction has been criticized in recent years as an inaccurate stereotype. For example, not all Asian cultures are equally collectivist (Oyserman, et al., 2002). Schwartz (1994) discussed a number of dimensions along which more individualist and collectivist differ, including Hierarchy, Mastery, Egalitarian Commitment, Harmony, and Conservatism. Using these dimensions, Schwartz described China as an atypical collectivist society, focused on Hierarchy and Mastery, but not as much on Autonomy, encouraging entrepreneurship. Singapore, in contrast, which is high in Conservatism and Hierarchy, and low in Autonomy and Mastery, fits the more traditional idea of a collectivist nation (Schwartz, 1994). Individual cultures are heterogeneous as well, and any individual member may exhibit any combination of collectivist and individualist values. Triandis and Suh (2002) suggested that only about 60% of a collectivist or an individualist culture endorse a collectivist or individualist viewpoint (Triandis & Suh, 2002). This distinction exists on a

continuum, with most countries, societies, and individuals falling somewhere in between the extremes of absolute collectivism or individualism.

However, as Triandis and Suh (2002) pointed out, if limitations of the individualist-collectivist distinction are borne in mind, it can be a useful tool for exploring cultural differences. A study by Hall et al. (2002) serves as an example of how the distinction can provide a useful lens for viewing personality and behavior. The investigators tested models of variables leading to European and Asian American men's sexual aggression. Whereas the best-fitting model of sexual aggression for European men included only variables identified as reflecting individualist values, the best-fitting model for Asian American men included such risk factors as "loss of face," which is characteristic of some collectivist societies. In this study, the individualist-collectivist distinction helped to identify culturally different pathways to aggression.

The Present Investigation

The present investigation was intended to explore potential cross-cultural differences in the expression of psychopathic traits by examining the correlates of psychopathy in an Asian international versus a North American sample. In addition to investigating psychopathy in an understudied ethnic and cultural group, this investigation addresses some of the limitations of previous cross-ethnic and cross-cultural research examining the generalizability of the construct by using a noninstitutionalized, mixed gender sample. This study therefore also employed self-report measures of psychopathic personality traits that permit investigation of these traits from a dimensional (rather than categorical) approach that has been supported by recent taxometric analyses (Edens, Marcus, Lilienfeld, & Poythress, 2006).

The cross-cultural study of psychopathy in Asian cultures can yield both main effect and interactional predictions. The idea that Asian cultures, on the whole, tend to be more collectivist than our own North American, Western culture, suggested the following main effect prediction:

> Levels of psychopathy will be lower among collectivist Asian populations, who value the collective good, group harmony, and social conformity over individual achievement and interest.

In accordance with this hypothesis and what is currently known about personality and the expression of psychopathology among Asian cultures, I hypothesized the following interactional predictions:

1. Psychopathy in Asian cultures will be more highly correlated with indirect as opposed to direct aggression than in non-Asian cultures.
2. In Asian cultures, somatization will be more highly correlated with Factor II attributes of psychopathy than in non-Asian cultures.
3. In Asian cultures, measures of psychopathy will correlate more negatively with indigenous measures of social anxiety (such as Taijin Kyofusho) than in non-Asian cultures.
4. In Asian populations, psychopathy should be less highly correlated with alcohol abuse than in non-Asian cultures.

Method

Participants

Seven hundred and seventy-nine undergraduate and graduate students participated individually, 99% of these at Emory University, the remaining 1% at colleges and

universities in the Atlanta and Athens, Georgia area. Of these, 773 students were used in subsequent analyses.

Of the six excluded students, two were excluded based on reported age and four were excluded due to exhibiting highly inconsistent response patterns. Due to the Internet survey format of the study, students were asked to sign an electronic consent form placing special emphasis (per request of institutional review boards at participating universities) on the need to be at least 18 years of age to participate. Despite this precaution, two students completed the survey and reported ages younger than 18 years. These two students were excluded from data analyses.[2]

A VRIN scale was created using similar pairs of items from the 56-item Psychopathic Personality Inventory (PPI) as a measure of inconsistent response patterns. By this method, items from a selected measure that are highly correlated across a sample (indicating that these items measure essentially the same thing) are paired to form items on the VRIN scale (see MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; Butcher, Graham, Ben-Porath, Tellegen, & Dahlstrom, 2001). The total score on the VRIN scale is calculated by summing the absolute differences between each of these pairs of items. Thus, higher scores are assigned for more inconsistent responses and a high score on the VRIN scale indicates an inconsistent response style. For our purposes, twenty-two pairs of items were selected from the PPI based on inter-item correlations of r=.45 and above. An examination of the histogram of VRIN scale total scores across the sample indicated that students scoring 27 and above differed markedly from the majority

[2] Students were also asked to write in the capital city of the country in which they reported being born and raised as a simple validity check for reported ethnic identity. No aberrant answers were encountered.

of participants in responding inconsistently. Four students were excluded from subsequent analyses based on this criterion.

Female students comprised 70.5% of the total remaining sample. Participants' mean age was 24 years (SD=5.69). Ages ranged from 18 to 55. Five hundred and sixty (73.1%) students were Caucasian, born in the United States of America, 127 (16.6%) students were born in non-Asian countries and enrolled as international students, and 79 students (10.3%) were born in Asian countries including Japan, China, South Korea, Taiwan, Vietnam, and Myanmar and enrolled as international students. Female students comprised 72.9% of the Caucasian USA-born group, 62.2% of the non-Asian international group, and 67.1% of the Asian international group.

Procedure

A convenience sampling method through the internet was used to access as large a pool of participants as possible. Participants were solicited via email and fliers addressed to either "American born Caucasian" or "International students." The study was advertised using identical wording for both email and fliers as a cross-cultural investigation of personality traits, attitudes, and behaviors. At Emory University, the school registrar and the International Student and Scholar Programs office provided the email addresses used to contact students. At nearby universities, flier advertisement alone was used to solicit participation, as permission to obtain students' email addresses was denied. To encourage participation, students were allowed to enter a sweepstakes drawing for one of eight $50.00 gift certificates. This raffle was licensed by the Dekalb County policy department. In addition, students at Emory University enrolled in psychology courses received research credits for their participation.

An internet survey was used hosted by www.surveymonkey.com, a site that allows survey authors to design the format of each questionnaire, to capture survey responses confidentially, and to export survey responses for statistical analysis. This method allowed students to access the survey from their individual computers at their convenience. Participants were provided with a password from email and flier advertisements needed to access the survey online. Each participant was required to provide informed consent via an electronic consent form. Students were allowed to exit the survey at any time.

The survey consisted of a series of self-report measures that required 35 to 60 minutes to complete. No identifying information such as names or school identification numbers was solicited, but participants were asked to report basic demographic information including gender, age, ethnicity, and country/countries from which they hold legal citizenship. As students enrolled in American universities, international participants are required to possess a certain level of proficiency in the English language, thus permitting the use of measures without translation. Asian participants only were asked to answer items from the Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA; see Measures). Following completion of the study, students were provided with an electronic debriefing statement describing the general purpose of the study.

Measures

Levenson Self-Report Psychopathy Scale (LSRPS). The Levenson Self-Report Psychopathy Scale (LSRPS) is a 26-item instrument in a four point Likert-type format that measures characteristics of primary and secondary psychopathy in noninstitutionalized samples. The scales were designed to correspond to Hare's (1991)

PCL-R Factor I and II, respectively. The primary psychopathy scale attempts to assess the core personality traits of psychopathy, including "a selfish, uncaring, and manipulative posture towards others," whereas the secondary psychopathy scale assesses such behavioral aspects of psychopathy as "impulsivity and a self-defeating lifestyle" (Levenson & Fitzpatrick, 1995, p. 152). Items assessing antisocial behavior were designed to be applicable to the lives of students and the general community, including cheating on exams, plagiarism, and promiscuity. Higher scores indicate a higher degree of psychopathy.

Lynam, Whiteside, and Jones (1999) reported a test-retest reliability of $\underline{r} = 0.83$ over an eight week interval. Brinkley, Schmitt, Smith, and Newman (2001) reported internal consistency as measured by Cronbach's alpha to be 0.85 for the scale as a whole, 0.83 for the primary psychopathy scale and 0.69 for the secondary psychopathy scale. In the current study, Cronbach's alphas for the full, primary, and secondary scales of the LSRPS were 0.86, 0.79[3], and 0.70 respectively, across the sample.

Evidence of construct validity was presented by Lynam et al. (1999), who found that high scores on the LSRPS correlated significantly with a variety of illegal drug and alcohol use patterns and antisocial behavior. Brinkley et al. (2001) also reported significant correlations between scores on the LSRPS secondary scale and scores on the short form of the Michigan Alcohol Screening Test (SMAST), but not between the SMAST and the primary scale. This pattern of correlations provides some evidence of discriminant validity between the primary and secondary scales as the secondary, but not

[3] Cronbach's alphas demonstrated up to a 0.15 difference across the U.S., Asian International, and International student groups for the secondary scale of the LSRPS. Alphas for the separate groups were as follows: U.S. (0.71), Asian International (0.66), and International (0.57).

the primary, scale was designed to capture the antisocial and impulsive lifestyle aspects of psychopathy, including substance abuse.

In addition, Lynam et al. (1999) reported a series of correlations between the LSRPS scales and the Big Five personality traits that provides additional evidence for the convergent and discriminant validity of the primary and secondary scales. The primary scale correlated most strongly and negatively with the Big Five trait of Agreeableness (r = -.41), whereas the secondary scale correlated most strongly with the Big Five traits of Agreeableness, Conscientiousness, and Neuroticism. In particular, the secondary, but not the primary, scale was associated with a combination of low Agreeableness, low Conscientiousness and high Neuroticism (Lynam et al., r = -.42, r = -.59, r = .37) that has been associated with PCL-R Factor II (Lynam et al. 1999) attributes such as impulsive and rule-breaking behavior and negative affect.

Lynam et al. (1999) and Brinkley et al. (2001) demonstrated convergent validity between scores on the LSRPS and the results of laboratory measures used to assess difficulty with inhibiting responses to potentially punishing stimuli also associated with reward. Psychopaths characteristically make more of these errors of commission than nonpsychopaths. Accordingly, both studies reported that participants with high scores on the LSRPS, indicating psychopathy, committed significantly more errors of commission than non-psychopaths (low scores on the LSRPS).

