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Asian International Students' Mental Health-Related Outcomes: A Person × Context Cultural Framework

Y. Joel Wong[1], Kenneth T. Wang[2], and Cara S. Maffini[1]

Abstract

Guided by a Person × Context cultural framework, this is the first known study to examine the relationship between cultural values and mental health-related outcomes (depressive symptoms and professional psychological help seeking) across diverse interpersonal contexts. Using a quasi-experimental research design, 465 Asian international college students were randomly assigned to report their adherence to the Asian cultural values of emotional self-control and humility during interactions with (a) their families of origin, (b) peers from their country of origin, or (c) American peers. Humility was positively associated with depressive symptoms only during interactions with nonfamily members, and not with family members. Emotional self-control was negatively associated with attitudes toward seeking psychological help only during participants' interactions with members of their country of origin. Humility was negatively related to psychological help seeking only during participants' interactions with nonfamily members.

Keywords

international students, culture, help seeking, depression, Asian values

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How do people's cultural values and social contexts interact to explain mental health-related outcomes? We address this question in this study by testing whether the link between Asian international students' adherence to Asian values and their depressive symptoms and psychological help-seeking attitudes differed across interpersonal contexts. Asian students constitute more than half of the international college student population in the United States (Institute of International Education, 2012). Research indicates that Asian international students experience a number of psychosocial stressors, including language difficulties, experiences of discrimination, homesickness, isolation, and cultural stress due to differences between their heritage culture and the dominant European American culture (Bonazzo & Wong, 2007; Constantine, Kindaichi, Okazaki, Gainor, & Baden, 2005; Myers-Walls, Frias, Kwon, Ko, & Lu, 2011; Poyrazli & Grahame, 2007; Yeh & Inose, 2003). Despite these stressors, international students seek counseling at lower rates than other U.S. racial/ethnic minority groups, such as Asian Americans (Nilsson, Berkel, Flores, & Lucas, 2004). In addition, Asian international students have poorer attitudes toward counseling than U.S. students (Yoon & Jepsen, 2008), and when they do seek counseling, they attend fewer counseling sessions relative to their European counterparts (Mitchell, Greenwood, & Guglielmi, 2007).

These mental health concerns have prompted a series of studies on Asian international students' mental health and psychological help-seeking attitudes. In particular, one emerging line of research is the manner in which cultural variables inform mental health and psychological help-seeking attitudes. Research on Asian international students has found that acculturation was positively related to psychological help seeking and mental health (Zhang & Dixon, 2003), whereas adherence to Asian cultural values was negatively associated with psychological help-seeking attitudes (Yakunina & Weigold, 2011). In this study, we extend this body of research by adopting a Person × Context conceptualization of the relationship between adherence to Asian cultural values and mental health-related variables. What follows is a brief overview of cultural psychological paradigms and a discussion of how a dynamic conceptualization of culture that emphasizes Person × Context interactions can contribute to a fuller understanding of the link between cultural values and mental health-related variables.

Paradigms in Cultural Psychological Research

The psychological study of culture has undergone several paradigm shifts over the past few decades (Hong & Chiu, 2001; Matsumoto & Yoo, 2006). The first paradigm of research, which we label the *between-groups paradigm*,

focuses on comparing racial, ethnic, or national groups on a set of variables (e.g., behavior or attitudes) and then attributing group differences in these variables to cultural influences. Such research has been criticized for the questionable assumption that racial/ethnic and national groups can be equated with culture as well as minimizing within-group cultural variations (Hong & Chiu, 2001; Matsumoto & Yoo, 2006). To address these criticisms, a second paradigm of cultural psychological research has focused on identifying and assessing meaningful dimensions of cultural variability (e.g., acculturation, individualism, and collectivism) among individuals (Matsumoto & Yoo, 2006). We label this body of research the *individual differences paradigm.* Research within this paradigm typically involves the use of Likert-type self-report measures to assess individual variability on cultural variables. Aided by the development of new cultural measures, this research paradigm currently represents the dominant approach to studying culture within counseling psychology. Recent examples include research on adherence to Asian values (Kim, Li, & Ng, 2005), adherence to Latino values (Kim, Soliz, Orellana, & Alamilla, 2009), and acculturation strategies for people of African descent (Obasi & Leong, 2010). Compared with the between-groups paradigm, the strengths of the individual differences paradigm include a greater acknowledgment of within-group variability and the direct assessment of cultural variables (Matsumoto & Yoo, 2006). Nevertheless, the individual differences paradigm can also be criticized for treating culture as static, global, and trait-like attributes divorced from context (Hong & Chiu, 2001; Maffini & Wong, 2012; Mendoza-Denton & Mischel, 2007). For example, a person might adhere to individualistic values at work but endorse collectivistic values at home (Schwartz, Unger, Zamboanga, & Szapocznik, 2010), yet this contextual variability is not typically acknowledged in many studies that use Likert-type measures of culture. The importance of context is evident in the findings of a seminal meta-analysis on individualism and collectivism: Oyserman, Coon, and Kemmelmeier (2002) found that country differences in individualism and collectivism varied extensively as a function of the social domain studied in the assessment scales. To illustrate, Japanese were found to be more collectivistic than Americans in their preference for working in a group but were less collectivistic in their sense of belonging to groups.

We contend that counseling psychology research can benefit from recent advancements in cultural psychology, which may represent a third paradigm of research. Increasingly, social psychologists who study culture have advocated for a dynamic view of culture—In this *dynamic paradigm*, culture is conceptualized as open systems that constantly evolves as a function of environmental and social changes (Chiu & Hong, 2005; Hong & Mallorie, 2003; Mendoza-Denton & Mischel, 2007; Oyserman & Lee, 2008a). The dynamic

view acknowledges that people's social and environmental contexts moderate the influences of culture on their lives (Hong & Chiu, 2001; Miller & Lim, 2010). Research within this paradigm mirrors developments in personality psychology which emphasize a shift from conceptualizing personality as traits to a greater focus on situational variability in behavior and attitudes (Mendoza-Denton & Mischel, 2007; Mischel & Shoda, 1995). Moreover, this view of culture may be especially relevant to Asian international students because it dovetails with Asian folk conceptualizations of the self which emphasizes cross-situational variability (Spencer-Rodgers, Williams, & Peng, 2010).

