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College Students

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Abstract

Past research has established that appropriate, successful use of both primary and secondary control is associated with fewer symptoms of anxiety in Whites, but there has been less research on the nature of this relationship in Latinos and Asian Americans. This study investigated how Latinos and Asian Americans differ in their use of primary and secondary control as well as how these differences are related to symptoms of social anxiety. The sample consisted of 142 Latino and 446 Asian American undergraduate students, who completed an online survey (e.g., measures assessing demographics, control, anxiety). Consistent with hypotheses, results showed that Latinos engaged in primary control to a greater extent than Asian Americans did, but Asian Americans tended to use secondary control to a greater extent than Latinos. As expected, Asian Americans scored higher on measures of social anxiety than Latinos, which may potentially be related to the importance of “face” in Asian culture. Results did not support the hypothesis that this difference in levels of social anxiety could be explained by ethnic differences in primary or secondary control. In both ethnic groups, less social anxiety was associated with higher usage of primary control, rather than secondary control. Future research should investigate the importance of primary control in lessening social anxiety as well as the influence of face loss concerns as an alternative explanatory factor.

The Effect of Primary and Secondary Control on Social Anxiety in Latino and Asian American College Students

Primary and secondary control are both forms of engagement coping, or methods of directly managing a stressor. The former entails actively changing a stressful situation (e.g., active coping), whereas the latter is a method of handling the stress by adjusting to the situation, to lessen distress (Rothbaum, Weisz, & Snyder, 1982). There has been much research done on the relationship between the successful use of primary and secondary control and symptoms of anxiety. Researchers have established that the usage of primary and secondary control is associated with fewer symptoms of anxiety in White students (Calvete, Camara, Estevez, & Villardón, 2011; Connor-Smith & Compas, 2002). These White Americans generally rely on primary control; Asians tend to value secondary control more than they do (Weisz, Rothbaum, & Blackburn, 1984). This distinction may be significant in explaining why Asian Americans consistently score higher on measures of social anxiety than other groups (Lee, Okazaki, & Yoo, 2006; Mak, Law, & Teng, 2011; Okazaki, 1997; Okazaki, Liu, Longworth, & Minn, 2002). However, there has been less focus on how primary and secondary control coping relate to symptoms of anxiety in individuals of different ethnic groups, which may be important in establishing the existence of differences in rates of social anxiety. As such, this study compared the relationship between primary and secondary control and social anxiety in Asian Americans and Latinos.

In the literature, active coping is often referred to as an example of primary control (in which one alters the situation itself; Gloria, Castellanos, & Orozco, 2005), whereas secondary control involves a focus on adapting one's mindset to be more equipped to handle a stressful situation (Rothbaum et al., 1982). For example, if one is faced with an unalterable situation, then

adjusting one's expectations may aid in lessening future disappointment; this is predictive control, a form of secondary control (Rothbaum et al., 1982). An alternative method of coping is vicarious control, which refers to aligning oneself with more powerful parties—ones who appear to have more control—an action that may entail submission to others. Another type of secondary control is illusory control, emphasizing the role of luck and chance (e.g., negative events result from bad luck). Finally, interpretive control results from predictive, illusory, and vicarious control and involves trying to understand why uncontrollable events occur, ideally leading to acceptance of them. For example, understanding why the September 11th terrorist attacks occurred and reinterpreting one's personal risk in a positive, realistic light has been associated with reduced distress (Thompson et al., 2006).

Another term for primary control is problem-focused coping (Carver, Scheier, & Weintraub, 1989). Those who define problem-focused coping in this way use the term 'emotion-focused coping' to signify secondary control. However, some researchers use the term 'problem-focused coping' to encompass both primary and secondary control (Bardi & Guerra, 2011; Gloria, Castellanos, Scull, & Villegas, 2009), whereas emotion-focused coping should be grouped with avoidant coping (e.g., denial, venting of emotions, behavioral disengagement). Unsurprisingly, such researchers did not find cultural differences in problem-focused coping (Bardi & Guerra, 2011). Thus, for the purposes of the present research, the former operationalization (in which problem-focused coping does not include secondary control) is more appropriate.

The distinction between primary and secondary control is important to understand because it has implications for one's ability to cope with stressors. Zea, Jarama, and Bianchi (1995) discusses how Latino and Asian cultures are both collectivist, meaning that they

emphasize the needs of the group over those of the individual. Individualist cultures, in contrast, value independence and the needs of the individual over those of the ingroup, along with an emphasis on personal autonomy (Oyserman, Coon, & Kemmelmeier, 2002). The distinction between collectivist and individualist cultures is necessary because of the values associated with the former, such as personal interdependence, empathy, and a willingness to sacrifice personal needs for the benefit of the ingroup. As such, nurturing interpersonal relationships are valued, which is in stark contrast to the confrontational and superordinated relationships that are valued in individualist societies (Marín & Marín, 1991).

Regardless of the collectivist nature of Latino and Asian cultures, they may differ in coping styles. The present study addressed the dearth of research comparing Latino and Asian Americans in this regard. The research literature is unclear about the extent to which participants of Asian or Latino heritage use primary control in comparison to secondary control. Research on ethnic differences in coping strategies may illuminate ethnic differences in anxiety as well. It has implications for one's ability to cope with stressors, which is intrinsically connected to anxiety.