The Psychopathic Personality Inventory (PPI) shortened version. The PPI, developed by Lilienfeld (1990), is a self-report measure designed for use with nonclinical samples. Items are scored 1-4 on a Likert rating. The PPI provides a total score, which serves as a global score of psychopathy, as well as eight factor-analytically derived

subscales used to assess specific features of the psychopathic personality (Lilienfeld & Hess, 2001). These factors (along with one sample item from each) include:

Machiavellian Egocentricity ["I often tell people only the part of the truth they want to hear" (True)]

Social Potency ["I am a good conversationalist" (True)]

Coldheartedness ["I often become deeply attached to people I like" (False)]

Fearlessness ["Making a parachute jump would really frighten me" (False)]

Impulsive Nonconformity ["I've always considered myself to be something of a rebel" (True)]

Blame Externalization ["Some people seem to have gone out of their way to make life difficult for me" (True)]

Carefree Nonplanfulness [["I weigh the pros and cons of major decisions carefully before making them" (False)]

Stress Immunity ["I can remain calm in situations that would make many other people panic" (True)] (Lilienfeld & Hess, 2001)

Benning, Patrick, Hicks, Blonigen, and Krueger (2003) demonstrated that all but one of these subscales (Coldheartedness) load onto either one of two higher order orthogonal factors. PPI Factor 1, labeled Fearless Dominance (Benning, Patrick, Blonigen, Hicks, & Iacono, 2005), is composed of the Fearlessness, Social Potency, and Stress Immunity scales. Factor 2, labeled Impulsive Antisociality (Benning, et al. 2005), is composed of Machiavellian Egocentricity, Impulsive Nonconformity, Blame Externalization, and Carefree Nonplanfulness. Factor 1 is associated with emotional and interpersonal characteristics such as superficial charm, callousness, and immunity to stress reactions (Benning, et al. 2005). Factor 2 is associated with the antisocial behavioral attributes of psychopathy, such as impulsivity and aggression.

Factor 1 has also been uniquely associated with measures of academic performance, socioeconomic status, intelligence, well-being, and psychological adjustment, such as absence of neuroticism (Benning, et al. 2003; Benning, Poythress, Edens, Lilienfeld, & Benning, 2006). In contrast, Factor 2 has been associated with lower levels of academic achievement, socioeconomic status, and intelligence, as well as higher levels of externalization (including problems with alcohol) and psychological maladjustment (including anxiety and depression) (Benning, et al. 2003; Benning, Poythress, Edens, Lilienfeld, & Benning, 2006). Factor scores are produced by summing standardized scores on the selected subscales.

The PPI has demonstrated convergent validity with other commonly used measures of psychopathy, including the PCL-R and other self-report, peer-rated, and interview methods of assessment (Lilienfeld, 1996, Lilienfeld & Andrews, 1996; Poythress, Edens, & Lilienfeld, 1998). Total scores on the PPI correlate moderately to highly with measures of physical risk-taking and lack of social anxiety (Lilienfeld & Andrews, 1996).

The shortened form of the PPI, which was used in this study, consists of the 56 items that loaded most highly across the eight subscales in a factor analysis (Lilienfeld, 1990). A correlation of $\underline{r} > .95$ between the full and shortened form has been established (Lilienfeld & Hess, 2001). The internal consistency of the PPI short form has been reported as a Cronbach's alpha of .85 for the total scale, and .64 to .85 for the eight subscales (Lilienfeld & Hess, 2001). In the current study, Cronbach's alpha for the PPI short form was 0.81 across the sample. Cronbach's alphas for PPI Factor 1 and Factor 2 were .82 and .81 respectively. Cronbach's alphas for the eight subscales were as follows:

Machiavellian Egocentricity (0.71), Social Potency (0.80), Coldheartedness (0.57), Fearlessness (0.81), Impulsive Nonconformity (0.75), Blame Externalization (0.84), Carefree Nonplanfulness (0.61), Stress Immunity (0.77)[4].

Michigan Alcohol Screening Test (MAST). The MAST is a 25 item, self-report, yes-no questionnaire designed to assess lifetime problems associated with alcohol use and dependence. A score of five points or more is often considered to be indicative of high risk for alcoholism (Selzer, 1971). Zung (1982) reported test-retest reliability of $\underline{r}$ = .94 over a three day interval, and Skinner and Sheu (1982) reported test-retest reliability as $\underline{r}$ = .84 over an average interval of 4.6 months. In the current study, Cronbach's alpha for the MAST was 0.71 across the sample.[5]

Zung (1982) reported that in a sample of drivers charged with DWI (driving while intoxicated) the MAST distinguished successfully between problem drinkers and well-adjusted drinkers whose drinking caused only infrequent problems. Similarly, Otto and Hall (1988) reported that the MAST successfully distinguished problem drinkers from non-drinkers, but they also found that the high face validity of the MAST items allows those motivated to hide a drinking problem to successfully lower their MAST scores.

[4] Cronbach's alphas demonstrated a 0.1 to 0.2 difference across the U.S., Asian International, and International student groups for the following scales: Social Potency (0.82 U.S., 0.70 Asian International, 0.80 International), Coldheartedness (0.53 U.S., 0.71 Asian International, 0.59 International), Machiavellian Egocentricity (0.73 U.S., 0.65 Asian International, 0.62 International), Impulsive Nonconformity (0.77 U.S., 0.73 Asian International, 0.57 International), and Carefree Nonplanfullness (0.59 U.S., 0.57 Asian International, 0.69 International).

[5] Cronbach's alphas for the MAST demonstrated up to a 0.14 difference across the U.S., Asian International, and International student groups. Alphas for the separate groups were as follows: U.S. (0.66), Asian International (0.80), and International (0.78).

*Binge drinking questionnaire.*Binge drinking was assessed by five questions reproduced from the Harvard School of Public Health studies of binge drinking among college students (Wechsler, Lee, Kuo, & Lee, 2000). The questions are:

1. When is the last time you drank an alcoholic beverage? (Scored: 1-Never; 2-Not in the past year; 3-Within past year but more than 30 days ago; 4-Within 30 days but more than 1 week ago; 5-Within week.)

2. Think back over the last two weeks. How many times have you had five or more drinks in a row? (Scored: 1-Never; 2-Once; 3-Twice; 4-Three times; 5-Three or more times.)

3. During the last two weeks, how many times have you had four drinks in a row (but no more)? (Scored: 1-Never; 2-Once; 3-Twice; 4-Three times; 5-Three or more times.)

4. Since the beginning of the school year, have you experienced any of the following problems as a result of your drinking? (Scored yes or no: Have a hangover? Miss a class? Get behind in schoolwork? Do something you later regretted?)

No total score is provided, and each question is scored separately. The Harvard School of Public Health has defined binge drinking for men as consuming five or more alcoholic beverages in a row, and for women as consuming four or more in a row, at least once in the two weeks preceding the survey (Wechsler, Lee, Kuo, & Lee, 2000). Non-binge drinkers are defined as those students who report no binge drinking during this time period. Occasional binge drinkers are defined as those students who report binge drinking once or twice in the previous two weeks, and frequent binge drinkers are those who report binge drinking three or more times during this time period.

Buss-Perry Aggression Questionnaire. The Aggression Questionnaire is a self-report measure that contains 29 items distributed over four subscales: Physical Aggression, Verbal Aggression, Anger, and Hostility. The questionnaire is a revision of the Buss-Durkee Hostility Inventory (BDHI; Buss & Durkee, 1957) and, like its

predecessor, is designed to capture various facets of aggression. The subscales were derived from confirmatory factor analyses. The items are scored on a five point Likert scale (Buss & Perry, 1992). Internal consistencies (Cronbach's alphas) of the scales were reported as .85 (Physical Aggression), .72 (Verbal Aggression), .83 (Anger), and .77 (Hostility) in a sample of undergraduates (Buss & Perry, 1992). Test-retest reliability correlations at nine weeks were reported as .80 (Physical Aggression), .76 (Verbal Aggression), .72 (Anger), and .72 (Hostility) (Buss & Perry, 1992). Buss and Perry (1992) reported modest to strong correlations between scores on the AQ and peer nominations. In the current study, Cronbach's alpha for the full scale was 0.91 across the sample.

Harris (1997) also reported convergent validity of the AQ with other measures of aggression, including subscales from the Personality Assessment Inventory (PAI; Morley, 1991), the Lack of Frustration Scale (Olweus, 1986), and items from the Aggression Inventory (AI; Gladue, 1991).

*The Buss-Durkee Hostility Inventory (BDHI).*The BDHI (Buss & Durkee, 1957) preceded the Aggression Questionnaire (Buss & Perry, 1992) as a rationally-constructed, self-report measure of seven different aspects of aggression, including physical aggression, indirect aggression, irritability, negativism, resentment, suspiciousness, and verbal aggression. The inventory contains 75 forced-choice items. The BDHI has a long history of use in the research literature on aggression (Bushman, Cooper & Lemke, 1991; Buss & Perry, 1992).

Although it is still in use, the original inventory has been revised and renamed the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992). Buss and Perry (1992)

remodeled the original inventory to reflect current psychometric standards of reliability and validity. Factor analyses were performed on the original items, resulting in the four scale model described above, including Physical Aggression, Verbal Aggression, Hostility, and Anger. The nine items designed to assess indirect aggression on the BDHI did not load clearly on any of these four factors and were removed from the inventory. The authors posited that indirect aggression manifests itself in a variety of ways that may include aspects of each factor (Buss & Perry, 1992).

For the purposes of the present study, the nine BDHI items from the indirect aggression subscale were extracted. To my knowledge, there is no information on the internal consistency of this subscale. In the current study, Cronbach's alpha for the nine BDHI items measuring indirect aggression was 0.62 across the sample.

The Coolidge Axis II Inventory (CATI). The CATI (Coolidge, 1984) is a 200 item self-report measure designed to assess personality disorders based on criteria from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association, 1980). The items are scored on a four point scale with 1 = strongly false to 4 = strongly true (Coolidge & Merwin, 1992). The CATI consists of 13 personality disorder subscales. The mean test-retest reliability of the scales was reported to be .90 in a college sample over an interval of one week (Coolidge & Merwin, 1992).