Cultural-psychological research within the dynamic paradigm includes at least two broad categories: In one category of studies, the accessibility of certain cultural constructs is experimentally manipulated through priming (e.g., exposure to cultural icons). In such research, individuals within a cultural group have been shown to display different behaviors, cognitions, and attitudes depending on the cultural primes they received (Hong, Morris, Chiu, & Benet-Martínez, 2000; Oyserman & Lee, 2008b). Another category of studies uses a Person × Context framework to assess whether the influence of culture differs across contexts (e.g., at home vs. in public). A few recent studies demonstrated that ethnically diverse young adults experienced significant variations in their ethnic identities across different interpersonal contexts (Kiang & Fuligni, 2009; Yip, 2009). In the same vein, studies have found that ethnic minority individuals' acculturative strategies varied across contexts (Arends-Tóth & van de Vijver, 2003, 2004; Taylor & Lambert, 1996). In one such study (Arends-Tóth & van de Vijver, 2004), Turkish immigrants in the Netherlands preferred an adherence to Dutch culture in the public domain of their lives but a greater emphasis on maintaining Turkish culture in the private domain of their lives (e.g., child-rearing habits). Nonetheless, we are only aware of one study that has applied a Person × Context cultural framework to examine the link between culture and mental health-related variables. Kiang and Fuligni (2009) found that greater variability in ethnic identity across interpersonal contexts (i.e., parents, same-ethnic peers, and different ethnic peers) was associated with poorer psychological well-being among European American adults, but not among Asian, Filipino, and Latino American young adults. In sum, the Person × Context framework appears to be a relatively unexplored research frontier in the study of culture and mental health.

In this study, we applied a Person × Context cultural framework to the study of Asian international students' depressive symptoms and professional psychological help-seeking attitudes. We adapted the methodology of Kiang and Fuligni (2009) by examining adherence to Asian values in the context of

interactions with three groups of people salient to the lives of Asian international students: family of origin (e.g., parents and siblings), peers from one's country of origin, and American peers. We focused on family members because in Asian cultures, the family is often viewed as the primary source of socialization into one's ethnic culture (Shin & Wong, in press; Yee, DeBaryshe, Yuen, Kim, & McCubbin, 2007). We also included peers from one's country of origin and American peers because these are two groups of individuals that Asian international students may come into contact with on a frequent basis (Tsai & Wong, 2012; Wang, Lin, Pang, & Shen, 2007). We focused on peers from one's country of origin rather than from Asian countries in general because international students are much more likely to have interacted with peers from their own country who share the same native language than with peers from other Asian countries. Collectively, these three contexts enabled us to conceptualize contextual variability in adherence to Asian values in two different ways: (a) adherence to Asian values while interacting with family members versus nonfamily members (combining peers from one's country of origin and American peers) and (b) adherence to Asian values while interacting with members of one's country of origin (combining family members and peers from one's country of origin) versus Americans.

Application of a Person × Context Framework

Although there are multiple dimensions of Asian values—including emotional self-control, humility, collectivism, conformity to norms, and family recognition through achievement (Kim et al., 2005)—we focused particularly on emotional self-control and humility in light of several conceptual, empirical, and methodological reasons. With regard to conceptual and empirical considerations, emotional self-control and humility may be the two dimensions of Asian values most salient to negative help seeking attitudes and poorer mental health. Asian international students who strongly embrace humility might be uncomfortable asserting their needs and may therefore have more negative attitudes toward psychological help seeking because they view psychotherapy as emphasizing self-focus and assertiveness (Yakunina & Weigold, 2011; Yamashiro & Matsuoka, 1997). In the same vein, Asian international students who strongly adhere to the value of emotional self-control may believe that the inhibition of strong emotions is a virtue (Kim & Omizo, 2003). Conversely, they may view the expression of intense emotions in psychotherapy as a sign of personal weakness, and therefore attach a high level of stigma to psychological help seeking (Heggins & Jackson, 2003; Leong & Lau, 2001). Consistent with these notions, one study showed that among five dimensions of Asian values, emotional self-control and humility

were the only values that were significantly and negatively related to Asian Americans' professional psychological help-seeking attitudes (B. S. K. Kim et al., 2005). In another study, emotional self-control was the only dimension among five dimensions of Asian values to be significantly and negatively correlated with attitudes toward seeking professional psychological help (P. Y. Kim & Park, 2009). In contrast, other Asian cultural values, such as collectivism, may have a less negative impact—and possibly, even a positive impact—on shaping attitudes toward seeking psychological help. Shea and Yeh (2008) found that relational-interdependent self-construal (a construct conceptually related to collectivism) was positively associated with psychological help seeking attitudes among Asian American college students, possibly because such a self-construal might foster respect for and affinity toward counselors.

In identifying the Asian cultural values most relevant to mental health outcomes, we were guided by the cultural conflict hypothesis, which posits that a strong adherence to one's heritage cultural values is stressful when these values are incongruent with the values dominant in a society (Caldwell-Harris & Ayçiçegi, 2006; Ward & Chang, 1997). Although several dimensions of Asian values (e.g., conformity to norms) conflict with dominant European American values, adherence to emotional self-control and humility may inflict the greatest psychological cost for Asian international students living in the United States. Because these values emphasize self-effacement, they directly conflict with the dominant European American values of assertiveness and expressiveness (Sue & Zane, 2009; Wong et al., 2012). For instance, Asian international students who strongly adhere to emotional self-control and humility may be negatively viewed by their American peers and professors as unassertive, unapproachable, or emotionless, which may in turn result in an increased sense of alienation and despair. In line with these notions, a recent latent profile analysis of Asian Americans' adherence to Asian values identified a cluster of relatively depressed participants, which included high levels of adherence to emotional self-control and humility (Wong et al., 2012).