Using both primary and secondary control is beneficial in reducing anxiety in general (Calvete et al., 2011). In fact, Heckhausen and Schulz (1995) theorize that primary control is universally necessary. As mentioned previously, White Americans tend to use primary control, with some contextual exceptions (Morling, Kitayama, & Miyamoto, 2003). Asian populations similarly engage in primary control. For example, Zea and colleagues (1995) found that Asian American students used active coping when adapting to college, and it was more effective than adjusting one's beliefs (i.e., secondary control). Furthermore, there is much research explicating how Latinos use primary control to cope with stressors (Edwards & Romero, 2008; Vázquez & García-Vázquez, 1995). Thus, this style of coping can be more adaptive, in certain cases. The

effectiveness of primary and secondary control strategies is dependent on the context of the situation and one's cultural background (Deardorff, Gonzales, & Sandler, 2003).

Thompson et al. (2006) demonstrated how context could be highly influential in the perceived effectiveness of primary control; actively working to reduce one's risk of becoming a victim of a terrorist attack in the future was not particularly beneficial in lessening anxiety. Thus, although primary control generally reduces anxiety, it can be associated with more distress as well, especially when circumstances are uncontrollable.

As mentioned previously, Asian Americans tend to value secondary control rather highly, using it more frequently than Whites (Azuma, 1984; Lam & Zane, 2004; Morling et al., 2003; Weisz, et al., 1984). This may point to the importance of yielding to others, whether to save face (the need to avoid shame and embarrassment in front of others), to display one's self-control, or to show empathy (Azuma, 1984). Additionally, the pressure to respect one's elders or to maintain group (or interpersonal) harmony may also apply in that actively modifying a situation could negatively affect others in some way (Lam & Zane, 2004; Spector, Sanchez, Siu, Salgado, & Ma, 2004). All of these culturally influenced motivations may explain why one would be inclined to defer to others, rather than actively attempting to change one's circumstances.

Despite the collectivist nature of Latino culture, this ethnic group appears to be more similar to White Americans than Asian Americans in terms of coping strategies (Edwards & Romero, 2008; Vázquez & García-Vázquez, 1995). Zea et al. (1995) suggested that the culture of Latinos differs from that of Asians in that the former places a greater emphasis on the individual. For instance, there are several studies documenting Latinos' tendency to rely on active coping (Gloria et al., 2005; Zea et al., 1995). Research has also revealed that active coping is associated with greater physical health in a Latino population (Vaughn & Roesch, 2003). Researchers have

found that Latinos used primary control to mitigate the effects of acculturative (referring to the stress experienced by an individual during the process of adapting the behaviors and values of another culture) and discrimination stress (i.e., feeling discriminated against based on ethnicity; Edwards & Romero, 2008; Vázquez & García-Vázquez, 1995). Such methods of coping (i.e., taking a planned action) were correlated with greater psychological well-being and higher levels of cultural congruity in Latina students (Gloria et al., 2005). Additionally, Freeberg and Stein (1996) found that Mexican Americans reported higher levels of striving for self-sufficiency than Whites, which might point to a preference for primary control coping. This might explain the prevalence of active coping strategies among Latino individuals and the paucity of relevant research on secondary control strategies.

Thus, although Latino and Asian cultures are both collectivist, there may be differences in how these values are expressed. It is necessary to recognize these ethnic differences in order to aid members of Latino and Asian cultures in improving their control strategies. As such, understanding these cultural differences may have implications for therapy (Weisz et al., 1984), as well as for researchers investigating the motives of individuals of these cultures.

Some researchers suggest that the Latino cultural value of *simpatia* (referring to the importance of empathizing with others and being agreeable, even to one's detriment) may be related to a lower sense of primary control (Varela et al., 2004). That is, one may be reluctant to use primary control because it could interfere with a need to please others. Similarly, the value of familism (encompassing familial support, familial honor, familial interconnectedness, and subjugation of the self), which was associated with feeling obligated to avoid conflict, may be inconsistent with primary control as well (Freeberg & Stein, 1996; Steidel & Contreras, 2003).

Implicit in this Latino cultural value is the attitude that one should sacrifice one's own needs for the benefit of the family.

Along with these cultural values, it is evident that Latinos use and benefit psychologically from secondary control strategies (e.g., positive reinterpretation and acceptance; Vaughn & Roesch, 2003). For example, Latinos often seem to use religion as a form of coping, which can be considered a form of secondary control—particularly vicarious control—for the purposes of this research (Vaughn & Roesch, 2003).

Unfortunately, none of this research centers on how Latinos use control strategies to cope with social stressors specifically—an issue that should be addressed. Nonetheless, it is clear that Latinos have cultural values that may encourage them to engage in secondary control, just as Asian Americans do. The extent to which Latinos rely on secondary control, particularly in comparison to primary control, remains unknown. However, it seems likely that Latinos rely on secondary control to a lesser extent than Asian Americans do.

Comparing how Latinos and Asian Americans cope with social stressors is relevant to differences in perceived anxiety. Asians show higher levels of perceived stress than other ethnic groups (O'Connor & Shimizu, 2002). Furthermore, Asian Americans consistently score higher on measures of social anxiety (Gordon & Teachman, 2008; Lee et al., 2006; Okazaki, 1997; Okazaki et al., 2002). They report more symptoms of social anxiety, higher levels of anxious cognitions, and greater social concerns, but not in all contexts. Gordon and Teachman (2008) explored ethnic differences in measures of anxiety, as assessed through behavioral, cognitive, and affective factors, in three different anxiety-causing contexts: physical, social interpersonal, (i.e., conversing to an aloof confederate), and social performance (i.e., giving an impromptu speech). Results showed that Asian Americans displayed greater social concerns as well as

higher levels of anxious cognitions, as compared to African and White Americans in a social performance task (Gordon & Teachman, 2008). In contrast, Latinos and White Americans do not differ significantly in social concerns or reported symptoms of social anxiety (Varela et al., 2004; Varela, Sanchez-Sosa, Biggs, & Luis, 2008). Latino youths were not particularly concerned by social evaluations either, as measured by self-reports as well as their parents' responses—following a social performance task (Varela et al., 2008). This can be juxtaposed with research on Asian Americans, who demonstrated greater social anxiety, on a variety of measures (Gordon & Teachman, 2008; Lee et al., 2006; Okazaki, 1997; Okazaki et al., 2002).