Items from the Passive-aggressive Personality Disorder (PD) subscale are intended to serve as a measure of indirect aggression in conjunction with items from the indirect aggression subscale extracted from the BDHI. A Cronbach's alpha of .78 was reported by Coolidge and Merwin (2002) for this subscale. In the same study, the Passive-Aggressive scale of the CATI also evidenced adequate convergent validity,

correlating r = .86 with the Passive-Aggressive scale of the Millon Clinical Multiaxial Inventory (MCMI-II). In this study, Cronbach's alpha for the Passive-aggressive subscale was 0.69 across the sample. Cronbach's alphas for the remaining scales were as follows: Antisocial Personality (0.68), Borderline Personality (0.66), Dependent Personality (0.67), Depressive Personality (0.78), Histrionic Personality (0.58), Narcissistic Personality (0.71), Obsessive-Compulsive Personality (0.51), Paranoid Personality (0.73), Sadistic Personality (0.67), Self-defeating Personality (0.61), Schizotypal Personality (0.66), and Avoidant Personality (0.73).[6]

Taijin Kyofusho Scale (TKS). The TKS (Kleinknecht, et al., 1994) is a self-report measure containing 31 items designed to assess a phobia of offending others during social interaction (Dinnel, Kleinknecht, & Tanaka-Matsumi, 2002). Items are scored on a seven point Likert scale, with higher scores indicating endorsement of Taijin Kyofusho symptoms such as "I am afraid that when talking with others my trembling voice will offend them."

Taijin Kyofusho is believed by some researchers to be a form of social phobia that is largely indigenous to Japan. This phobia includes fears of offending others by emitting unpleasant bodily odors, blushing, and staring inappropriately, among others (Kleinknecht, et al., 1997). The result of this extreme form of social anxiety is social avoidance. In Japan, Taijin Kyofusho is a formal psychiatric diagnosis, but similar disorders have been reported in other countries, including the U.S. (McNally et al., 1990). Dinnel, Kleinknecht, and Tanaka-Matsumi (2002) reported that the nature of Taijin

[6] Cronbach's alphas demonstrated a 0.1 to 0.12 difference across the U.S., Asian International, and International student groups for the following scales: Dependent Personality (0.67 U.S., 0.73 Asian International, 0.63 International) and Schizotypal Personality (0.64 U.S., 0.60 Asian International, 0.52 International).

Kyofusho as a social interaction phobia makes the disorder more salient to people who construe themselves as interdependent as opposed to independent. This may be the reason that Taijin Kyofusho is a particularly important diagnostic category in Japan, which is a more collectivist, interdependent culture than our own. However, Dinnel et al. (2002) argued that people who construe themselves as interdependent are more likely to endorse social phobia symptoms, including those observed with Taijin Kyofusho, regardless of nationality.

Kleinknecht et al. (1997) reported Cronbach's alphas of .92 in a sample of Japanese participants, and .93 among U.S. subjects using the TKS. In this study, TKS items were combined with the items from the Social Phobia Scale (SPS) and the Social Interaction Anxiety Scale (SIAS) and exploratory factor analyses were performed. Although the three scales were positively correlated, TKS items, those pertaining to fear of giving offense through one's appearance or behavior, emerged as a distinguishable factor, suggesting the measure adequately captures the specificity of this social anxiety syndrome. In the current study, Cronbach's alpha for the TKS was 0.95 across the full sample.

*The Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA).*Acculturation refers to one cultural group adopting the beliefs, customs, attitudes, social practices, and values of another culture. The SL-ASIA (Suinn, Rikard-Figueroa, Lew, & Vigil, 1987) is a 26 item self-report measure designed to assess the degree of acculturation among Asian populations. These items assess the following areas relating to level of acculturation: language, identity, friendship choice, behaviors, generational/geographic history, and attitudes. The items are scored on five point scales, where 1 = very Asian and 5 = very

Anglicized (Abe-Kim, et al., 2001). The total score is an average of these responses. Thus, lower scores on the SL-ASIA indicate stronger affiliation with Asian values and customs, while higher scores indicate stronger affiliation with Westernized values and customs.

Cronbach's alphas between .72 and .91 reported in several studies serve as evidence of adequate internal consistency (Abe-Kim, et al., 2001). In the current study, Cronbach's alpha for the SL-ASIA was 0.88 across Asian international students. Suinn and Khoo (1995) reported that Singaporean Asians scored significantly lower (less Anglicized) on the SL-ASIA than Asian Americans, indicating that the measure adequately captures the effects of acculturation.

*The Patient Health Questionnaire (PHQ-15).*The PHQ-15 (Kroenke, Spitzer, & Williams, 2002) is a self-report measure that assesses 15 somatic symptoms, scored on a scale of 0 ("not bothered at all") to 2 ("bothered a lot"). Items include complaints of stomach pain, back pain, headaches, and other bodily symptoms over the course of four weeks. The PHQ-15 derives from the PRIME-MD (Pfizer Inc, New York, NY) which is an inventory used to diagnose various mental disorders. Cutoff scores of 5, 10, and 15 are used on the PHQ-15 to indicate low, medium, and high somatic symptom endorsement, while 30 is the maximum score.

A Cronbach's alpha of .80 was reported by Kroenke, Spitzer, and Williams (2002) in a sample of primary care and obstetrics-gynecology patients. PHQ-15 scores are moderately related to general functioning, disability days taken, clinic visits, and difficulty attributed to problems (Kroenke, Spitzer & Williams, 2002). In the current study, Cronbach's alpha for the PHQ-15 was 0.76.

The Marlowe-Crowne Social Desirability Scale (MCSDS). The MCSDS (Marlowe & Crowne, 1960) is a widely used 33 item self-report measure designed to assess the potential effects of social desirability on test-taking. The items are scored true or false, and include a series of attitudes and behaviors that are culturally approved, but implausible, such as "I have never intensely disliked anyone" and "Before voting I thoroughly investigate the qualifications of all the candidates" (Marlowe & Crowne, 1960). These items are designed to be unrelated to pathological symptoms.

Marlowe and Crowne (1960) reported a test-retest correlation of $\underline{r} = .89$ and internal consistency (Cronbach's alpha) of .88 for the scale in a sample of college undergraduates. Tanaka-Matsumi and Kameoka (1986) reported that the MCSDS does not correlate significantly with commonly used measures of depression and anxiety, which suggests the items are independent of pathological symptoms, although subsequent research has established a relationship between high scores on the MCSDS and a lower lifetime prevalence of psychiatric disorders (Lane, Merikangas, Schwartz, Huang, & Prusoff, 1990). In the current study, Cronbach's alpha for the MCSDS was 0.74 across the sample. [7]

*The Self-Construal Scale (SCS).*The Self-Construal Scale (SCS; Singelis, 1994) is a 30 item self-report measure designed to assess Markus and Kitayama's (1991) independent and interdependent self-construal. Hardin, Leong, and Bhagwat (2004) paraphrased Markus' and Kitayama's (1991) description of an independent self-construal as "see[ing] the self as stable and separate from interpersonal context and value[ing] self-promotion, autonomy, assertiveness, and uniqueness." Individuals who construe

[7] Cronbach's alphas for the MCSDS demonstrated up to a 0.11 difference across the U.S., Asian International, and International student groups. Alphas for the separate groups were as follows: U.S. (0.74), Asian International (0.64), and International (0.75).

themselves as interdependent, in contrast, view themselves as "more flexible, intertwined with the social context, and value maintaining group harmony and fitting in" (Hardin et al., 2004). The concept of independence therefore captures some of the main components of the construct of individualism while interdependence captures the main components of the construct of collectivism (Hardin, 2004; Markus & Kitayama, 1991). Singelis (1994) designed the independence and interdependence scales of the SCS to capture individualism and collectivism at the individual, self-report level.

The items are scored on a seven point Likert scale ranging from *strongly disagree* to *strongly agree*. Resulting scores on the independent and interdependent scales are the average of these Likert ratings for each scale. Singelis (1994) reported a Cronbach's alpha of $\underline{r} = .69$ for the independent scale and $\underline{r} = .73$ for the interdependent scale (Singelis, 1994). Singelis (1994; see also Singelis, Triandis, Bhawuk, & Gelfand, 1994) compared Asian Americans, a more collectivist group, with Caucasian Americans, a more individualist group. Asian Americans scored significantly higher on the interdependent scale, whereas Caucasian Americans scored significantly higher on the independent scale, providing evidence that the SCS captures individualism and collectivism at the individual level.

Miller (1984) reported that collectivists attribute more influence than do individualists to situational factors on interactions. Consistent with this finding, Singelis (1994) reported that more Asian Americans and participants who scored highly on the interdependent scale made more situational attributions than those scoring highly on the independent scale. In the current study, Cronbach's alphas for the two self-construal scales were as follows: Independent (0.67), Interdependent (0.69).

RESULTS

Distribution of gender

The results of a chi-square test of independence revealed significant differences in the distribution of gender across the three groups of students, χ^2 (2, N=763)=6.68, p<.04. Among Caucasian American students, there was a higher percentage of women (N=408, 73.2%) and a lower percentage of men than expected (N=149, 66.8%). Among International students and Asian international students, there was a lower percentage of women ($N_{International}$=79, 62.2%; N_{Asian}=52, 67.1%) and a higher percentage of men ($N_{International}$=48, 21.5%; N_{Asian}=26, 11.7%) than expected. In addition, Box's M was computed to test the equality of covariance matrices across genders. The M was significant at 123.52, F(45, 81,722.52)= 2.63, p<.001, indicating inequality of covariance matrices across genders. Given that Box's M detects very minor differences in samples that may not be substantial in magnitude (Huberty & Petoskey, 2000), all analyses were conducted with a combined gender sample. Nevertheless, regression analyses were conducted a second time controlling for gender and the possibility of gender interactions with the independent variables was investigated. The results of these analyses, when significant, are noted below.

Level of psychopathic traits

Hypothesis 1: Levels of psychopathy will be lower among collectivist Asian populations, who value the collective good, group harmony, and social conformity over individual achievement and interest.

An analysis of variance revealed group differences for PPI total (F(2,625)=6.02, p<.01) scores. Post-hoc Tukey's HSD analyses revealed that International students

(*M*=123.99, *SD*=13.28) obtained higher total PPI total scores than Caucasian American (*M*=118.97, *SD*=14.73) and Asian international students (*M*=122.79, *SD*=14.06), *p*=.005. The effect size for the difference in means between Caucasian American and International students was small to medium (*d*=.36). The three groups did not differ significantly in level of Factor 1 traits.

Analysis of variance yielded group differences for Factor 2 scores, $F(1,625)=8.60$, $p<.001$. Follow-up Tukey's HSD analyses revealed both Asian international (*M*=1.01, *SD*=2.23, *p*=.001) and International students (*M*=.47, *SD*=2.46, *p*=.03) obtained higher PPI Factor 2 scores than Caucasian American students (*M*=-.26, *SD*=2.59). The effect size for the difference in means between Caucasian American and Asian international students was medium to large, *d*=0.53. The effect size for the difference in means between Caucasian American and International students was small (*d*=0.29).