Our focus on the cultural dimensions of emotional self-control and humility was also guided by methodological considerations. In this study, we used the Asian American Values Scale–Multidimensional (AAVS-M; B. S. K. Kim et al., 2005), the most widely used measure of adherence to multiple dimensions of Asian values. However, although the AAVS-M has five subscales representing five dimensions of Asian values, the Emotional Self-Control and Humility subscales are the only subscales in which all items are generically worded and applicable to diverse social contexts. All the remaining three subscales contain some items (e.g., references to

community, family, and *society*) that would not be applicable to interactions with certain types of individuals. To illustrate, it might be difficult for participants to respond to items of the Family Recognition Through Achievement subscale (e.g., Academic achievement should be highly valued among family members) in the context of their interactions with their peers.

In addition to focusing on specific dimensions of Asian values, we sought to advance counseling psychology research in several new directions. First, B. S. K. Kim et al. (2005) suggested that given differences in demands across diverse domains of people's lives (e.g., home vs. school), researchers should assess whether adherence to Asian cultural values varies across situational contexts. In light of this recommendation, our study is the first to examine adherence to Asian values across different contexts.

Second, previous studies that examined acculturation and enculturation based on a Person × Context cultural framework focused primarily on main effect cultural differences across contexts (Arends-Tóth & van de Vijver, 2003, 2004; Taylor & Lambert, 1996). In contrast, some scholars have suggested that the influence of culture on other variables is best understood by testing Person × Context interactions rather than main effects (Conway, Schaller, Tweed, & Hallett, 2001). In adopting this interactionist approach, our study's focus was on whether the relationship between emotional self-control and humility and depressive symptoms and help seeking was moderated by interpersonal contexts. In terms of depressive symptoms, Asian international students' adherence to these values may be less problematic when they interact with their families and peers from their own country, given that emotional self-control and humility may be more acceptable and dominant in Asian cultures (B. S. K. Kim, Atkinson, & Umemoto, 2001). Therefore, the link between adherence to these Asian values and depressive symptoms might be relatively weak in the context of interactions with these individuals.

In contrast, the empirical literature is less clear about how ones' relational contexts might moderate the link between emotional self-control and humility and psychological help-seeking attitudes. We tested two alternative hypotheses. The in-group hypothesis proposed that emotional self-control and humility would be more strongly and negatively related to Asian international students' help-seeking attitudes during interactions with in-group members (i.e., family members and people from one's country of origin) than with outgroup members (i.e., nonfamily members and Americans). This hypothesis is premised on the notion that seeking social support from one's in-group is similar to seeking professional psychological help in that both involve personal relationships and an expectation that there will be disclosure of one's needs or problems (H. Kim, Sherman, & Taylor, 2008). Hence,

adherence to Asian values when interacting with in-group members would likely be more relevant to attitudes toward seeking psychological help.

In contrast, the outgroup hypothesis posited that emotional self-control and humility would be more strongly and negatively related to Asian international students' help seeking during interactions with outgroup members (i.e., nonfamily members and Americans) than with in-group members (i.e., family members and people from one's country of origin). This hypothesis is based on the notion that professional help seeking is more closely aligned with Asian international students' outgroup members because psychotherapy may be perceived by Asian international students as a Western-style treatment, which involves sharing information with a stranger (Chen & Lewis, 2011; Li, Wong, & Toth, 2013). For example, an Asian international student who is emotionally open with nonfamily members and with her or his American peers might also have more positive attitudes toward psychological help seeking.

The Current Study

In this study, we followed the example of social-psychological research grounded in the dynamic cultural paradigm (Hong & Chiu, 2001; Hong & Mallorie, 2003) by adopting a between-subject research design. This between-subject research design is also consistent with previous research that examined the relationship between gender-related constructs and well-being across different social contexts (Steinfeldt, Wong, Hagan, Hoag, & Steinfeldt, 2011). In contrast, one methodological limitation of a within-subject design is that when respondents complete repeated measures of culture (e.g., the same measure of ethnic identity across three social contexts; Kiang & Fuligni, 2009), they might believe the researchers expect different responses across contexts and thereby respond based on these expectations. In our study, we randomly assigned participants to complete one of three context-specific versions of the AAVS-M (interactions with family of origin, peers from country of origin, and American peers). Because participants were unaware of the random assignment, we could rule out expectancy effects as a confound contributing to reported differences across contexts.

We tested several hypotheses in this study. In terms of main effects, we hypothesized that Asian international students' adherence to emotional self-control and humility would be positively related to depressive symptoms and negatively related to attitudes toward seeking professional psychological help. With regard to Person × Context interaction effects, we tested the moderating effects of interpersonal contexts. We expected the effects of emotional self-control and humility on depressive symptoms to be weaker

during participants' interactions with family members and members of one's country of origin than with nonfamily members and Americans, respectively. We also tested whether interpersonal contexts moderated the effects of emotional self-control and humility on attitudes toward seeking professional psychological help. The in-group hypothesis proposed that the effects of emotional self-control and humility would be stronger during interactions with family and members from one's country of origin, whereas the outgroup hypothesis predicted the reverse.

Method

Participants and Procedure

The data for this study was collected in conjunction with that of another study which examined the relationship between perfectionism and suicide ideation (Wang, Wong, & Fu, in press). A list of 1,420 Asian international students enrolled at a large public Midwestern university in the United States was obtained from the registrar's office. An initial email was sent to each student to participate in the study, and a reminder email was sent 3 weeks later. Only students who were at least 18 years old were eligible. The participation rate was 33%, resulting in a sample of 465 Asian international students (49.7% female). In terms of country of origin, 52.9% were from China, 14.8% were from India, 8.4% were from South Korea, 6.2% were from Vietnam, and the others were from other Asian countries. Most participants (75.6%) were graduate students; the remaining participants were undergraduates and non-degree-seeking students. Participants' average age was 26.38 (SD = 4.99, range = 18-52). About half of participants (52.9%) were single, and the remaining participants were in dating relationships (22.6%), married (23.4%), or in other relationship statuses (e.g., long distance relationships).

