

ETHNICITY, ACCULTURATION AND RELIGIOSITY PREDICT PARENTS'
CAUSAL BELIEFS ABOUT SEPARATION ANXIETY DISORDER AND
PREFERENCES FOR HELP-SEEKING

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ABSTRACT

Ethnicity, Acculturation and Religiosity Predict Parents' Causal Beliefs About Separation Anxiety Disorder and Preferences for Help-Seeking

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Ethnic minority youth use mental health services less frequently than Caucasian youth, despite similar rates of psychopathology. Research has documented ethnic differences in (1) parents' beliefs about the seriousness, prognosis, and etiology of child symptoms and (2) preferences for help-seeking, which may partially explain disparities in treatment utilization; however, few studies have examined underlying cultural factors that may account for ethnic differences or parent's beliefs and preferences with regard to youth anxiety. This study examined parents' beliefs about separation anxiety disorder (SAD) and preferences for help-seeking among 117 Indian-American (IA; $n = 39$), Puerto Rican (PR; $n = 39$), and European-American (EA; $n = 39$) mothers. After reading four vignettes describing SAD symptoms, parents rated the seriousness, prognosis, and etiology of symptoms and the likelihood of help-seeking. Parents also completed measures of acculturation, independent/interdependent self-construal, and strength of religious faith. RM-MANCOVA (controlling for SES) revealed that PR mothers were more likely than EA mothers to endorse medical etiology and were more likely than IA mothers to seek help from a physician. Hierarchical multiple regression revealed that acculturation and strength of religious faith predicted parents' etiological beliefs and preferences for help-seeking, after accounting for variance associated with SES and child gender. Results

highlight the importance of examining cultural constructs that may contribute to ethnic differences. Implications for future research and clinical practice are discussed.

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CHAPTER 1 INTRODUCTION

Overview

Research suggests that ethnic minority youth in the United States utilize mental health services at a lower rate than Caucasian youth, despite similar rates of symptomatology (Kataoka, Zhang, & Wells, 2002; Rawal, Romansky, Jenuwine, & Lyons, 2004). It has been suggested that culturally-relative beliefs about child symptoms and preferences for help-seeking may contribute to differential rates of mental health treatment utilization, but few studies have examined these relationships empirically. An in-depth examination of the role of ethnicity and culture in relation to parents' beliefs about child symptoms and preferences for help-seeking is critical in the understanding of differential mental health service utilization patterns across youth in the United States.

In this chapter, research documenting racial and ethnic disparities in youth mental health treatment utilization will be reviewed and it will be proposed that culturally relative beliefs about child symptoms and preferences for help-seeking may partially account for such disparities. Evidence for the cultural relativity of anxiety disorders in particular will be discussed, with a specific focus on separation anxiety disorder (SAD). Several cultural constructs that are potentially important in the presentation and conceptualization of anxiety disorders (i.e., acculturation to mainstream American culture, independent and interdependent self-construal, strength of religious faith) will be presented and the need for research examining these constructs in relation to parents' beliefs about SAD will be emphasized. Lastly, the etic vs. emic approaches to the study of cultural constructs will be reviewed and the present study will be introduced.

Racial/Ethnic Disparities in Mental Health Treatment Utilization

Across a multitude of studies, race and ethnicity have been shown to be significant predictors of youth mental health treatment utilization. In most cases, there is a pattern of underutilization of services among ethnic minority youth as compared to Caucasian youth. For example, children of Latin American origin have consistently been found to receive mental health services at a lower rate than Caucasian children (Bui & Takeuchi, 1992; Kataoka et al., 2002; McCabe et al., 1999; Rawal et al., 2004; Sood & Kendall, 2006; Zahner & Daskalakis, 1997). Similar results have been reported for children of Asian descent (Bui & Takeuchi, 1992; Garland et al., 2005; McCabe et al., 1999; Sood & Kendall, 2006). These utilization patterns are concerning, given research documenting similar or elevated psychological symptomatology among ethnic minority youth as compared to Caucasian youth. African-American, Latino, and Asian-American youth have been found to self-report higher levels of anxiety and anxiety sensitivity (Lambert, Cooley, Campbell, Benoit, & Stansbury, 2004; Rabian, Embry, & MacIntyre, 1999; Shore & Rapport, 1998; Varela et al., 2004; Walton, Johnson, & Algina, 1999; Weems, Hayward, Killen, & Taylor, 2002) and Latino youth have been found to self-report higher levels of depression (Roberts & Chen, 1995; Roberts, Roberts, & Chen, 1997; Twenge & Nolan-Hoeksema, 2002) when compared to Caucasian youth.