Analysis of variance revealed group differences in LSRPS total ($F(2,523)=29.97$, $p<.001$), primary psychopathy ($F(2,523)=26.47$, $p<.001$), and secondary psychopathy ($F(2,523)=15.89$, $p<.001$) scores. Tukey's HSD post-hoc analyses revealed that in each case Asian international students (M_{Ltotal}=54.08, SD_{Ltotal}=8.59; M_{Lprim}=33.94, SD_{Lprim}=6.22; M_{Lsec}=20.14, SD_{Lsec}=3.63) scored substantially higher than International students (M_{Ltotal}=47.33, SD_{Ltotal}=9.82; M_{Lprim}=29.39, SD_{Lprim}=6.57; M_{Lsec}=17.94, SD_{Lsec}=4.84), who in turn scored substantially higher than Caucasian American students (M_{Ltotal}=43.27, SD_{Ltotal}=9.84; M_{Lprim}=26.61, SD_{Lprim}=7.22; M_{Lsec}=16.66, SD_{Lsec}=4.24), $p<.05$. The effect size for the difference in means between Asian international and International students was large (*d*=.73) for LSRPS total and primary psychopathy scores (*d*=.71), and it was medium (*d*=.51) for LSRPS secondary psychopathy scores. The effect

size for the difference in means between Caucasian American and Asian international students was large for LSRPS total scores (d=1.17), LSRPS primary psychopathy scores (d=1.09), and LSRPS secondary psychopathy scores (d=.88). The effect size for the difference in means between Caucasian American and International students was medium for LSRPS total scores (d=.41), LSRPS primary psychopathy (d=.40), and small for LSRPS secondary psychopathy (d=.28) scores.

No significant gender by ethnicity interactions were found. A main effect for gender was found for all three groups, confirming that men exhibit higher PPI total (F(1,624)=74.48, p<.001), Factor 1 (F(1,624)=22.88, p<.001), and Factor 2 (F(1,624)=54.86, p<.001) traits than women of the same ethnic background (see Table 2). The effect size for the difference in overall means for men and women was large for PPI total scores (d=.77), medium for Factor 1 scores (d=.43), and medium to large for Factor 2 scores (d=.64).

Men also exhibited higher LSRPS total (F(1,522)=5.42, p<.05), primary psychopathy (F(1,522)=30.53, p<.01), and secondary psychopathy (F(1, 522)=24.40, p<.01) scores than women of the same ethnic background, although these results should be interpreted cautiously given unequal error variance across groups. The effect size for the difference in overall means for men and women was medium for LSRPS total (d=.59), primary psychopathy (d=.52), and secondary psychopathy scores (d=.47).

Caucasian American (M=73.71, SD=9.23), Asian international (M=73.18, SD=9.10), and International students (M=75.67, SD=8.70) did not differ significantly in level of affiliation with individualistic values as measured by the Independent SCS; however, Tukey's HSD analyses revealed that Asian international students exhibited a

significantly higher mean score (M=75.00, SD=9.48) than Caucasian American students (M=70.31, SD=9.12) on the Interdependent SCS, a measure of affiliation with collectivistic values, p<.001. The effect size for the difference in means between Caucasian American and Asian international students was medium to large, d=.50. Asian international students did not differ significantly from International students in level of affiliation with collectivistic values.

There was a significant gender by ethnicity interaction for Interdependent SCS scores, $F(2,670)=7.75$, p<.001. An examination of the means reveals that among Asian international (M_{men}=76.91, SD_{men}=8.80; M_{women}=74.09, SD_{women}=9.76) and International students(M_{men}=75.91, SD_{men}=9.93; M_{women}=70.11, SD_{women}=9.30), men tended to report higher affiliation with collectivistic values than women; however, among Caucasian American students, men tended to report less affiliation with collectivistic values than women, M_{men}=69.00, SD_{men}=10.15; M_{women}=70.76, SD_{women}=8.64.

To explore the associations between self-construal and psychopathy scores, Pearson product moment correlations were calculated. Scores on the Independent SCS were significantly and positively correlated with PPI total scores in all three groups of students. The magnitude of these correlations ranged from small to medium ($r_{International}(96)=.28$, p<.01; $r_{Caucasian}(467).=32$, p<.01; $r_{Asian}(55)=.48$, p<.01). Scores on the Independent SCS and PPI Factor 1 scores were also significantly and positively correlated. These correlations were medium in magnitude ($r_{Asian}(55)=.36$, p<.01; $r_{Caucasian}(467)=.47$, p<.01; $r_{International}(96)=.36$, p<.01). Scores on the Independent SCS and PPI Factor 2 scores were correlated significantly and positively only among Asian

international students ($r_{Asian}(55)=.36$, $p<.01$; $r_{Caucasian}(467)=-.01$, $p>.05$; $r_{International}(96)=.04$, $p>.05$). The magnitude of this relationship was medium.

Independent self-construal was not significantly related to LSRPS total ($r_{Asian}(47)=.11$, $p>.05$; $r_{Caucasian}(388)=-.03$, $p>.05$; $r_{International}(82)=-.01$, $p>.05$)or LSRPS primary psychopathy ($r_{Asian}(47)=.11$, $p>.05$; $r_{Caucasian}(388)=.04$, $p>.05$; $r_{International}(82)=.08$, $p>.05$) scores among any of the three groups of students. Independent self-construal was significantly and negatively correlated with LSRPS secondary psychopathy scores among Caucasian American students ($r(388)= -.14$, $p<.01$). The magnitude of this relationship was small. No such relationship was found among Asian international ($r(47)=.33$, $p>.05$) or International students ($r(82)=-.13$, $p>.05$.

To examine whether ethnicity moderated the relationship between Independent self-construal and psychopathy scores, hierarchical linear regression analyses were conducted. Specifically, Independent SCS scores and ethnicity were entered together in the first block of the model, followed by the interaction term, ethnicity multiplied by SCS scores, in the second block. Moderation was identified when the interaction accounted for a significant percentage of the variance beyond the main effects.[8] Regression analyses yielded no moderator effect of ethnicity on the relationship between Independent self-construal and PPI total and PPI Factor 1 scores[9]; however, ethnicity moderated the relationship between Independent self-construal and PPI Factor 2 traits, $t(620)=2.11$,

[8] All regression analyses were conducted two ways, using all three groups of students and again using only Caucasian American and Asian International students. The results reported here are based on comparisons between all three groups of students unless otherwise noted.

[9] Gender was found to moderate the relationship between SCS Independent scores and PPI Factor 1 scores, $b=-.02$, $t=-2.80$, $p=.005$. The percentage of variance explained was medium, $R^2=.24$, $F(1,618)=7.84$, $p=.005$. An examination of this interaction revealed that while higher SCS Independent scores were associated with higher levels of PPI Factor 1 traits for both men and women, the effect was stronger for women.

$p<.05$.[10] Affiliation with an Independent self-construal was significantly and positively associated with higher levels of the antisocial behavioral attributes assessed by PPI Factor 2 only among Asian international students (see Figure 1). The percentage of variance explained by this relationship was small, $R^2=.04$, $F(1,620)=4.46$, $p<.05$). Ethnicity did not moderate the relationship between Independent self-construal and the LSRPS total, primary psychopathy, and secondary psychopathy scales.

Interdependent self-construal was not significantly related to any measures of psychopathy among Asian international ($r_{PPITotal}(55)=-.07$, $p>.05$; $r_{PPIF1}(55)=-.04$, $p>.05$, $r_{PPIF2}(55)=.06$, $p>.05$, $r_{LSRPSTotal}(47)=.44$, $p>.05$; $r_{LSRPSPRIM}(47)=.39$, $p>.05$, $r_{LSRPSSEC}(47)=.70$, $p>.05$) and International students ($r_{PPITotal}(96)=.02$, $p>.05$; $r_{PPIF1}(96)=.05$, $p>.05$, $r_{PPIF2}(96)=.05$, $p>.05$, $r_{LSRPSTotal}(82)=-.01$, $p>.05$; $r_{LSRPSPRIM}(82)=-.04$, $p>.05$, $r_{LSRPSSEC}(82)=.03$, $p>.05$). Among Caucasian American students, Interdependent self-construal correlated significantly with all measures of psychopathy except LSRPS secondary psychopathy scores ($r(388)=-.04$, $p>.05$). These correlations were all negative in direction and small in magnitude ($r_{PPITotal}(467)= -.21, p<.01$; $r_{PPIF1}(467)= -14, p<.01$; $r_{PPIF2}(467)= -.10, p<.05$; $r_{LSRPSTotal}(388)= -.10, p<.05$; $r_{LSRPSPRIM}(388)= -.12, p<.05$). Hierarchical linear regression analyses yielded no moderator effect of ethnicity on the relationship between Interdependent self-construal and any measures of psychopathy.

[10] All regression analyses were run a second time controlling for the possible effects of students attempting to answer questions on the basis of social desirability. In these analyses, social desirability scores, as measured by the MCSDS, were entered in the first block of the regression model with the other independent variables, followed by the interaction term in the second block. The results of these regression analyses were then compared to the first set. These comparisons revealed only two significant differences, the first of which is noted here. When controlling for social desirability, ethnicity no longer moderated the relationship between Independent self-construal and PPI Factor 2 traits, $b=.02$, $t=1.12$, $p=.26$.

In summary, contrary to expectations, mean levels of psychopathic traits were not higher among Caucasian American students than Asian international students. In all three groups of students, higher levels of psychopathy as assessed by the PPI, and, particularly, higher levels of the interpersonal and affective traits assessed by PPI Factor 1, were associated with significantly higher reported levels of affiliation with individualistic values. Only among Asian international students were higher levels of individualism associated with significantly higher levels of the antisocial and behavioral attributes assessed by PPI Factor 2. Interdependent self-construal was associated with significantly lower levels of psychopathy only among Caucasian American students.

The relationship between psychopathy and direct and indirect aggression

Hypothesis 2: Psychopathy in Asian cultures will be more highly correlated with indirect as opposed to direct aggression than in non-Asian cultures.

No predictions were made regarding the relation of ethnicity to levels of aggression; however, exploratory analyses of variance revealed group differences for both direct ($F(2, 572)=11.23$, $p<.001$) and indirect aggression ($F(2,423)=3.73$, $p<.05$) as measured by the BPAQ and the BDHI, respectively. Follow up Tukey's HSD analyses revealed Asian international ($M=76.01$, $SD=16.51$, $p<.001$) and International students ($M=69.94$, $SD=17.18$, $p<.05$) exhibited substantially higher mean scores than Caucasian American students ($M=64.75$, $SD=18.26$) on the BPAQ. The effect size for the difference in means between Asian international students and Caucasian students was medium to large **(***d*=.65) and small (*d*=.29) between International students and Caucasian American students.