Participants responded to an email request to complete an online survey titled, "Mental Health Risk Factors and Help Seeking Attitude Among Asian International Students." Participants could complete the survey from any computer of their choice and received a US$10 Amazon gift certificate for participating. Using a quasi-experimental design, participants were randomly assigned to one of three conditions—(a) family condition (n = 157), (b) country-of-origin peers condition (n = 152), and (c) American peers condition (n = 156). The three conditions differed only in the wording of the instructions for completing the AAVS-M (see details below). Participants were unaware that other participants had been assigned to different conditions. The online survey was identical for all other measures.

Measures

Emotional Self-Control and Humility. The 42-item AAVS-M (B. S. K. Kim et al., 2005) measures adherence to Asian cultural values common to many Asian ethnic cultures. The AAVS-M was developed using samples of Asian American college students from two large universities. Although the AAVS-M has five subscales, we only used the Emotional Self-Control subscale (e.g., "One should not express strong emotions.") and the Humility subscale (e.g., "One should be able to boast about one's achievements" [reverse-scored]) in this study. Items are rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strong agree*). The Emotional Self-Control and the Humility subscales were found to be negatively associated with a measure of attitudes toward seeking professional psychological help and positively associated with the Self-Construal Scale-Interdependent among Asian American college students (B. S. K. Kim et al., 2005). Kim and colleagues reported coefficient alphas of .80 and .81 and test–retest reliabilities of .92 and .81 for the Emotional Self-Control and Humility subscales, respectively. The instructions for the AAVS-M were modified to incorporate the conditions participants were assigned to. In the family condition, participants received the following instructions.

Please indicate the extent to which you personally adhere to these values when you interact with your FAMILY OF ORIGIN (e.g., parents, brothers, and sisters). For example, if you strongly adhere to these values, click on "Strongly Agree." If you do not adhere to these values at all, click on "Strongly Disagree."

Participants in the country-of-origin peers condition received similar instructions, except that they were told to focus on the values they adhered to when interacting with "PEERS FROM YOUR COUNTRY OF ORIGIN (e.g., friends, classmates in home country and United States)." Our instructions clarified that peers from their country of origin could either be residing in participants' home country or in the United States. Our instructions for the American peers condition were similar, except that they were told to focus on the values they adhered to when interacting with "AMERICAN PEERS (e.g., friends, classmates)." Despite the differences in instructions, the wording of the items in the Emotional Self-Control and Humility subscales was identical across all conditions. Exploratory and confirmatory factor analyses (CFA) resulted in the deletion of three items from the eight-item Emotional Self-Control subscale and two items from the six-item Humility subscale (see the section "Preliminary Results" below). Our revised Emotional Self-Control subscale ($r = .89$, $p < .001$) and Humility subscale ($r = .88$, $p < .001$) were strongly correlated with their respective original subscales. The coefficient

alphas for this study were .70 for the 5-item Emotional Self-Control subscale and .72 for the 4-item Humility subscale.

Depressive Symptoms. The 11-item version of the Center for Epidemiological Studies Depression scale (CES-D; Kohout, Berkman, Evans, & Cornoni-Huntley, 1993) assesses depressive symptoms during the past week. A sample item is "I felt depressed." Response options range from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). Item scores were summed such that high scores represented greater depressive symptoms. Although the 11-item CES-D has not been used with Asian international students, we used it because of its brevity and its validity evidence with other minority groups. The 11-item CES-D was shown to have positive associations with perceived general stress among Asian American college students (Wei, Heppner, Ku, & Liao, 2010) and with less adaptive forms of coping with discrimination (e.g., detachment) among racial minority college students (Wei, Alvarez, Ku, Russell, & Bonett, 2010). Suthers, Gatz, and Fiske (2004) adopted a clinical cutoff score of 9 for the 11-item CES-D. The mean score (10.19) in our study is above this cutoff score and is remarkably similar to that found in a previous study that used the 20-item CES-D with South Asian international college students ($M = 18.7$ or $M = 10.29$ when rescaled for equivalency to the 11-item CES-D).The coefficient alpha was .85 in Wei, Heppner et al.'s (2010) study and .86 in our study.

Attitude Toward Seeking Professional Psychological Help. We used the 10-item Attitudes Toward Seeking Professional Psychological Help Scale–Short Form (ATSPPH-SF; Fischer & Farina, 1995) to assess attitudes toward seeking professional psychological help. Items are rated on a 4-point scale from 1 (*disagree*) to 4 (*agree*). A sample item is "I might want to have psychological counseling in the future." Item scores were summed such that high scores reflected positive attitudes toward seeking professional psychological help. The ATSPPH-SF was shown to be positively related to a measure of intention to seek counseling among Asian international students (Yakunina & Weigold, 2011). The coefficient alpha was .75 in this study.

Results

Preliminary Results

With regard to missing data, 6 participants had 14 missing items, 9 participants had 2 to 3 missing items, and 43 participants had 1 missing item. Participants' number of missing items did not significantly correlate with any

of the study variables, $p < .05$. Thus, these missing values at the item level were replaced using the expectation-maximization method before subscale and scale scores were computed.

Factor Analyses. Given our modification to the AAVS-M instructions (participants responded to Asian values in the context of specific social interactions), we did not assume that the original factor structure of the AAVS-M identified by B. S. K. Kim et al. (2005) would apply to our study. Therefore, we tested the factor structure of the Emotional Self-Control and Humility subscales. The sample was randomly split into half. An exploratory factor analysis (EFA) was conducted on the 14 items of the two subscales using one half of the sample ($n = 232$). Using promax rotation, the scree plot suggested a clear "elbow" after the first two factors, indicating a 2-factor solution. Using the criteria of factor loading of at least .40 on only one factor and items that fit conceptually with the hypothesized factor (Tabachnick & Fidell, 2007), we selected five items that loaded on the factor for Emotional Self-Control and four items that loaded on the factor for Humility. We conducted another EFA on these nine items. All nine items had factor loadings of at least .40 on only one factor. The first factor (25.40% of variance) and the second factor (18.60%) consisted of items related to Humility and Emotional Self-Control, respectively. We conducted a CFA with the other half of the sample ($n = 233$) to cross-validate the factor structure based on the EFA results. Results indicated an adequate fit (comparative fit index [CFI] = .942, root mean square error of approximation [RMSEA] = .057, standardized root mean residual [SRMR] = .053) based on guidelines for model fit (Weston & Gore, 2006).