Cultural differences may account for these differences in perceived social anxiety. One such difference could be an emphasis on emotional self-control (the need to refrain from displaying strong emotions in public), a prominent Asian cultural value. Whites, in contrast, generally do not report socialized emotional self-control, but rather emotional expression (Saw & Okazaki, 2010). Similarly, there is a paucity of research on emotional self-control in Latinos, suggesting that emotional restraint is not of relevance in this particular group. This can be contrasted with the abundance of research on the value of emotional self-control in Asians, which demonstrates its significance (Park & Kim, 2008; Saw & Okazaki, 2010). This value, in addition to the Asian cultural value of saving face, strongly influences how Asian Americans express their anxiety. Although members of this group may report stronger feelings of social anxiety, they may not necessarily differ significantly from other ethnic groups on behavioral measures, such as behavioral avoidance or gaze avoidance, prolonged silences, and fidgeting (Gordon & Teachman, 2008; Okazaki et al., 2002). Therefore, their social anxiety is less apparent to outside observers. In addition, Saw and Okazaki (2010) showed that emotional suppression (of negative emotions) was linked with higher scores of social anxiety in Asian

American college students. Those who were socialized to suppress their emotions were more likely to report symptoms of anxiety on the Social Phobia Anxiety Inventory (SPAI).

Past research established that appropriate, successful use of both primary and secondary control is associated with fewer symptoms of anxiety in Whites (Calvete et al., 2011; Connor-Smith & Compas, 2002), but there has been less research on the nature of this relationship in Latinos and Asian Americans. The dynamics of this relationship could be revealing, given ethnic differences in coping strategies and levels of social anxiety. The present research intended to investigate how primary and secondary control relate to levels of social anxiety in Latinos and Asian Americans. Would one strategy be more influential in reducing social anxiety than another? The results of this study are important in understanding possible ethnic differences in anxiety. However, it is important to refrain from pathologizing any particular culture or ethnic group. Studying a Latino population may be revealing because Asian and Latino cultures are both collectivist, yet Latinos show lower levels of social anxiety. Revealing the differences between these groups could bring a greater comprehension of the cultural values that contribute to this pattern, as well as how collectivist cultures can differ, despite a similar focus on interdependence. Additionally, these findings may contribute to our understanding of how coping styles differ across ethnic groups.

It was hypothesized that Asian Americans would use both primary and secondary control, but would be more likely to use secondary control than Latinos. Latinos would tend to use primary control to cope with stressors and would use secondary strategies to a lesser extent. Asian Americans were expected to demonstrate higher levels of social anxiety overall. Finally, Asian Americans who engaged in secondary control were expected to have fewer symptoms of

social anxiety, whereas Latinos who exerted higher levels of primary control would present fewer symptoms of anxiety.

Method

Participants

A sample of 588 participants (66% female, 44% male) from a university in California was recruited from the fall semester of 2008 to the spring semester of 2009. The sample consisted of 142 Latinos (70% female, 30% male) and 446 Asian Americans (64% female, 36% male). The majority of the sample ranged from 18 to 21 years of age ($M = 19.50$, $SD = 1.63$; age range: 17-35 years).

Within the Asian sample, 67% were born in the U.S. and 33% were foreign-born. Seventy-eight percent were raised in the U.S. The mean number of years spent in the U.S. was 15.85 ($SD = 5.80$; $Mdn = 18$). Of the Asian participants, 21% reported identifying more with American culture, with 20% identifying more with their ethnic culture and the majority identifying with both cultures equally (59%). Most of the Asian participants were of Chinese descent (47%). The remaining 53% of participants were of Vietnamese, Filipino, Southeast Indian, Korean, Indian, or Japanese descent. Twenty-six percent had English as their native language, and 35% reported a non-English language as their native language. The remaining 39% reported learning two languages simultaneously. Sixty percent reported English as their primary spoken language, with 17% reporting a non-English language, and 23% reporting English and a non-English language to the same extent.

The majority of the 299 American-born Asians identified with both American and their ethnic culture equally (63%), but 27% identified with American culture more and 10% with their ethnic culture more. The mean number of years spent in the U.S. for the 147 foreign-born Asians

was 10.14 ($SD = 5.38$; $Mdn = 10$). Again, the majority identified with the two cultures equally (49%). Of the remaining participants, 11% stated that they identified most with American culture and 40% identified most with their ethnic culture.

Within the Latino sample, 88% were born in the U.S. and 12% was foreign-born. For this sample, the mean number of years spent in the U.S. was 18.20 ($SD = 2.96$; $Mdn = 19$). Furthermore, 93% reported being raised in the U.S. Similar to the Asian sample, the majority stated that they identified with American culture and their ethnic culture equally (55%). Of the remainder, 24% stated that they identified with American culture most and 21% identified with their ethnic culture most. The majority of Latino participants were of Mexican descent (79%). The remaining 21% of participants reported being from Central America, South America, Puerto Rico, Spain, Cuba, and other. Within the Latino sample, 29% said that their native language was English, 39% reported a non-English language, and 32% stated that they learned English and a non-English language simultaneously. As with the Asian American sample, the majority of Latinos had English as their primary spoken language (59%), 16% reported a non-English language, and 25% spoke English and a non-English language to the same extent.