There was a trend towards a significant gender by ethnicity interaction for BPAQ scores, $F(2,567)=2.76$, $p=.06$. This trend disappeared when the analyses were conducted with only Asian international and Caucasian American students. An examination of the means revealed that men tended to obtain substantially higher direct aggression scores than women among Caucasian American ($M_{men}=74.33$, $SD_{men}=19.62$; $M_{women}=61.66$, $SD_{women}=16.72$) and Asian international students ($M_{men}=80.54$, $SD_{men}=13.77$; $M_{women}=73.69$, $SD_{women}=17.48$). Although men scored higher than women among International students, as well, the difference in means was much less, $M_{men}=72.03$, $SD_{men}=17.10$; $M_{women}=68.61$, $SD_{women}=17.25$.

On the BDHI, Asian international ($M=14.10$, $SD=2.17$, $p<.05$) and Caucasian American ($M=13.81$, $SD=2.13$, $p<.05$) students scored substantially higher than International students ($M=13.13$, $SD=2.26$). The effect size for the difference in means between Asian international and International students on the BDHI was medium ($d=.44$). The difference in means between Caucasian American and International students was small to medium, $d=.31$.

To explore the association between direct and indirect aggression and psychopathy across groups, Pearson product moment correlations were calculated. The pattern of correlations between direct aggression and psychopathy was similar across groups (see Table 3). In all three groups, direct aggression as measured by the BPAQ correlated significantly and positively with PPI total and PPI Factor 2 scores. The magnitude of the correlations between BPAQ and PPI total scores ranged from small to medium ($r_{International}(92)=.24$, $p<.05$; $r_{Asian}(50)=.34$, $p<.01$; $r_{Caucasian}(419)=.40$, $p<.01$). The correlations between BPAQ and PPI Factor 2 scores ranged from medium to large in

magnitude ($r_{International}(92)=.44$, $p<.01$; $r_{Asian}(50)=.55$, $p<.01$; $r_{Caucasian}(419)=.59$, $p<.01$). BPAQ scores were not correlated significantly with PPI Factor 1 scores in any of the three groups.

In all three groups, BPAQ scores correlated significantly and positively with LSRPS total, primary psychopathy, and secondary psychopathy scores. The magnitude of the correlations between the BPAQ and LSRPS total scores ranged from medium to large ($r_{Asian}(47)=.37$, $p<.05$; $r_{International}(83)=.45$, $p<01$; $r_{Caucasian}(389)=.60$, $p<.01$). The correlations between the BPAQ and LSRPS primary psychopathy scores were medium in magnitude ($r_{International}(83)=.30$, $p<.05$; $r_{Asian}(47)=.32$, $p<.05$; $r_{Caucasian}(389)=.46$, $p<.01$). The magnitude of the correlations between the BPAQ and LSRPS secondary psychopathy scores ranged from medium to large in magnitude ($r_{Asian}(47)=.31$, $p<.05$; $r_{International}(83)=.51$, $p<.01$; $r_{Caucasian}(389)=.60$, $p<.01$).

Hierarchical linear regression analyses revealed that ethnicity did not moderate the relationship between direct aggression and any measures of psychopathy, although there was a trend towards ethnicity as a moderator of the relationship between BPAQ scores and LSRPS total scores, $b=-.06$, $t=-1.86$, $p=.06$.

The pattern of correlations between psychopathy and indirect aggression as measured by the BDHI varied across the three groups of students. PPI total scores were not significantly correlated with BDHI scores in any of the three groups, but PPI Factor 1 scores correlated significantly and negatively with BDHI scores among Caucasian American and Asian international students. The magnitude of these correlations was small ($r(293)= -.12$, $p<.05$) among Caucasian American students and medium ($r(45)= -.32$, $p<.05$) among Asian international students. BDHI scores correlated significantly and

positively with Factor 2 scores for Caucasian American and International students, but were not significantly correlated for Asian international students. The magnitude of these correlations was medium for the Caucasian American ($r(293)=.31$, $p<.01$) students and small to medium for International students ($r(74)=.28$, $p<.05$).

LSRPS total scores were correlated significantly and positively with BDHI scores among Caucasian American and International students, but were not significantly correlated among Asian international students. The magnitude of these correlations was medium among both Caucasian American ($r(269)=.33$, $p<.01$) and International students ($r(65)=.32$, $p<.01$). LSRPS primary psychopathy and BDHI scores were correlated significantly and positively only among Caucasian American students. The magnitude of this relationship was small ($r(269)=.26$, $p<.01$). LSRPS secondary psychopathy and BDHI scores were correlated significantly and positively among Caucasian American and International students, but were not significantly correlated among Asian international students. The magnitude of these correlations was medium for both Caucasian American ($r(269)=.32$, $p<.01$) and International students ($r(65)=.39$, $p<.01$).

Regression analyses revealed that ethnicity did not moderate the relationship between BDHI and any measures of psychopathy. Asian international students showed no preference for the expression of indirect aggression given the presence of psychopathic traits.

The nine items composing the Passive Aggressive PD scale of the CATI were used as a second measure of indirect aggression. An analysis of variance revealed no group differences in levels of passive aggression; however, there was a significant gender by ethnicity interaction for CATI passive aggression scores. Although women

($M_{Caucasian}$=8.56, $SD_{Caucasian}$=2.73; M_{Asian}=9.59, SD_{Asian}=2.86; $M_{International}$=8.64, $SD_{International}$=2.85) scored lower on the passive aggression scale than men ($M_{Caucasian}$=10.71, $SD_{Caucasian}$=3.18; M_{Asian}=10.06, SD_{Asian}=2.16; $M_{International}$=9.16, $SD_{International}$=2.58) across all three groups of students, this difference was particularly pronounced among Caucasian American students.

To explore the relationship between passive aggression and psychopathy, Pearson product moment correlations were calculated. The pattern of correlations was largely similar across the three groups of students. In all three groups, CATI passive aggression scores were correlated significantly and positively with PPI Factor 2 scores. The magnitude of these relationships was large among Caucasian American students ($r(390)=.60$, $p<.01$) and International students ($r(82)=.52$, $p<.01$) and medium among Asian international students, $r(46)=.46$, $p<.01$. In all three groups, CATI passive aggression scores were not significantly correlated with PPI Factor 1 scores. Among Caucasian American and International students, but not among Asian international students, CATI passive aggression scores also correlated significantly and positively with PPI total scores. The magnitude of these correlations was medium among Caucasian American students ($r(390)=.33$, $p<.01$) and small among International students, $r(82)=.25$, $p<.05$.

In all three groups of students, CATI passive aggression correlated significantly and positively with LSRPS total ($r_{Caucasian}(384)=.59$, $p<.01$; $r_{Asian}(45)=.64$, $p<.01$; $r_{International}(78)=.46$, $p<.01$), LSRPS primary psychopathy ($r_{Caucasian}(384)=.46$, $p<.01$; $r_{Asian}(45)=.54$, $p<.01$; $r_{International}(78)=.27$, $p<.05$), and LSRPS secondary psychopathy scores ($r_{Caucasian}(384)=.59$, $p<.01$; $r_{Asian}(45)=.58$, $p<.01$; $r_{International}(78)=.57$, $p<.01$). The

magnitude of these correlations ranged from medium to large among Caucasian American students, was large among Asian international students, and ranged from small to large among International students. Regression analyses revealed that ethnicity did not moderate the relationship between passive aggression and any measures of psychopathy.

In summary, Caucasian American and Asian international students exhibited a similar level of indirect aggression, but Asian international students exhibited higher levels of direct aggression than Caucasian American students. In all three groups, higher levels of direct aggression were associated with significantly higher levels of psychopathy, specifically, higher levels of the antisocial behavioral attributes assessed by PPI Factor 2. Among both Caucasian American and Asian international students, indirect aggression was associated with significantly lower levels of the interpersonal and affective traits assessed by PPI Factor 1, and was also associated with significantly higher levels of PPI Factor 2, LSRPS total, primary psychopathy, and LSRPS secondary psychopathy among Caucasian American students. Among Asian international students, indirect aggression was not significantly related to any other measure of psychopathy. In all three groups of students, higher levels of passive aggression were associated with significantly higher levels of the antisocial behavioral attributes assessed by PPI Factor 2, as well as higher LSRPS total, primary, and secondary scale scores, but were not significantly related to the interpersonal and affective attributes assessed by PPI Factor 1.

The relationship between psychopathy and somatization

Hypothesis 3: In Asian cultures, somatization will be more highly correlated with Factor 2 attributes of psychopathy than in non-Asian cultures.

No predictions were made regarding the relation of ethnicity to levels of somatization; however, an exploratory analysis of variance revealed group differences for PHQ-15 scores ($F(2,566)=3.02$, $p<.05$). Follow up Tukey's HSD analyses revealed Caucasian American students ($M=22.20$, $SD=4.03$) scored substantially higher than International students ($M=20.68$, $SD=4.28$), $p<.01$. No significant mean differences existed between Asian international students ($M=21.51$, $SD=5.03$) and the other two groups; however, these results should be interpreted cautiously as error variance was unequal across groups. The effect size for the difference between Caucasian American and international students was small to medium, $d=.37$.

To explore the association between somatization and psychopathy across groups, Pearson product moment correlations were calculated (see Table 3). The pattern of correlations between measures of somatization and psychopathy differed across the three groups of students. Among Caucasian American students, PHQ-15 scores correlated significantly and negatively with PPI Factor 1 scores ($r(412)= -.20$, $p<.01$), but correlated significantly and positively with PPI Factor 2 scores ($r(412)=.20$, $p<.01$). The magnitude of these correlations was small. PHQ-15 scores were not significantly correlated with PPI total scores. PHQ-15 scores also correlated significantly and positively with LSRPS total ($r(388)=.12$, $p<.05$) and secondary psychopathy scores ($r(388)=.22$, $p<.01$), but were not significantly correlated with LSRPS primary psychopathy scores among Caucasian American students. The magnitude of these correlations was also small.

Among Asian international students, PHQ-15 scores correlated significantly and negatively with PPI total ($r(50)=-.34$, $p<.05$) and PPI Factor 1 scores ($r(50)=-.41$, $p<.01$), but was not significantly correlated with PPI Factor 2 scores. The magnitude of these

correlations was medium. PHQ-15 scores were not significantly correlated with LSRPS total, primary psychopathy, or secondary psychopathy scores among Asian international students.