Next, to address any potential concern that the items in the AAVS-M reflect East Asian values that are less salient to other Asian cultures (B. S. K. Kim et al., 2001), we conducted a multiple-group CFA to examine measurement and structural invariance between East Asian (Chinese, Taiwanese, Korean, and Japanese) and non-East Asian participants. To obtain a 5:1 cases/parameters ratio for each group (Kline, 2005), we conducted the multiple-group CFA using the full sample, so that there were 150 non-East Asians while estimating 28 parameters. The multiple-group CFA was conducted using a forward (sequential constraint imposition) approach based on Dimitrov's (2010) guidelines. The first step involved establishing configural invariance by examining models for each group separately. Results indicated a good fit for both groups—East Asians: $\chi^2(26, n = 315) = 54.12$, $p < .01$, CFI = .935, RMSEA = .059, SRMR = .040; non-East Asians: $\chi^2(26, n = 150) = 25.31$, $p = .501$, CFI = 1.00, RMSEA = .000, SRMR = .048. Measurement invariance was examined next, which involved testing for metric invariance (i.e., equal factor loading across groups), scalar invariance

(i.e., equal item intercepts across groups), and invariance of item uniqueness (i.e., equal item error variances/covariances across groups). Nested models were compared using chi-square difference tests. In Model 0 (M0), no parameters were constrained to be equal across time points. Factor loadings were constrained to be equal across groups in Model 1 (M1). A nonsignificant $\Delta\chi^2$ difference between M1 and M0, $\chi^2(7)$, = 11.76, p = .11, indicated metric invariance. Both factor loadings and item intercepts were constrained to be equal across time points in Model 2 (M2). The $\Delta\chi^2$ between M2 and M1 was nonsignificant, $\chi^2(6)$, = 10.32, p = .11, after freeing one item (M2p), which indicated that the intercepts were partially invariant across the two groups. Model 3 (M3) added constraints on residual item variances/covariances to be equal across time points. The significant $\Delta\chi^2$ difference between M3 and M2p, $\chi^2(9)$, = 67.11, p < .001, indicated that item error variances/covariances were not invariant across groups.

Testing structural invariance was the last step where constraints were added to factor variances and covariances across the two groups in Model 4 (M4). The $\Delta\chi^2$ difference between M4 and M2p was nonsignificant, $\chi^2(3)$, = 4.33, p = .23, supporting structural invariance between the two groups. Overall, partially strong measurement invariance was supported (metric and partial scalar invariance) along with structural invariance based on Dimitrov's (2010) guidelines. Hence, we used the five-item Emotional Self-Control subscale and the four-item Humility subscale for all our subsequent analyses.

Comparisons Across Conditions and Intercorrelations. A MANOVA revealed that overall, the three conditions did not differ significantly in Emotional Self-Control and Humility scores, Wilks' λ = .99, $F(4, 922)$ = .76, p = .551, η_p^2 = 0.003. Post hoc Tukey tests at the univariate level comparing each condition with the other two conditions also showed that participants across the three conditions did not report significantly different Emotional Self-Control and Humility scores, p > .05.

Next, we examined whether three demographic variables—gender, number of years participants lived in the United States, and relationship status (single vs. partnered)—were related to the main measures in our study (Emotional Self-Control, Humility, CES-D, and ATSPPH-SF). Number of years in the United States and relationship status were not significantly related to any of the main measures (p > .05). However, women were significantly more likely than men to report lower Emotion Self-Control scores and higher ATSPPH-SF scores. Therefore, gender was included as a covariate in our main analyses. The means, standard deviations, and intercorrelations of gender and our main measures are provided in Table 1.

Table 1. Means, Standard Deviations, and Intercorrelations of the Main Measures (*N* = 465).

Measure	*M*	*SD*	1	2	3	4	5
1. Gender	—	—	—	−.15**	−.03	.14**	.02
2. Emotional Self-Control	4.10	1.01		—	−.13**	−.20**	.07
3. Humility	3.78	1.01			—	−.12*	.08
4. ATSPPH-SF	25.77	4.96				—	−.06
5. CES-D	10.19	5.89					—

Note: ATSPPH-SF = Attitudes Toward Seeking Professional Psychological Help Scale–Short Form; CES-D = Center for Epidemiological Studies Depression Scale; Humility = Humility subscale of the Asian American Values Scale–Multidimensional (AAVS-M); Emotional Self-Control = Emotional Self-Control subscale of the AAVS-M; gender: 0 = male, 1 = female.
*p < .05. **p < .01.

Main Results

We used two hierarchical regression models to test our hypotheses (see Table 2). The outcome measures were CES-D and ATSPPH-SF. Condition was dummy coded in two ways—family condition (1 = family condition, 0 = nonfamily conditions) and country-of-origin conditions (1 = family and country-of-origin peers conditions, 0 = American peer condition). At Step 1, gender, Emotional Self-Control, Humility, family condition, and country-of-origin conditions were entered into the regression model. At Step 2, the moderation effects between Emotional Self-Control and Humility on one hand, and the family and country-of-origin conditions on the other hand, were entered. We standardized the predictors as *z*-scores to reduce multicollinearity (Frazier, Tix, & Barron, 2004). Across both regression models, the highest Variance Inflation Factor score was 1.52, providing no evidence of multicollinearity.

At Step 1, the regression model predicting CES-D was not significant. Contrary to our hypothesis, the relationships between Emotional Self-Control and CES-D as well as Humility and CES-D were not significant. At Step 2, the moderation effects contributed a significant but small 2% incremental variance in predicting CES-D. Only one small moderation effect—Humility × Family Condition—was significant. To examine the nature of this significant moderation effect, we used an SPSS macro to test the relationship between the predictor and outcome at different levels of the moderator (Hayes & Matthes, 2009). Supporting our hypothesis, Humility was positively and significantly associated with CES-D in the nonfamily conditions, $B = 1.24$, $SE = .37$, $p < .001$. However, in the family condition, Humility was not significantly

Table 2. Hierarchical Multiple Regression Models (N = 465).