Most of the 125 American-born Latinos identified with two cultures equally (54%), but 27% identified with American culture more and 19% identified with their ethnic culture more. The mean number of years spent in the U.S. for the 17 foreign-born Latinos was 14.41 ($SD = 4.71$; $Mdn = 14$). Additionally, 35% stated that they identified most with their ethnic culture and 65% identified with both cultures equally. Unlike the foreign-born Asians, none of the foreign-born Latinos reported identifying with American culture more.

Procedure

This study involved usage of secondary data analyses approved by the Institutional Review Board at Trinity College. Participants were recruited through introductory psychology courses at a university in California. They were given an incentive of earning class credit for participation, which entailed completing an online survey with demographic information and 12 different questionnaires. Of the 12, this study focused on the Primary and Secondary Control Scale (PSCS) and the Social Avoidance and Distress Scale (SAD). Prior to participation, participants were given consent forms and were informed that their results would remain anonymous and confidential. Only researchers were given access to results, and using ID numbers, data were stored in a manner such that participants would not be identifiable through results. Finally, results were screened on the basis of survey duration, incomplete responses, or multiple responses. Participants who completed the survey in less than 20 minutes or more than 75 minutes were excluded from data analysis. This was based on the mean survey duration ($M = 30.68$, $SD = 8.5$).

Measures

Demographic Questionnaire. Participants were prompted for demographic information, such as age, gender, ethnicity, birthplace, and primary spoken and written language. They were also asked to report the birthplaces of their parents and grandparents in addition to their parents' occupations and household income. Ethnicity was dummy coded for a multiple regression analysis, with Asian Americans defined as "0" and Latinos defined as "1."

Primary-Secondary Control Scale. The Primary and Secondary Control Scale ($\alpha = .75-.81$) was used to measure the frequency of usage of primary and secondary control in participants (Seginer, Trommsdorff, & Essau, 1993). Participants were asked to rate the extent to which each

statement (13 primary and 13 secondary control items) described themselves on a 6-point Likert scale. On this scale, “1” means “Does not describe me at all” whereas “6” means “Describes me very accurately.” Accordingly, a higher score on the PSCS indicates greater usage of primary and/or secondary control. An example of a primary control item is: “I think my success depends on what I do and how hard I work.” An example of a secondary control item is: “I agree with those who think one should associate with strong and successful people.” These items concern examples of vicarious or illusory control; Seginer et al. (1993) omitted illusory and predictive control after exploratory research. This study found an internal consistency of $\alpha = .81$, consistent with the reliability found in the research of Seginer and colleagues (1993). Cronbach’s alpha coefficient for the primary scale was .79 (.78 for Asian Americans; .80 for Latinos) whereas the reliability for the secondary scale was .82 (.80 for Asian Americans; .83 for Latinos).

Social Anxiety. The Social Avoidance and Distress Scale (SAD; $\alpha =$ close to .90) was also used to assess levels of social anxiety in respondents (Watson & Friend, 1969). Researchers found that high scores on the SAD were less common, suggesting that such scores may be more pathological. Additionally, the SAD was compared to other scales to assess its validity. It was positively correlated with scales measuring anxiety (i.e., Taylor's Manifest Anxiety scale, Endler-Hunt S-R Inventory of Anxiousness, Paivio's Audience Sensitivity Index) and negatively correlated with affiliation and achievement (Jackson's Personality Research Form).

The SAD asked participants how much each statement (14 avoidance and 14 distress/anxiety items) is characteristic of themselves. Okazaki (1997) adapted this scale in order to avoid a skewed distribution, changing it from a true-false format to a 5-point Likert scale, in which “1” means “Not at all characteristic of me” whereas “5” is “Extremely characteristic of me;” higher scores on the SAD suggest higher levels of social anxiety. The present research used

the adapted version of the scale. An example of an avoidance item is: “I tend to withdraw from people.” Avoidance statements tended to refer to avoidant behaviors or one’s desire for avoidance, rather than one’s motivations. Distress referred to experiencing negative emotions during social interactions, as opposed to feeling relaxed and comfortable. An example is: “I am usually nervous with people unless I know them well.” A factor analytic study verified the subscale for avoidance and distress (Okazaki, 1997). Several items were reverse scored and subsequently recoded. The current research found a high internal consistency ($\alpha = .93$), which was consistent with the reliability found in the original research conducted by Okazaki (1997). In the Asian American sample, Cronbach’s alpha coefficient was .92, and for the Latino sample, it was .93. For the purposes of this research, the SAD subscale scores (avoidance subscale $\alpha = .85$ and distress subscale $\alpha = .88$) were combined in order to assess the predictors of social anxiety as a whole, rather than social avoidance or social distress separately.

Results

Gender Differences

A gender x ethnicity factorial analysis of variance was used to control for the potential interaction effect of gender and ethnicity on PSCS scores. There was a non-significant gender effect in the primary subscale, $F(1, 584) = 3.11, ns$ and the secondary subscale, $F(1, 584) = .43, ns$. Similarly, statistical testing did not show a main effect of gender or a significant interaction effect of gender combined with ethnicity on social anxiety, as measured by the SAD, $F(1, 584) = 1.61, ns$. Consequently, the possible effects of gender will not be discussed further.