Among International students, PHQ-15 scores did not correlate significantly with PPI total, PPI Factor 1, or PPI Factor 2 scores. PHQ-15 scores were significantly and positively correlated with LSRPS total ($r(82)=.25$, $p<.05$) and LSRPS primary psychopathy scores ($r(82)=.23$, $p<.05$), but were not significantly correlated with LSRPS secondary psychopathy scores. The magnitude of these correlations was small. Hierarchical linear regression analyses revealed that there was a trend towards ethnicity as a moderator of the relationship between somatization and PPI Factor 2 scores, $b=-.07$, $t=-1.85$, $p=.07$.[11]

In summary, somatization as measured by the PHQ-15 was significantly related to PPI Factor 2 scores only among Caucasian American students. Among these students, higher levels of somatization were associated with higher levels of the antisocial behavioral attributes associated with PPI Factor 2. Contrary to prediction, no such relationship existed for Asian international students.

The relationship between psychopathy and social anxiety

Hypothesis 4: In Asian cultures, measures of psychopathy will correlate more negatively with indigenous measures of social anxiety (such as Taijin Kyofusho) than in non-Asian cultures.

[11] When controlling for social desirability, regression analyses revealed ethnicity did significantly moderate the relationship between somatization and PPI Factor 2 scores, $b=-.08$, $t(393)=-2.08$, $p=.04$. Somatization was associated with significantly higher levels of the antisocial behavioral attributes associated with Factor 2 among Caucasian American students. The percentage of variance explained was medium, $R^2=.20$, $F(1,393)=4.31$, $p=.04$.

No predictions were made regarding the relation of ethnicity to levels of Taijin Kyofusho; however, an exploratory analysis of variance revealed group differences for TKS scores, $F(2,580)=13.27$, $p<.001$. Follow up Tukey's HSD tests revealed Asian international students ($M=91.23$, $SD=34.83$) obtained substantially higher TKS scores than either Caucasian American ($M=71.65$, $SD=28.57$) or International students ($M=67.12$, $SD=24.53$), $p<.001$. These results should be interpreted cautiously, however, as error variance was unequal across groups. The effect size for the difference in means between Asian international and Caucasian American students was medium to large, $d=.61$. The effect size for the difference in means between Asian international and International students was large, $d=.80$.

To explore the association between TKS and psychopathy, Pearson product moment correlations were calculated (see Table 3). The pattern of correlations across groups was largely similar. TKS scores were not significantly correlated with PPI total scores in any of the three student groups. TKS and PPI Factor 1 scores correlated significantly and negatively among Caucasian American ($r(426)=-.35$, $p<.01$); and International students $r(92)= -.36$, $p<.01$). The magnitude of these correlations was medium. TKS and PPI Factor 2 scores correlated significantly and positively in all three groups ($r_{Caucasian}(426)=.36$, $p<.01$; $r_{Asian}(50)=.47$, $p<.01$; $r_{International}(92)=.41$, $p<.01$). The magnitude of these relationships was medium.

TKS and LSRPS total scores were significantly and positively correlated in all three groups of students ($r_{Caucasian}(388)=.32$, $p<.01$; $r_{Asian}(47)=.39$, $p<.01$; $r_{International}(82)=.38$, $p<.01$). The magnitude of these correlations was medium. TKS and LSRPS primary psychopathy scores were correlated significantly and positively only

among Caucasian American students ($r(388)=.19$, $p<.01$). The magnitude of this correlation was small. TKS and LSRPS secondary psychopathy scores were significantly and positively correlated in all three groups ($r_{Caucasian}(388)=.41$, $p<.01$; $r_{Asian}(47)=.46$, $p<.01$; $r_{International}(82)=.49$, $p<.01$). The magnitude of these correlations was medium. Hierarchical linear regression analyses revealed that ethnicity did not moderate the relationship between TKS and any measures of psychopathy.

In summary, higher levels of TKS were associated with lower levels of the affective and interpersonal traits assessed by PPI Factor 1 only among Caucasian American and International students. In all three groups, higher levels of TKS were associated with higher levels of the antisocial behavioral attributes assessed by PPI Factor 2, as well as higher levels of psychopathy as measured by the LSRPS total and secondary psychopathy scales.

The relationship between psychopathy and alcohol abuse

Hypothesis 5: In Asian populations, psychopathy should be less highly correlated with alcohol abuse than in non-Asian cultures.

No predictions were made regarding the relation of ethnicity to levels of alcohol abuse. An exploratory analysis of variance was conducted, but revealed no significant group differences for MAST scores.

To explore the relationship between alcohol abuse and psychopathy, Pearson product moment correlations were calculated (see Table 3). MAST scores and measures of psychopathy were associated only among Caucasian American students. MAST scores did not correlate significantly with any measures of psychopathy among Asian international or International students. Among Caucasian American students, MAST

scores correlated significantly and positively with PPI total ($r(278)=.22$, $p<.01$) and PPI Factor 2 ($r(278)=.34$, $p<.01$) scores. The magnitude of these correlations was small for PPI total and MAST scores and medium for PPI Factor 2 and MAST scores. MAST scores were not significantly correlated with PPI Factor 1 scores among Caucasian American students.

MAST scores among Caucasian American students were also significantly and positively associated with LSRPS total ($r(259)=.40$, $p<.01$), LSRPS primary psychopathy ($r(259)=.28$, $p<.01$), and LSRPS secondary psychopathy scores ($r(259)=.45$, $p<.01$). The magnitude of these correlations was small to medium for LSRPS primary psychopathy and MAST scores and medium for LSRPS total and secondary psychopathy scores.

Hierarchical linear regression analysis revealed that ethnicity did not moderate the relationship between alcohol abuse and PPI total or PPI Factor 1 scores; however, ethnicity significantly moderated the relationship between MAST scores and PPI Factor 2 scores, $b= -14$, $t(392)=-2.13$, $p<.05$. The percentage of variance explained was medium, $R^2=.12$, $F(1,392)=4.53$, $p<.05$.

Ethnicity also significantly moderated the relationship between MAST scores and LSRPS total ($b=-.70$, $t(364)=-3.15$, $p<.001$), primary psychopathy ($b=-.40$, $t(364)=-2.39$, $p<.01$), and secondary psychopathy scores ($b=-.31$, $t(364)=-3.19$, $p<.01$). Alcohol abuse, as measured by the MAST, was significantly associated with higher levels of LSRPS total, primary psychopathy, and secondary psychopathy only among Caucasian American students. The relationship between ethnicity and MAST scores explained a medium percentage of variance in LSRPS total scores ($R^2=.23$, $F(1,364)=9.94$, $p<.01$), primary

psychopathy (R^2=.18, F(1,364)=5.69, p<.01), and secondary psychopathy scores (R^2=.20, F(1,364)=10.17, p<.01).

Alcohol abuse was also measured as a function of binge drinking. Consistent with the previous literature, binge drinking was defined for men as consuming five or more alcoholic beverages in a row, and for women as consuming four or more in a row, at least once in the two weeks preceding the survey. A chi-square test of independence was used to establish that the proportions of students in each category of binge drinking (non-binge drinkers, occasional binge drinkers, and frequent binge drinkers) differed significantly by ethnic group, χ^2 (4, N=562)=23.91, p<.001, see Table 4.[12] These results should be interpreted cautiously, however, as two of the cells generated by cross-tabulation had expected values less than five.

To explore the relationship between binge drinking and psychopathy, Pearson product moment correlations were calculated. The pattern of correlations varied across groups. Among Caucasian American students, binge drinking was significantly and positively related to PPI total (r(409)=.20, p<.01) and PPI Factor 2 scores (r(409)=.25, p<.01), as well as LSRPS total (r(383)=.34, p<.01), primary psychopathy (r(383)=.29, p<.01), and secondary psychopathy scores (r(383)=.29, p<.01). PPI Factor 1 scores were not significantly related to binge drinking scores among Caucasian American students. Binge drinking was not related to any measure of psychopathy among International students. Among Asian international students, binge drinking was significantly and positively related to LSRPS total (r(47)=.35, p<.05), primary psychopathy (r(47)=.32,

[12] Mean difference analyses did not provide useful information about binge drinking as the majority of students across the sample reported (see Table 4 for percentages) they did not binge drink, thus negatively skewing the data. The means for all three groups were therefore close to one where "1" referred to no binge drinking in the previous two weeks.

$p<.05$), and secondary psychopathy scores, $r(47)=.29$, $p<.05$. Hierarchical linear regression analyses revealed that ethnicity did not moderate the relationship between binge drinking and any measure of psychopathy.[13]

In summary, among Caucasian American students only, higher MAST scores, indicating higher levels of alcohol abuse, were associated with significantly higher levels of psychopathy and, more specifically, to the antisocial behavioral attributes assessed by PPI Factor 2.[14] Likewise, among Caucasian American students only, higher levels of reported binge drinking were related to significantly higher levels of PPI Factor 2 traits. Higher levels of binge drinking were also related to higher levels of psychopathy as measured by the LSRPS among both Caucasian American and Asian international students, but binge drinking was unrelated to psychopathy among International students.[15]

[13] Gender was found to moderate the relationship between binge drinking and LSRPS primary psychopathy scores, $b=-1.5$, $t=-2.22$, $p=.03$. The percentage of variance explained was medium, $R^2=.09$, $F(1,512)=4.94$, $p=.03$.

[14] A second set of analyses controlling for social desirability reduced the significance of this finding. When MCSDS scores were entered into the first block of the moderator analysis, the interaction between ethnicity and MAST scores was no longer significant, $b=-.13$, $t(385)=-1.86$, $p=.06$.

[15] Acculturation, as measured by the SL-ASIA, was found to moderate the relationships between individualism, Taijin Kyofusho, and binge drinking with some measures of psychopathy. There was no consistent pattern regarding the direction of these interactions. For some interactions, such as that between acculturation, TKS, and PPI total and Factor 1 scores, greater affiliation with traditionally Eastern values and customs was associated with a positive relationship between the independent variable and psychopathy, whereas greater affiliation with Western values and customs was associated with a negative relationship between the independent variable and psychopathy. For other interactions, such as that between acculturation, individualism, and PPI Factor 1 scores, the positive relationship between the independent variable and PPI Factor 1 was stronger among students reporting greater affiliation with Western culture than it was among students reporting greater affiliation with Eastern culture. In contrast, acculturation moderated the relationship between individualism and PPI Factor 2 scores producing a stronger positive relationship between individualism and PPI Factor 2 scores among more traditionally Eastern versus more "Westernized" Asian students. Given the inconsistent picture painted by these interactions, they are not discussed in further detail here.