Measure	CES-D				ATSPPH-SF			
	B	SE	β	sr^2	B	SE	β	sr^2
Step 1								
Gender	.22	.28	.04	.00	.50	.23	.10	.01
Humility	.53	.28	.09*	.01	−.67	.23	−.13***	.02
Self-Control	.51	.28	.09*	.01	−1.0	.23	−.20***	.04
COO Condition	.24	.32	.04	.00	−.36	.26	−.07	.00
Family Condition	−.21	.32	−.04	.00	.39	.26	.08	.00
R^2	.02				.08***			
Step 2								
Self-Control × COO Conditions	−.003	.33	−.001	.00	−.63	.27	−.13**	.01
Self-Control × Family Condition	−.42	.32	−.08	.00	.28	.26	.06	.00
Humility × COO Conditions	.31	.32	.05	.00	−.33	.26	−.07	.00
Humility × Family Condition	−.89	.33	−.15***	.02	.65	.27	.13**	.01
R^2 (ΔR^2)	.04** (.02)**				.10*** (.02)**			

Note: CES-D = Center for Epidemiological Studies Depression scale; ATSPPH-SF = Attitudes Toward Seeking Professional Psychological Help Scale–Short Form; Humility = Humility subscale of the Asian American Values Scale–Multidimensional (AAVS-M); Self-Control = Emotional Self-Control subscale of the AAVS-M; COO conditions: 1 = family and country-of-origin peers conditions; 0 = American peers condition; family condition: 1 = family condition; 0 = country-of-origin peers and American peers conditions.
* p < .10. ** p < .05. *** p < .01.

related to CES-D, B = −.63, SE = .53, p = .233 (see Figure 1). The practical significance of this moderation effect can be illustrated by examining the CES-D scores of participants at the 10th percentile of Humility scores (score of 2.50). Our regression model predicted that participants in the nonfamily conditions with a Humility score of 2.50 had a CES-D score of 8.73, which is below the CES-D clinical cutoff score of 9. In contrast, participants in the family condition with an identical Humility score had a CES-D score of 10.77, which is a clinically significant level of depressive symptoms.

Collectively, the predictors were significantly associated with ATSPPH-SF at Step 1. Consistent with our hypothesis, Emotional Self-Control and Humility were each significantly and negatively associated with ATSPPH-SF. At Step 2, the moderation effects contributed a significant but small 2% additional variance in predicting ATSPPH-SF. There were two significant, small moderation effects—Emotional Self-Control × Country-of-Origin conditions and Humility × Family Condition. In the American peers condition, Emotional Self-Control was not significantly related to ATSPPH-SF, B = −.18, SE = .44, p = .676. However, in the country-of-origin conditions, Emotional Self-control was significantly and negatively related to ATSPPH-SF, B = −1.52, SE = .30, p < .001 (see Figure 2). These findings support the in-group
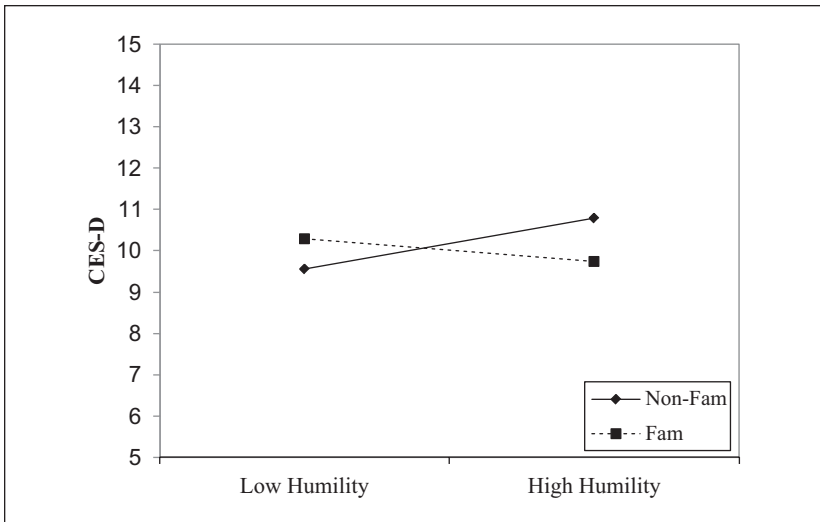
Figure 1. Relationship between Humility and CES-D in the family condition versus nonfamily conditions.
Note: CES-D = Center for Epidemiological Studies Depression scale; Humility = Humility subscale of the Asian American Values Scale–Multidimensional; Fam = family condition; Non-Fam = country-of-origin peers and American peers conditions.

hypothesis. In contrast, the Humility × Family Condition moderation effect provide support for the outgroup hypothesis: In the nonfamily conditions, Humility was significantly and negatively related to ATSPPH-SF, $B = -1.10$, $SE = .30$, $p < .001$. However, in the family condition, Humility was not significantly related to ATSPPH-SF, $B = .26$, $SE = .43$, $p = .542$ (see Figure 3).