Descriptive Analysis

Pearson product-moment correlation coefficients were computed to analyze the relationships among the PSCS subscales and the SAD combined scale scores¹ in Latinos and Asian Americans (See Table 1). Results showed that primary and secondary control were significantly positively correlated for both Latinos, $r(141) = .18, p < .05$, and Asian Americans, $r(445) = .29, p < .001$. As expected, primary control was negatively correlated with social anxiety in Latinos, $r(141) = -.30, p < .001$, and Asian Americans, $r(445) = -.30, p < .001$. There was a non-significant negative relationship between secondary control and social anxiety in Asian Americans, $r(445) = -.08, ns$. Furthermore, there was a non-significant positive correlation between secondary control and social anxiety in Latinos, $r(141) = .10, ns$.

Table 1. Pearson's Product-Moment Correlations Between Measures in Latinos and Asian Americans

Variable	Primary Control	Secondary Control	Social Anxiety
Primary Control	1	.29**	-.30**
Secondary Control	.18*	1	-.08
Social Anxiety	-.30**	.10	1

Note. * $p < .05$, ** $p < .001$. Data for Latinos ($N=141$) are shown below the diagonal; data for Asian Americans ($N = 445$) are shown above the diagonal.

Ethnic Group Comparisons

An independent samples t-test was conducted in order to investigate possible ethnic differences on the SAD (See Table 2). In line with the hypotheses, results showed that there was a significant ethnic difference in scores on the primary control subscale of the PSCS, $t(586) = -$

¹ Given the strong positive correlation between social avoidance and distress scores in both ethnic groups, $r(631) = .81, p < .001$, the SAD was analyzed as a whole, rather than separated into subscales.

4.29, $p < .001$, as well as on the secondary control subscale, $t(586) = 4.13$, $p < .001$. An independent samples t-test also supported an ethnic difference in level of social anxiety, demonstrating a significant difference in the SAD, $t(586) = 3.97$, $p < .001$, and further supporting the current hypotheses.

Table 2. Ethnic Differences in Control Coping and Social Anxiety

Measure	Ethnicity				<i>t</i>	<i>d</i>
	Latinos		Asian Americans			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
	(N = 142)		(N = 446)			
Primary Control	4.74	.59	4.50	.55	-4.29**	.41
Secondary Control	3.10	.76	3.37	.68	4.13**	.39
Social Anxiety	2.49	.62	2.72	.58	3.97**	.38

Note. * $p < .05$, ** $p < .001$.

Regression Analyses

Results of a multiple regression analysis indicated that the five predictors explained 12% of the variance in social anxiety, $R^2 = .12$, adjusted $R^2 = .11$, $F(5, 582) = 15.31$, $p < .001$ (See Table 3), but only two predictors were significantly related to social anxiety (ethnicity and primary control). Consistent with the hypotheses, this model showed that Latinos scored significantly lower on the SAD overall ($\beta = -.90$, $p < .05$). Hypotheses were also supported in that for both ethnic groups, those who exerted greater primary control reported less social anxiety ($\beta = -.30$, $p < .001$). Primary control was negatively associated with social anxiety. However, inconsistent with hypotheses, secondary control did not significantly predict scores on the SAD ($\beta = .02$, *ns*). Compared to Asian Americans, Latinos who scored higher on primary

control scored lower on the SAD ($\beta = -.01, ns$) and Latinos who scored higher on secondary control scored higher on the SAD ($\beta = .07, ns$), but these trends were not significant.

Table 3. Results of Multiple Regression Predicting Social Anxiety

Variable	<i>B</i>	<i>SE</i>	β	<i>p</i>
Ethnicity	-.12	.06	-.09	.036*
Primary Control	-.31	.05	-.30	.001**
Secondary Control	.02	.04	.02	.673
Ethnicity x Primary Control	-.03	.01	-.01	.778
Ethnicity x Secondary Control	.11	.08	.07	.167

Note. * $p < .05$, ** $p < .001$. Asian Americans were the reference group for this analysis. Primary control, secondary control, and the interaction terms were centered prior to analysis.

Although face loss concerns were not central to these hypotheses, a supplemental hierarchical multiple regression analysis found that the Loss of Face Questionnaire (LFQ) accounted for 13% of the variance after controlling for five other predictors, $R^2 = .24$, adjusted $R^2 = .24$, $F(6, 579) = 31.19, p < .001$ (See Table 4).

Table 4. Results of Hierarchical Multiple Regression Predicting Social Anxiety

Variable	<i>B</i>	<i>SE</i>	β	Increment R^2	<i>F</i> change	<i>p</i>
Step 1						
Ethnicity	-.23	.06	-.16	.03	16.23	.001
Step 2						
Ethnicity	-.14	.06	-.10			
Primary Control	-.33	.04	-.31			
Secondary Control	.05	.04	.06	.09	28.91	.001
Step 3						
Ethnicity	-.13	.06	-.09			
Primary Control	-.31	.05	-.30			
Secondary Control	.02	.04	.02			
Ethnicity x Secondary Control	.11	.08	.07			
Ethnicity x Primary Control	-.04	.10	-.02	.00	1.13	<i>ns</i>
Step 4						
Ethnicity	-.03	.06	-.02			
Primary Control	-.31	.05	-.30			
Secondary Control	-.07	.04	-.08			
Ethnicity x Secondary Control	.12	.07	.08			
Ethnicity x Primary Control	.02	.09	.01			
Loss of Face	.25	.03	.38	.13	96.46	.001

Note. Asian Americans were the reference group for this analysis. Primary control, secondary control, loss of face, and the interaction terms were centered prior to analysis.