Discussion

The results from this investigation revealed that levels of psychopathy were higher among Asian international and International students than among Caucasian American students. In addition, whereas PPI Factor 1 attributes were related to individualism across all three groups of students, PPI Factor 2 attributes were related to individualism only among Asian international students. Psychopathy was similarly related to aggression and social anxiety in all three groups of students; however, PPI Factor 2 scores were related to somatization only among Caucasian American students. Similarly, alcohol abuse was related to psychopathy only among Caucasian American students.

Individualism, collectivism, and levels of psychopathy

Levels of psychopathic traits were not higher among Caucasian American students in this sample. Contrary to prediction, both Asian international and International students obtained somewhat higher scores on some measures of psychopathy, specifically PPI Factor 2 and Levenson's Self-Report Psychopathy Scale and its subscales. Given that recent research suggests that the LSRPS is biased towards the measurement of an antisocial lifestyle as opposed to the interpersonal and affective characteristics associated with psychopathy (Falkenbach, Poythress, Falki, & Manchak, 2007; Fowler & Lilienfeld, 2006), these findings suggest that levels of the antisocial behavioral traits associated with psychopathy are higher among both Asian international and international students than among Caucasian American students.

Caucasian American and Asian international students reported similar levels of identification with individualistic values, and individualism was related to higher levels

of PPI-assessed psychopathy across all three groups of students. In particular, affiliation with individualistic values was found to be related to higher levels of the interpersonal and affective features of psychopathy assessed by PPI Factor 1. These findings confirm speculation by Cooke (1996) and Cooke and Michie (2004) that psychopathy, particularly its core interpersonal and affective traits, are associated with higher levels of individualism.

The finding that higher individualism was also uniquely related to significantly higher levels of the antisocial and behavioral attributes assessed by Factor 2 among Asian international students is provocative and warrants replication and further investigation. Triandis (1995) suggested that idiocentrics (individuals endorsing individualistic values) in an allocentric (collectivist) culture are likely to stand out from their allocentric peers by rejecting conformity. Some support for this idea is offered by Caldwell-Harris and Aycicegi (2006), who reported that idiocentricism within a collectivist culture was positively correlated with higher scores on a measure of antisocial personality disorder. In some Asian groups, adopting more individualistic values may be associated with externalizing behavior and attributes.

Asian international students reported a higher level of affiliation with collectivistic values than Caucasian Americans, but Asian international student collectivism was not significantly related to psychopathy. Contrary to expectations, collectivism and psychopathy were significantly related only among Caucasian American students. In this group only, higher levels of collectivism were associated with lower levels of psychopathic traits.

Aggression and psychopathy

Asian international students showed no preference for the expression of indirect aggression as opposed to direct aggression in conjunction with higher levels of psychopathic traits. In fact, Asian international students reported higher mean levels of direct aggression than Caucasian American students and similar mean levels of indirect aggression. Direct aggression was similarly and highly related to psychopathy, across all three groups. Although indirect aggression was not significantly related to Factor 2 traits among Asian international students, correlations between indirect aggression and Factor 1 traits, as well as correlations between passive aggression and psychopathy, were similar across all three groups of students. Taken together, these findings support the idea that higher levels of psychopathic traits are similarly related to higher levels of aggression cross-culturally.

Somatization and psychopathy

Asian international students were not found to somatize more than Caucasian American students and, contrary to prediction, somatization was associated with significantly higher levels of PPI Factor 2 traits only among Caucasian American students.

These results partially replicate findings by Lilienfeld and Hess (2001) among American participants, but contradict the longstanding idea that somatization is a distinctive cultural pathway for the expression of distress, particularly anxiety and depression, among Eastern Asians (Kleinman, 1988). The finding that somatization among Asian international students was not significantly related to PPI Factor 2 traits recalls research by Keyes and Ryff (2003). They found that somatization was not

significantly related to measures of mental health among South Korean students, but was associated with significantly higher levels of depression and anxiety and lower levels of psychological well-being among American students. Keyes and Ryff concluded that these findings offered evidence that somatization is associated with healthy coping in Asian, collectivist societies, but is associated with poor mental health in individualistic societies like the U.S.

Although the current study did not employ a measure of overall well-being, depression, or anxiety, PPI Factor 2 traits have been previously associated with higher levels of psychological maladjustment and negative emotionality, including anxiety and depression (Patrick, Poythress, Edens, Lilienfeld, & Benning, 2006) among American participants. The significant positive relationship between PPI Factor 2 traits and somatization among American students in this study coincides with the idea that somatization is related to psychological maladjustment in the U.S. The lack of any apparent relationship between PPI Factor 2 traits and somatization among Asian international students offers support for the idea that somatization is related to psychological adjustment and well-being in Asian cultural groups. However, this conclusion is largely speculative and requires replication.

Social anxiety and psychopathy

Asian international students reported substantially higher mean levels of Taijin Kyofusho, but Taijin Kyofusho did not, as predicted, correlate more negatively with measures of psychopathy among Asian international students. The relationship between TKS and PPI Factor 1 traits for Asian international students depended on their level of affiliation with Western values and customs. It is unclear why social anxiety based on

acute concern about offending others shares a positive relationship with PPI Factor 1 traits among Asian international students reporting greater affiliation with Asian culture in this sample, and replication of these unexpected results is necessary. These findings may be an artifact of the high Type I error rate that accompanies these exploratory analyses.

Higher levels of TKS were similarly associated with higher levels of PPI Factor 2 scores and LSRPS scores across the sample. These findings offer additional support for recent research exploring the differing and sometimes opposing relationships between PPI Factor 1 and 2 scores and measures of personality and behavior. In particular, PPI Factor 2 traits have been associated with higher levels of some internalizing behaviors such as anxiety, whereas PPI Factor 1 tends to correlate negatively with measures of internalizing behaviors such as anxiety and depression (Patrick, Poythress, Edens, Lilienfeld, & Benning, 2006). The finding that higher levels of PPI Factor 2 traits are associated with higher levels of social anxiety syndrome across all three groups of students suggests this relationship holds cross-culturally.

Alcohol abuse and psychopathy

Contrary to expectations, psychopathy and alcohol abuse as measured by the MAST was correlated only among Caucasian American students. Among Caucasian American students, alcohol abuse and binge drinking were correlated significantly and positively with psychopathy, particularly Factor 2 traits. These results are similar to those of previous studies with American participants (Patrick et al., 2006; Schuckit, 1973; Smith & Newman, 1990). Ethnicity moderated the relationship between alcohol abuse as measured by the MAST and Factor 2 scores, such that higher levels of alcohol abuse

were uniquely associated with higher levels of Factor 2 traits among Caucasian American students.

Proclivity to substance abuse has been associated with psychopathy at least since Cleckley (1941) recorded his observations on the subject. The relationship between Factor 2 traits and alcohol abuse is particularly well-established (Patrick et al., 2006; Smith, and Newman, 1990). Given their unprecedented nature, these results warrant cautious interpretation and replication in future studies. Should such a difference emerge in future studies, it would suggest an important cross-cultural difference in the expression of psychopathic personality traits.

The finding that levels of acculturation moderated the relationship between PPI Factor 1 traits and binge drinking for Asian international students was also surprising and requires replication. It is unclear why higher levels of Factor 1 traits would be positively correlated with binge drinking among Asian international students reporting greater affiliation with Eastern values. Alcohol abuse tends to be either unrelated or slightly negatively related to PPI Factor 1 traits among American participants (Patrick et al., 2006).

Limitations

Cross-cultural differences are notoriously difficult to assess due to a variety of methodological obstacles. This study was limited by a number of these problems, beginning with its reliance on convenience sampling. This method was necessary to obtain as large a sample of Asian international students as possible, but the resulting sample was neither randomly selected nor matched in number or gender distribution across ethnic groups. Furthermore, the total sample of Asian international students, at 78,

was smaller than desired. Selection bias makes the mean differences reported here difficult to interpret. It is unclear how these results will generalize to Asians in general given that international students are a subset of a population that has intentionally chosen to live in the United States and attend school. For example, international students may be more daring and adventurous than their compatriots. Such differences may affect self-reported characteristics, attitudes, and behaviors.

Grouping Asian students together, although unavoidable in this instance, implicitly suggests that all Asian cultures share the same cultural norms and values and express them similarly in response to personality tests. Although most Asian cultures seem likely to share more values and norms in common than they do with Western cultures, researchers have documented important differences. Meta-analyses by Oyserman, Kemmelmeir, and Coon (2002) indicate that there are cross-national differences in levels of individualism and collectivism. The Japanese, for example, report high levels of both individualism and collectivism whereas the Chinese report low levels of individualism and high levels of collectivism.

There also tend to be strong cross-national differences in which values and norms form the core of collectivism and individualism in different Asian cultures. Relationship harmony, for example, appears to be at the core of collectivism in China but is not as central in Japan (Oyserman et al., 2002). Thus, grouping Asian students together runs the risk of masking important cultural differences. Future studies of psychopathy among Asian populations would do well to focus on each Asian ethnic group and what is known about their values and norms separately. For instance, differences in the expression of

psychopathic traits may emerge as a function of a particular combination of collectivistic and individualistic values.

This study was further limited by its use of international students as a comparison group. The unexpected nature of some of the mean differences analyses, in particular, raises the question of how members of this population might differ from their countrypersons at home. Although this study attempted to account for these potential differences by including a measure of acculturation for Asian international students, such a measure does not capture potential personality differences. For instance, international students may possess characteristics that set them apart from the majority of their countrymen and that may have affected the results of the analyses conducted here.

Apart from sampling bias, this study may also be limited by its reliance on self-report data. Indeed, some cross-cultural researchers contend that self-report data based on answers to personality, behavior, and attitude questionnaires may not be the best means of capturing cross-cultural differences. Heine, Lehman, Peng, and Greenholz (2002) argued that aggregate self-report data are susceptible to the reference-group effect (RGE), that is, subjects' tendency to answer self-report questionnaires by comparing themselves with others using the norms and standards of their own cultural group. Cultural groups are likely to construe the meaning of personality variables differently and in ways that may lead to response sets that distort important between-group differences, even at times, in the direction opposite that of true differences (Heine et al., 2002).

Although the precise reference group (or groups) to which the Asian international students may have referred in this study cannot be ascertained, the RGE may partially account for some of the unexpected differences reported here, particularly the surprising

differences between Asian international and Caucasian American students in mean levels of psychopathy and aggression. Heine and colleagues (2002) argued that the RGE is strongest in groups that actually differ the most. They cited height as an example. If the average height of a man in group A is 5 feet, 8 inches and the average height of a man in group B is 6 feet, a man from group A who is 5 feet, 11 inches will evaluate himself as tall, referencing the standards of his group, although he is not tall compared with most members of group B. Many Asian international students, comparing themselves with Asian people from their homelands, may evaluate themselves as possessing high levels of certain personality traits, although they might actually possess lower levels of such traits in comparison with Caucasian American students. Thus, the RGE might result in an inaccurate picture of between group cross-cultural differences.