Discussion

Guided by a Person × Context cultural framework, we tested the relationship between Asian international students' adherence to the cultural values of emotional self-control and humility and depressive symptoms and professional psychological help-seeking attitudes across three interpersonal contexts: family of origin, peers from one's country of origin, and American peers. Supporting previous research findings (B. S. K. Kim et al., 2005; P. Y. Kim & Park, 2009) and our main effect hypothesis, we demonstrated that Asian international students who strongly adhered to emotional self-control and humility tended to have negative attitudes toward seeking professional psychological help. Asian international students who strongly believed in the importance of emotional self-restraint may view the expression of intense
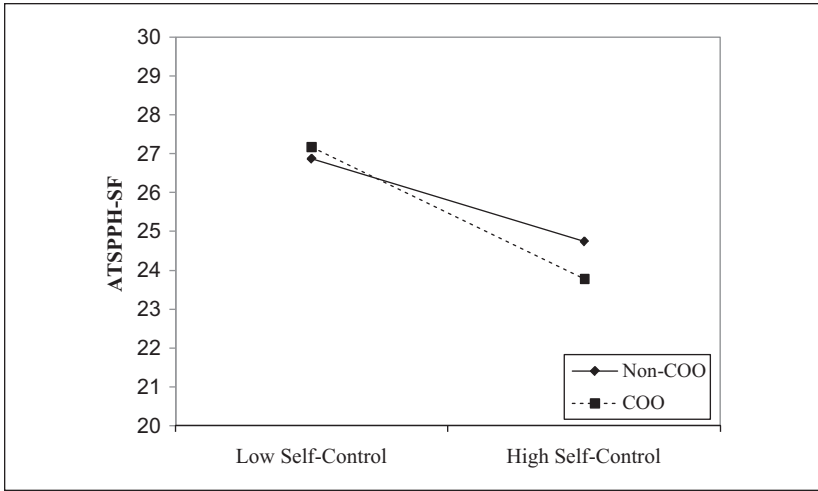
Figure 2. Relationship between Emotional Self-Control and ATSPPH-SF in the country-of-origin conditions versus American condition.
Note: ATSPPH-SF = Attitudes Toward Seeking Professional Psychological Help Scale–Short Form; Self-Control = Emotional Self-Control subscale of the Asian American Values Scale–Multidimensional; COO = family and country-of-origin peers conditions; Non-COO = American peers condition.
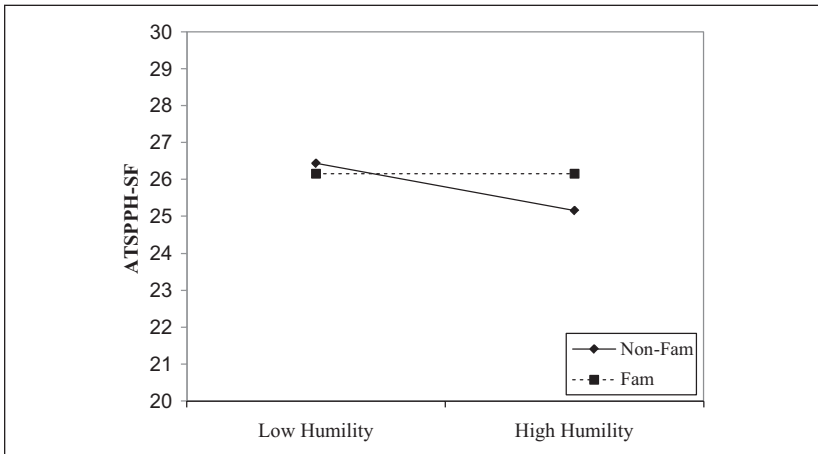

Figure 3. Relationship between Humility and ATSPPH-SF in the family condition versus nonfamily conditions.
Note: ATSPPH-SF = Attitudes Toward Seeking Professional Psychological Help Scale–Short Form; Humility = Humility subscale of the Asian American Values Scale–Multidimensional; Fam = family condition; Non-Fam = country-of-origin peers and American peers conditions.

emotions in psychotherapy as evidence of personal weakness, and therefore attach a high level of stigma to psychological help seeking (Heggins & Jackson, 2003; Leong & Lau, 2001; B. S. K. Kim & Omizo, 2003). Similarly, Asian international students who strongly adhere to the cultural value of humility might be uncomfortable asserting their needs and may therefore have more negative attitudes toward seeking psychological help because of a perception that psychotherapy encourages a focus on the self (Yakunina & Weigold, 2011; Yamashiro & Matsuoka, 1997). In contrast, we found that the relationships between emotional self-control and depressive symptoms as well as between humility and depressive symptoms were not significant. These findings suggest that the relationship between emotional self-control and humility and mental health are best understood at the level of interaction effects rather than main effects.

In regard to interaction effects, we found, as hypothesized, that participants' adherence to humility during their interactions with nonfamily members (i.e., peers) was significantly and positively associated with depressive symptoms. However, participants' adherence to humility while interacting with their families of origin was not significantly associated with depressive symptoms. When interacting with one's peers, humility may be relatively more problematic for Asian international students because it may inhibit assertiveness and opportunities for their abilities and needs to be recognized by their peers. However, when Asian international students interact with their families of origin, humility may be less problematic. Within Asian families, humility may facilitate the expression of respect for one's parents and older siblings, which, in turn, contributes to harmonious family relationships (Chao & Tseng, 2002).

Asian international students' adherence to emotional self-control was significantly and negatively related to help-seeking attitudes only during interactions with members of their country of origin, but not during interactions with American peers. This finding supports the in-group hypothesis which proposed that adherence to Asian values during interactions with in-group members (e.g., members from their countries of origin) would be more strongly related to psychological help-seeking attitudes. Seeking social support from one's in-group bears some similarities to seeking psychological help in that both involve personal relationships and an expectation that there will be disclosure of one's personal needs or problems (H. Kim et al., 2008). Hence, Asian international students who are emotionally self-controlled when interacting with their in-group members may also be more reluctant to seek psychological help.

In contrast, participants' adherence to humility was significantly and negatively related to help-seeking attitudes only during their interactions

with nonfamily members but not during interactions with their families of origin. This finding supports the outgroup hypothesis, which predicted that adherence to Asian values during their interactions with outgroup members (e.g., nonfamily members) would be more strongly related to psychological help-seeking attitudes. Perhaps Asian international students may perceive psychotherapy as seeking help from an outgroup member, given that a therapist is typically someone with whom a client is not previously acquainted (Li et al., 2013).

It is interesting that the moderation effect for emotional self-control supported the in-group hypothesis, whereas the moderation effect for humility was consistent with the outgroup hypothesis. The in-group hypothesis focused more on similarities in the content of what is typically shared with in-group members and in psychological help seeking (H. Kim et al., 2008), whereas the outgroup hypothesis emphasized similarities between outgroup members and therapists (Li et al., 2013). Perhaps our findings reflect conceptual differences between the cultural values of emotional self-control and humility—Emotional self-control may be more closely aligned with the content of what is self-disclosed in interpersonal relationships, whereas humility may be relevant to the types of people to whom one self-discloses.