Discussion

Results partially supported hypotheses involving the relationship between coping strategies and social anxiety. Primary control was significantly negatively correlated with social anxiety in both Latino and Asian American participants. In fact, it was clear that both ethnic groups tended to use primary control more often than secondary. This supports research concerning the effectiveness of primary control and the predominance of such coping styles in both of these ethnic groups. O'Connor and Shimizu (2002) actually found that Japanese and British individuals were equally likely to use problem-focused coping. Asian Americans might even prefer primary to secondary control (Lam & Zane, 2004). Thus, these findings are consistent with past research.

This reliance on primary control is also consistent with Heckhausen and Schulz's hypothesis that primary control is universally necessary, whereas secondary control is more compensatory (1995). Although cultures might vary in their preference for primary control, this does not necessarily negate the idea that there may be an underlying preference for it across cultures (Heckhausen & Schulz, 1995). Reliance on primary control may depend on one's opportunities and environmental constraints, which substantiates research on how primary control is less beneficial in uncontrollable situations (Thompson et al., 2006). It is possible that secondary control is primarily used to maintain and support primary control or to minimize losses in primary control. In essence, it is possible that secondary control operates as a mechanism to maintain the link to primary control. On the other hand, it is also possible that the research of Heckhausen and Schulz (1995) simply demonstrates ethnocentrism, a point argued by Gould (1999). A Western orientation dominated the main arguments of the research of

Heckhausen and Schulz (1995), and it is likely that they neglected to adequately take Asian perspectives into account.

Although secondary control strategies are effective and adaptive, there are certain situations in which primary control is more beneficial, such as in the transition phase of adapting to college (Zea et al., 1995). Social stressors may seem more externally controllable than other stressors. Secondary control strategies, such as cognitive restructuring or positive thinking, may seem less effective in the context of social stressors. However, one must avoid drawing causal conclusions from correlational data. Reliance on primary control did not necessarily lessen social anxiety. Alternatively, it may be that there is a trait common to individuals who are more likely to use primary control and to those who experience lower levels of social anxiety. Given that there were significant results for both cultures, this relationship could conceivably be related to similar cultural values.

Regardless of the high reliance on primary control in both Latinos and Asian Americans, there were significant ethnic differences in usage of primary and secondary control, as predicted. Firstly, Latinos tended to rely more heavily on primary control than Asian Americans. Also, in Latinos, a nonsignificant trend was found in that those who scored higher on primary control also showed less social anxiety, compared to Asian Americans. As mentioned previously, this is consistent with research on the importance of striving for self-sufficiency in Mexican Americans (Freeberg & Stein, 1996). It also supports the idea that Latinos show a much stronger preference for a Doing orientation (which emphasizes external action-oriented activity) than the alternatives of Being (focuses on activity that comes naturally, such as emotional expression) or Becoming (refers to developing an integrated personality through strategies such as detachment; Carter, Yeh, & Mazzula, 2008). Furthermore, Carter and colleagues (2008) suggested that Doing was

reflective of American values, which may display acculturation and integration of American values into Latino culture.

Prior research has proposed that collectivism and individualism are separate dimensions, rather than dichotomous variables (Killen, 1997; Triandis & Gelfand, 1998). This implies that cultures can be high in collectivism and individualism simultaneously, which is supported by research on Latino cultures; Oyserman and colleagues (2002) found that Latinos and White Americans showed similar levels of individualism, despite the former's higher levels of collectivism. Thus, this research also seems to support the idea that Latino culture may be more individualistic than Asian culture is, despite both being collectivistic (Zea et al., 1995). On the other hand, it is possible that some aspect of Latino culture encourages a heavier reliance on primary control.

Asian Americans, in contrast, relied on secondary control more heavily than Latinos. This is consistent with the research on how Asians regard secondary control more highly than White Americans do (Weisz et al., 1984). As mentioned previously, this reliance could be due to the Asian cultural value of saving face (Azuma, 1984), a value that could be less relevant to Latinos. That is, perhaps Latinos were less likely to feel shame at the thought of using primary control to cope with a social stressor than Asian Americans would be.

Interpersonal harmony appears to be valued in both Asian and Latino cultures; group harmony is fundamental to Confucianism (Park & Kim, 2008) whereas Latinos emphasize the cultural value of *simpatía*, in which individuals must behave in such a way as to facilitate social harmony and simultaneously avoid interpersonal conflict (Marín & Marín, 1991). In other words, *simpatía* highlights the need for smooth and pleasant interpersonal relationships. In fact, Latino cultural values are greatly impacted by collectivist values in general, which prize harmonious

interpersonal relationships (Carter et al., 2008). However, given that usage of secondary control may underscore the importance of maintaining group harmony (in that adjusting one's manner of thinking in a stressful social situation would be unlikely to disturb social harmony), Latinos' general lack of reliance on secondary control seems to be inconsistent with the value of *simpatía*. This implies that either group harmony or *simpatía* is less influential in this regard. Alternatively, this research finding could signify that similar cultural values (i.e., maintaining group harmony, in general) may influence actions differently, depending on one's cultural context. In other words, even though maintaining harmonious relations may be valued in both cultures, this value may present itself in different ways.

Correspondingly, the need to respect one's elders may be less relevant to an ethnic difference in reliance on secondary control, given that both Latino and Asian cultures hold this value (Lam & Zane, 2004). In Latino culture, this value manifests itself in *respeto*, a term that refers to the importance of respecting authority, which is based on one's age or social position (Ayón & Aisenberg, 2010). Unfortunately, considering that the values of interpersonal harmony and respecting one's elders were not explicitly studied, it is impossible to draw concrete conclusions concerning these variables. Further study is required to illuminate the weight of these values.