Heine, Buchtel, and Norenzayan (2008) argued that perceptions of national character (PNCs) be used in lieu of self-report data to capture cross-cultural differences. When asked specifically to make comparisons based on the mindset of the average member of their cultural group (evoking a PNC), people appear to use more international standards. In a cross-cultural study of conscientiousness, Heine, Buchtel, and Norenzayan (2008) reported that they were unable to establish a relationship between self-report and behavioral and demographic indicators of conscientiousness, but that cross-cultural differences in conscientiousness were reflected in subjects' PNCs. These PNCs reflected the results of behavioral and demographic assessments of conscientiousness, thus capturing true between groups cultural differences. It is unclear if the RGE affected findings from this study, but future studies attempting to establish the relationship of

psychopathic traits to personality and behavior in other cultures should obtain sources of data beyond questionnaires.

Conclusion

This study is the first to investigate possible differences in the expression of psychopathic personality traits between Caucasian American and Asian populations. The overall findings offer tentative support for psychopathy as a relevant construct in Eastern Asian cultures. Although the correlations between psychopathy and aggression, social anxiety, somatization, and alcohol abuse tended to be more similar than different between groups, some differences were provocative. In particular, the relationship between psychopathy and individualism, somatization, and alcohol abuse among Asian international students merits further investigation. This study was limited by sampling and reporting biases, as well as a high risk for Type I error. Future investigations are encouraged to address these limitations by recruiting larger samples of Asian participants to allow analysis of Asian nationalities separately and by employing diverse measures of personality that do not rely exclusively on self-report.

APPENDIX

Table 1. Descriptive Statistics

		n	Mean	SD		*n*	Mean	SD		*n*	Mean	SD
USA	PPI Total	472	118.97	14.73	Asian International	57	122.79	14.06	International	99	123.99	13.28
	PPI F1		-.0128	2.14			-.45	2.01			.30	1.98
	PPI F2		-.26	2.59			1.01	2.23			.47	2.46
	LSRPSTotal	392	43.27	9.84		49	54.08	8.59		85	47.33	9.82
	LSRPSPrim		26.61	7.22			33.94	6.22			29.39	6.57
	LSRPSSec		16.66	4.24			20.14	3.63			17.94	4.84

Note. PPI: Psychopathic Personality Inventory – shortened version (Lilienfeld, 1990); F1: Factor 1; F2: Factor 2; LSRPS: Levenson Self-Report Psychopathy Scale (Levenson & Fitzpatrick, 1995); LSRPSPrim: Levenson's Primary Psychopathy Scale; LSRPSSec: Levenson's Secondary Psychopathy Scale.

Table 2. Gender and level of psychopathy

		Men			Women		
		n	Mean	SD	*n*	Mean	SD
USA	PPI Total	116	127.74	14.08	354	116.10	13.81
	PPI F1	116	.64	2.04	354	-.22	2.14
	PPI F2	116	1.12	2.81	354	-.71	2.36
	LSRPS Total	91	48.40	11.36	299	41.73	8.80
	LSRPSPrim	91	29.97	8.92	299	25.62	6.29
	LSRPSSec	91	18.43	4.54	299	16.12	4.01
ASIAN	PPI Total	18	129.71	11.64	39	119.60	14.06
	PPI F1	18	.45	1.32	39	-.87	2.14
	PPI F2	18	1.74	2.33	39	.67	2.12
	LSRPS Total	17	55.24	7.53	32	53.47	8.16
	LSRPSPrim	17	34.65	5.41	32	33.56	6.66
	LSRPSSec	17	20.59	2.92	32	19.90	3.97
International	PPI Total	40	127.03	13.96	59	121.93	12.50
	PPI F1	40	.71	2.00	59	.02	1.94
	PPI F2	40	.99	2.63	59	.12	2.30
	LSRPS Total	31	49.06	10.51	54	46.34	9.36
	LSRPSPrim	31	30.42	6.94	54	28.81	6.34
	LSRPSSec	31	18.64	5.68	54	17.54	4.29

Note. PPI: Psychopathic Personality Inventory – shortened version (Lilienfeld, 1990); F1: Factor 1; F2: Factor 2; LSRPS: Levenson Self-Report Psychopathy Scale (Levenson & Fitzpatrick, 1995); LSRPSPrim: Levenson's Primary Psychopathy Scale; LSRPSSec: Levenson's Secondary Psychopathy Scale.

Table 3. Psychopathy and aggression, somatization, social anxiety, and alcohol abuse

		BPAQ	BDHI	PHQ-15	TKS	CATI PAG	MAST	Binge drinking
Caucasian American	PPI Total	.40**	.08	-.04	-.02	.33**	.22**	.20**
	PPI F1	.05	-.12*	-.20**	-.35**	-.05	.04	.07
	PPI F2	.59**	.31**	.20**	.36**	.60**	.34**	.25**
	LSRPS Total	.60**	.33**	.12*	.32**	.59**	.40**	.34**
	LSRPSPrim	.46**	.26**	.03	.19**	.46**	.28**	.29**
	LSRPSSec	.60**	.32**	.22**	.41**	.59**	.45**	.29**
Asian International	PPI Total	.34*	-.15	-.34*	.11	.11	.19	.10
	PPI F1	-.03	-.32*	-.41**	-.21	-.20	.07	.01
	PPI F2	.55**	.10	-.04	.47**	.46**	.27	.25
	LSRPS Total	.37*	.21	-.07	.39*	.64**	.20	.35*
	LSRPSPrim	.32*	.21	-.15	.27	.54**	.12	.32*
	LSRPSSec	.31*	.14	.11	.46**	.58**	.26	..29*
International	PPI Total	.24*	.10	.01	.05	.25*	.02	.09
	PPI F1	-.12	-.10	-.16	-.36**	-.12	-.06	.17
	PPI F2	.44**	.28*	.13	.45**	.52**	.02	.04
	LSRPS Total	.45**	.32**	.25*	.38**	.46**	.01	.04
	LSRPSPrim	.30**	.19	.23*	.20	.27*	-.06	-.06
	LSRPSSec	.51**	.39**	.20	.49**	.57**	.11	.16

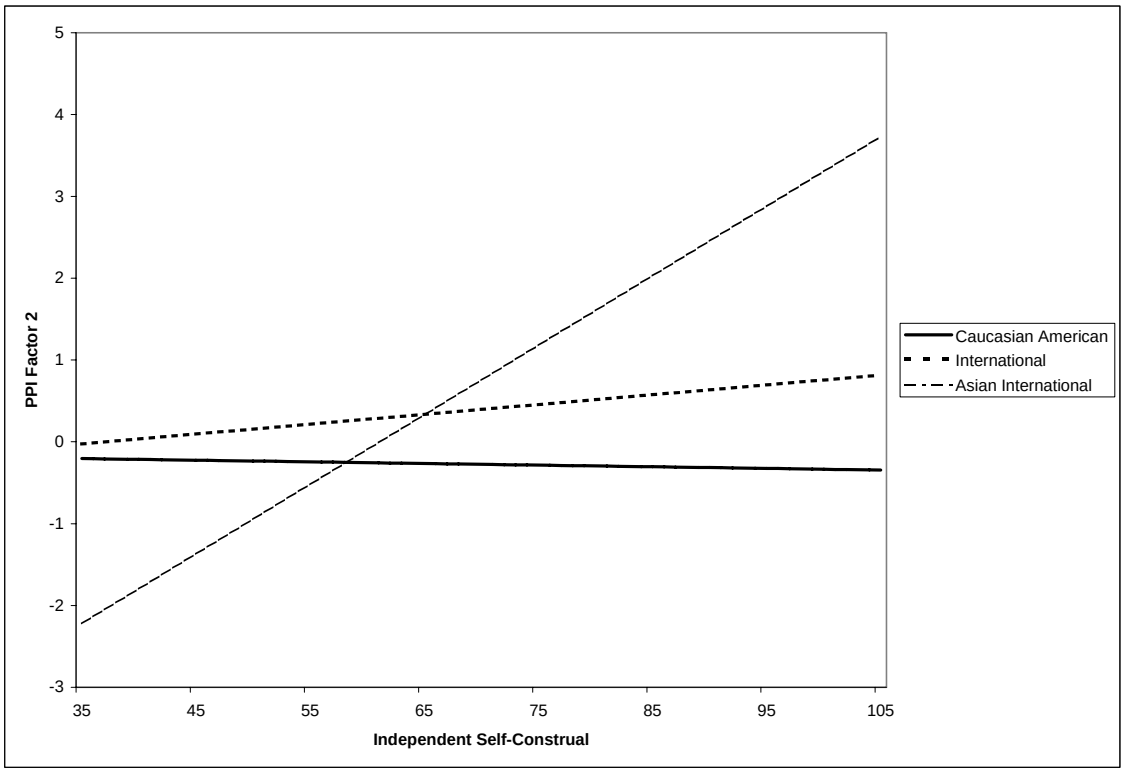
*p<.05, **p<.01

Note. PPI: Psychopathic Personality Inventory – shortened version (Lilienfeld, 1990); F1: Factor 1; F2: Factor 2; LSRPS: Levenson Self-Report Psychopathy Scale (Levenson & Fitzpatrick, 1995); LSRPSPrim: Levenson's Primary Psychopathy Scale; LSRPSSec: Levenson's Secondary Psychopathy Scale; CATI PAG – Coolidge Axis II Inventory Passive Aggression scale (Coolidge, 1984); MAST – Michigan Alcohol Screening Test (Selzer, 1971).

Table 4. Binge Drinking Frequencies

			Binge Drinking		
			Non Binge Drinkers	Occasional Binge Drinkers	Frequent Binge Drinkers
Groups	Caucasian American	Count	263	132	22
		Expected Count	284.9	111.3	20.8
		% Within Groups	63.1%	31.7%	5.3%
	International	Count	76	13	2
		Expected Count	62.2	24.3	4.5
		% Within Groups	83.5%	14.3%	2.2%
	Asian International	Count	45	5	4
		Expected Count	36.9	14.4	2.7
		% Within Groups	83.3%	9.3%	7.4%

Figure 1. Ethnicity as a moderator of the relationship between Independent Self-Construal and PPI Factor 2 scores.



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