It is also noteworthy that participants did not differ significantly in their mean levels of adherence to emotional self-control and humility across the three interpersonal contexts assessed in this study. Rather, differences arose only when assessing the role of interpersonal contexts in moderating the link between emotional self-control and humility and depressive symptoms and psychological help-seeking attitudes. Overall, these findings attest to the contributions of a dynamic conceptualization of culture that emphasizes Person × Context interaction effects (Conway et al., 2001).

Contributions to Counseling Psychology Research

Our study contributes to counseling psychology research by being the first to examine whether the associations between adherence to cultural values and mental health-related variables differ across diverse contexts (e.g., peers vs. family of origin). Our findings may have research implications that extend beyond the psychological study of Asian internationals and Asian Americans. The individual differences paradigm is currently the dominant paradigm in multicultural counseling psychology research. Research within this paradigm typically involves the use of Likert-type self-report measures to assess individual variability on a multicultural variable and then examine the relationship between this variable and other psychosocial outcomes (e.g., mental health outcomes). Examples include research on Latino cultural values

(B. S. K. Kim et al., 2009), conformity to masculine norms (Mahalik et al., 2003), lesbian internalized homophobia (Szymanski & Chung, 2001), and feminist identity development (Moradi & Subich, 2002). In our view, social psychologists' criticism of research that assesses cultural variables as global, trait-like attributes (Hong & Chiu, 2001; Mendoza-Denton & Mischel, 2007) may also be relevant to other areas of multicultural research. Put differently, counseling psychology multicultural research can benefit from conceptualizations and research designs grounded in the Person × Context framework (Chiu & Hong, 2005; Conway et al., 2001; Hong & Mallorie, 2003). For example, counseling psychology researchers can test whether people's adherence to Latino cultural values, conformity to masculine norms, feminist identity, and lesbian internalized homophobia are associated with maladaptive or adaptive outcomes in one social context but not in another. In sum, we propose that the Person × Context framework may represent a promising frontier for future multicultural counseling psychology research.

Limitations and Future Directions

Several limitations in our study should be noted. First, although we examined three interpersonal contexts, there are other social contexts we could have assessed. For example, future research could investigate whether the link between cultural variables and mental health-related outcomes differ across interactions with friends, partners/spouses, and strangers.

Second, our overall model of predictors—and more specifically, the Person × Context interaction effects—accounted for only a small proportion of variance in depressive symptoms and psychological help-seeking attitudes. As shown in Figures 1 to 3, there were only small differences in depressive symptoms and help-seeking attitudes across social contexts among participants with high and low levels of adherence to humility and emotional self-control. Nevertheless, this limitation needs to be interpreted in light of research suggesting that interaction effects (including those reported in counseling psychology research) tend to be small and are generally difficult to detect because of inherent problems with measurement error (Frazier et al., 2004). Accordingly, several scholars have argued that even small effects associated with moderation effects (e.g., 1% of the total variance) can be considered meaningful (Aguinis, Beaty, Boik, & Pierce, 2005; McClelland & Judd, 1993). In our study, the practical significance of our effect sizes can be illustrated by examining participants with low Humility scores (10th percentile of AAVS-M Humility scores). According to our regression model, participants with low Humility scores had depressive symptoms below the clinical cutoff score in the nonfamily conditions,

but had clinically significant depressive symptoms in the family condition. These findings suggest that although the differences in depressive symptoms across interpersonal contexts were relatively small, they were not trivial.

Third, gender was the only covariate in our analyses; future studies can include other covariates such as family cohesion and social support, which may be associated with emotional self-control, humility, depression, and help seeking. Fourth, in examining the relationship between culture and mental health-related outcomes, we focused only on adherence to two Asian cultural values. Future Person × Context research can broaden the range of cultural variables to assess. Nevertheless, one potential methodological limitation in Person × Context research on cultural values is that the items in many measures of cultural values are not generically worded in such a way that enables application to diverse social contexts. Apart from the Emotional Self-Control and Humility subscales, the remaining three subscales of the AAVS-M contain some items that would not make sense if applied to a specific context. Therefore, an important next step in Person × Context cultural research would be for researchers to develop and adapt measures of cultural values that can be applied across different social contexts.

Finally, by randomly assigning participants to one of three conditions representing an interpersonal context, we could not assess within-person differences in interpersonal contexts. The alternation model of biculturalism posits that bicultural individuals who can alter their attitudes to fit a particular social context tend to be psychologically healthy (LaFromboise, Coleman, & Gerton, 1993). Researchers can test this hypothesis by utilizing a within-subject repeated measures design to examine whether intrapersonal differences in adherence to cultural values across contexts are related to mental health outcomes (Kiang & Fuligni, 2009).

Clinical Implications

Our findings include several clinical implications, which we present with caution, given the small effect sizes found in our study. Asian international students who strongly adhere to the Asian cultural values of emotional self-control and humility may have more negative attitudes toward professional psychological help seeking because they may perceive that counseling involves a strong focus on expressing one's feelings and needs. To address these concerns, clinicians can conduct culturally sensitive outreach programs for Asian international students (Li et al., 2013). Such programs may include psychoeducation to explain that counseling can be conducted in different ways, and it need not involve a primary focus on expressing emotions.

Furthermore, several scholars have encouraged clinicians who work with clients of Asian descent to assess to their clients' levels of adherence to Asian values because these values may be related to their presenting concerns, mental health, and help-seeking attitudes (B. S. K. Kim et al., 2001; Miller & Lim, 2010; Wong, Tran, Kim, Van Horn Kerne, & Calfa, 2010). We echo these sentiments with the added recommendation that any assessment of cultural values could take into account the social context within which these values are expressed (Miller & Lim, 2010). For instance, clinicians could explicitly ask, "To what extent is your expression of this cultural value similar or different when you're interacting with your parents compared to your colleagues?" Clinicians may also need to guard against assuming that having a set of consistent values across multiple contexts is necessarily a sign of psychological health (Spencer-Rodgers et al., 2010). Instead, they could be attuned to the possibility—as our findings to suggest—that their clients' adherence to Asian values may be maladaptive in one context (e.g., with one's peers) but not so in another (e.g., with one's family of origin). Overall, our findings underscore the value of a Person × Context framework for conceptualizing the role of culture in individuals' lives.

Declaration of Conflicting Interests

Funding

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