There was a significant ethnic difference in social anxiety, as anticipated. Asian Americans reported significantly higher levels of social anxiety overall. These results corroborate prior research on how Asian Americans compare with White Americans on measures of social anxiety (Gordon & Teachman, 2008; Lee et al., 2006; Okazaki, 1997; Okazaki et al., 2002) as well as how Latinos compare with White Americans on similar measures (Varela et al.,

2004; Varela et al., 2008). This ethnic difference may be attributed to the importance of saving face in Asian culture.

Betancourt and López (1993) present the idea that the expression of psychological distress may relate to a particular value or belief orientation. Accordingly, perhaps the ethnic difference in social anxiety should be attributed to the concept of face loss concerns, which is a common Asian cultural value. Although face loss concerns were not central in this study, results indicated that this variable accounted for a higher percentage of the variance in social anxiety for both ethnic groups, after controlling for other variables, such as ethnicity, control coping, and the relevant interactions. Consistent with these results, Zane (2000) found that loss of face was positively correlated with social anxiety in the development of the LFQ.

This finding is in line with the research of Lau, Fung, Wang, and Kang (2009), which found that ethnic differences in social anxiety may be attributed to differences in interpersonal attunement concerns (namely, loss of face) and competencies (sensitivity to others and emotion recognition). Differences in emotion recognition also seemed to be relevant (making Asian Americans more vulnerable to social anxiety), possibly because even acknowledging other's negative emotions could negatively affect group harmony (Lau et al., 2009). Thus, lower emotion recognition accuracy could be adaptive for this ethnic group. However, differences in interpersonal sensitivity were not central in explaining ethnic differences in social anxiety (Lau et al., 2009).

Although there seems to be a paucity of research on face loss concerns in Latinos, the results show that such concerns do affect this population in certain ways. Concerns with saving face are not specific to Latino culture, but there appear to be analogous Latino cultural values, which emphasize the importance of maintaining appearances, for the purpose of avoiding

embarrassment or shame. One relevant saying, or *dicho*, is *guarder las apariencias* (translated as: to keep up appearances; Placencia, 1996). This connotes the importance of maintaining one's image, in order to meet the expectations of others—or at least appear to be doing so. Another comparable Latino *dicho* is *el que dirán*, which translates to 'what they would say' (Placencia, 1996). This idiom denotes the importance of the judgments of others (e.g., neighbors, family friends) in Latino culture. Implicit in this saying is the idea that the judgments of outsiders would negatively affect the image or "face" of the family as a whole. Consequently, one must consider the thoughts of others prior to action.

Contrary to expectations, results suggested that secondary control is not associated with social anxiety in either Asian Americans or Latinos. In Asian Americans, correlational results showed a nonsignificant trend towards an inverse relationship between social anxiety and secondary control. That is, although secondary control may be more valued in this ethnic group, it seems to be less relevant for this type of stressor. In Latinos, this finding may be due to a lack of reliance on secondary control strategies. In Asian Americans, on the other hand, this explanation does not seem plausible, considering the literature on the value of secondary control do (Weisz et al., 1984). It may be that a fear of losing "face" is too deeply engrained to be affected by secondary control.

One possible drawback of this study relates to the collectivist nature of the participants surveyed. Prior research demonstrates that individuals of collectivist cultures are more likely to provide the researcher with more socially desirable responses in order to facilitate the relationship between the participant and the researcher (Marín & Marín, 1991). In fact, Marín and Marín (1991) suggest that the cultural value of *simpatía* would further encourage Latinos to

provide socially desirable responses. Consequently, it is possible that the survey responses could have been biased, particularly when prompted to report one's experience of social anxiety.

Additionally, given that this research was conducted with an undergraduate population, it remains uncertain whether these research findings can be entirely generalizable to a broader population. Research on the nature of the population would suggest that college students would be more likely to engage in primary control, which is more beneficial for stressors relating to adapting to college (Zea et al., 1995). Thus, social anxiety may have been confounded with stressors associated with living in a college environment.

Another limitation is that this research focused on correlations between variables, signifying that causal conclusions cannot be drawn. The nature of this research precluded the possibility of causal directionality. For instance, it is impossible to know whether greater reliance on primary control lowered social anxiety or if less social anxiety caused primary control to heighten. It is even possible that a third variable, such as an attitude towards a particular cultural value, influenced social anxiety and primary control simultaneously. Correlational research, however, can still shed light on certain issues in a meaningful way, revealing ethnic differences in social anxiety and reliance on control coping. Although jumping to causal conclusions should be avoided, the present study still appeared to eliminate secondary control as a relevant variable in the relationship between control coping and social anxiety. Assuming that a causal connection can eventually be established through further exploration, this research may have implications for interventions in how to manage situations that give rise to social anxiety. For example, improving one's primary control strategies may be prudent for lessening social anxiety. In view of that, future research should further investigate the nature of the relationship between primary control and social anxiety, perhaps by conducting an experimental study in order to establish

causation. Along those lines, conducting further research on the role of secondary control in social anxiety (if any) in Asian populations may be illuminating in confirming or refuting these unexpected findings.

Alternatively, researchers should explore the relationship between social anxiety and face loss concerns, particularly in individuals of Asian heritage. The influence of face loss concerns could be an alternative explanatory factor. Relevant Latino proverbs are also noteworthy, given their possible relationship to the importance of saving face in Asians. It may be worthwhile to explore how these cultural values differentially influence social anxiety.

Furthermore, as mentioned by Hsu and Alden (2007), it may be worthwhile to compare foreign-born Asians and Latinos with American-born Asians and Latinos to analyze the potential influence of acculturation and acculturative stress. It is possible that the differences between Asian and American cultures may be a source of additional stress for Asian Americans, contributing to their heightened anxiety in social situations. Specifically, Saw and Okazaki (2010) speculated that Asian Americans might receive one message from their parents, and a different one from Western society, which might cause distress. Similarly, Santiago-Rivera (1995) discussed the negative effects of acculturation on the psychological well-being of Latinos. However, the roles of nationality and acculturation require further inquiry, especially considering how more acculturated Asian Americans (as measured by if and when they immigrated to the U.S.) are less likely to report high levels of social anxiety (Okazaki, 1997; Okazaki et al., 2002). Zane (2000) found that face loss concerns were negatively correlated with acculturation, which would imply that greater acculturation would be correlated with less social anxiety. However, a desire to save face may not be as pertinent to social anxiety as other cultural factors.

Although Asian Americans do seem to score highly on measures of social anxiety in comparison to other ethnic groups (i.e., Latinos and Whites), this is not necessarily maladaptive, at least for foreign-born Asians (Chen, Rubin, & Sun, 1992; Hsu & Alden, 2007). First of all, research shows that although shyness and sensitivity is negatively correlated with peer acceptance in Canadian children, it is positively correlated with peer acceptance in Chinese children (Chen et al., 1992). This demonstrates that in certain cultures, shyness and sensitivity can be adaptive for peer relationships. As such, traits that may be associated with social anxiety may be encouraged in particular cultures. Such qualities are unlikely to disturb group harmony, consistent with the cultural values of Asian societies.

Furthermore, Hsu and Alden (2007) suggest that social anxiety is perceived less negatively in Chinese societies than in others; it is less likely to be connected with social and emotional problems. This further shows that social anxiety does not have to be maladaptive, and demonstrates the importance of one's cultural context. These findings have implications for the decontextualization of research findings. When conducting cross-cultural studies, researchers need to recognize how a trait is perceived in particular cultures, rather than attempting to decontextualize such information. That is, one should not always assume the perspective of one's native culture; it may not be relevant in a foreign culture.

Unfortunately, this perception of social anxiety did not apply to Chinese Americans (Hsu & Alden, 2007). On the contrary, Hsu and Alden (2007) found that rates of social anxiety were higher in Asian Americans than in Asian nationals, a finding that may have been related to the stress of being a minority in the American cultural environment. Furthermore, Asian American participants viewed this anxiety as less adaptive than Asian nationals, believing that it caused greater life impairment. This is consistent with prior research on how Latino and Asian

American adolescents show higher anxiety sensitivity than Whites do, when it was defined as the belief that physiological sensations of anxiety have negative social, psychological, or physical effects (Weems, Hayward, Killen, & Taylor, 2002). These findings may be attributed to acquirement of beliefs typically held by Americans, but bears future investigation. Research on the societal perception of social anxiety could have implications for assessment and treatment of Latinos and Asian Americans, provided that they differ from the majority culture in that way.

Regardless of the lack of significant relationship between secondary control and social anxiety, it is clear that secondary control is still effectively used across cultures and in various situations (DeCarlo & Wadsworth, 2009). Therefore, individuals from different cultures should be able to successfully cope with their stressors, provided that they rely on primary and/or secondary control, rather than on disengagement coping (e.g., avoidance, denial, wishful thinking). These strategies have been found to be maladaptive, and may even work to exacerbate a given situation, such as in the case of family conflict stressors (DeCarlo & Wadsworth, 2009). In contrast, both primary and secondary control can be adaptive.

The tendency to rely on primary control was found across ethnic groups, which may have implications for certain interventions. Perhaps intervention techniques, such as attributional retraining programs, should focus on promoting primary control strategies, with a lesser emphasis on secondary control (Hall, Chipperfield, Perry, Ruthig, & Goetz, 2006). These types of programs have been found to be especially effective in increasing primary and secondary control in young adult populations, but their effectiveness across different ethnic groups is still unclear (Hall et al., 2006).

Collectivist cultures differ in coping styles and in social anxiety, due to cultural values. To genuinely aid members of these ethnic groups, researchers and therapists must better

understand the role of these cultural values. In clinical settings, therapists should aim to provide culturally sensitive treatment, taking pertinent cultural values into account when working with patients of different ethnicities. For example, when treating a Latino client, a clinician should understand the importance of *familismo* and how this may affect his/her decision making processes (Santiago-Rivera, 1995). The clinician's degree of cultural competence has consequences for the therapeutic relationship, which is often crucial for the outcome of the patient. Similarly, Ayón and Aisenberg (2010) highlight the need for culturally congruent services, in the context of public child welfare, discussing its implications for the relationship between the parent and the case worker.

Moreover, in order to be meaningful, cross-cultural psychological research must be conducted from an emic perspective (otherwise known as the viewpoint of a cultural insider), rather than with an etic approach (Gould, 1999). Researchers need to be able to understand the cultural framework of their sample in order to illuminate the underlying mechanisms beneath their behavior.

Addendum

The Loss of Face Questionnaire (LFQ; $\alpha = .83$) was used to measure the degree to which participants were affected by the concept of face (Zane, 2000). This scale consisted of 21 items in which participants were asked to rate the extent to which they agreed or disagreed with each statement on a 7-point Likert scale. On this scale, “1” means “Strongly Disagree” and “7” means “Strongly Agree.” Accordingly, a higher score on the LFQ is indicative of greater adherence to face loss concerns. An example of a LFQ item is: “I am more affected when someone criticizes me in public than when someone criticizes me in private.” This study found an internal consistency of $\alpha = .90$ (.89 for Asian Americans; .89 for Latinos), which was consistent with the reliability found in the research of Zane (2000).

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