Contextual factors, such as socioeconomic status (SES), health insurance status, and family structure, have been evaluated in reference to treatment utilization in youth. These factors may be important in explaining ethnic variation in treatment utilization, given that certain ethnic minority groups are more likely than Caucasian youth to be from low SES backgrounds, to lack private health insurance, and to live in single-parent

households (National Institute of Child Health and Human Development, 2000; U.S. Census Bureau, 2000a; U.S. Census Bureau, 2006). However, studies directly assessing the relationships between ethnicity, contextual factors, and treatment utilization indicate that disparities remain even after controlling for contextual factors. For example, African-American adolescents were found to be one-third as likely to receive mental health services as Caucasian youth, after controlling for need and insurance status (Burns et al., 1997), and Latino youth were almost three times as likely to have no mental health care or unmet need as Caucasian children, after controlling for income, insurance type, regional location, single-parent household, and parental education (Kataoka et al., 2002). After controlling for SES, African-American youth were found to utilize mental health services at higher rate than would be expected and Asian-American and Latino youth were found to utilize mental health services at a lower rate than would be expected, given their representation in the census data (McCabe et al., 1999).

Cultural Relativity and Psychopathology

Given that contextual factors do not account fully for the observed disparities in mental health treatment utilization across ethnic groups, other factors must be considered. Models of access to health care have long proposed that attitudes and beliefs towards illness and health care influence critical decisions that individuals make through the onset and course of a health problem (Andersen, 1968; Andersen, 1995; Kleinman, 1980). Indeed, empirical studies indicate that parental perceptions regarding the seriousness, prognosis, and causes of child problems predict the likelihood of contacting a mental health professional and the perceived acceptability of behavioral treatments (McMiller & Weisz, 1996; Morrissey-Kane & Prinz, 1999; Pavuluri, Luk, & McGee, 1996; Reimers,

Wacker, Derby, & Cooper, 1995) and parental beliefs about professional treatment for youth mental health problems predict help-seeking, even after accounting for the variance associated with problem recognition or perception of severity (Nock, Phil, & Kazdin, 2001; Pavuluri et al., 1996). Other lines of theory and research emphasize the cultural relativity of mental health conditions. What is considered normal behavior in one culture may be considered deviant in another (Benedict, 1934/1973; Harkness & Super, 2000), and empirical research supports this notion (Weisz, Chaiyasit, Weiss, Eastman & Jackson, 1995). Were parents' beliefs about child symptoms and professional mental health treatment to vary across ethnic groups due to such cultural relativity, this could partially explain ethnic differences in the utilization of professional mental health services.

Studies document ethnic and racial differences in parents' beliefs about child symptoms and professional mental health treatment, with the majority focusing on symptoms characteristic of attention deficit/hyperactivity disorder (ADHD; Bussing, Gary, Mills, & Garvan, 2003; Bussing, Gary, Mills, & Garvan, 2007; Bussing, Schoenberg, & Perwien, 1998; Bussing, Schoenberg, Rogers, Zima, & Angus, 1998; Hillemeier, Foster, Heinrichs, & Heier, 2007; Mah & Johnston, 2007; McLeod, Fettes, Jensen, Pescosolido, & Martin, 2007; Richardson, 2001; Schnittker, Freese, & Powell, 2000; Tarnowski, Simonian, Bekeny & Park, 1992; Tarnowski, Simonian, Park & Bekeny, 1992). For example, several studies have reported that African-American parents are less likely than Caucasian parents to attribute psychological symptoms to genetic factors (Bussing, Schoenberg & Perwien, 1998; Schnittker et al., 2000) and to expect

benefit from professional mental health treatment (Bussing et al., 2007; Bussing, Zima, Gary, & Garvan, 2003; Richardson, 2001).

One line of research has gone a step further to evaluate whether parents' beliefs about the causes of their child's symptoms partially explain ethnic disparities in mental health treatment utilization (Yeh, Forness, Ho, McCabe, & Hough, 2004; Yeh, Hough, McCabe, Lau, & Garland, 2004; Yeh et al., 2005). In the first of a series of studies conducted with parents of children who were receiving services in one or more of five public sectors of care (e.g., alcohol/drug treatment, child welfare, juvenile justice, mental health, special education services for youth with serious emotional disturbance), Yeh and colleagues (2004) documented ethnic differences in parents' etiological explanations regarding their child's symptomatology. In a follow-up study with the same sample, Yeh and colleagues (2005) discovered that Asian-American and Latino youth were significantly less likely than Caucasian youth to have used mental health services at the two-year follow-up, but that the relationship between ethnicity and mental health service use was no longer significant for Latino youth and significantly reduced for Asian-American youth when etiological beliefs related to physical causes, relational issues, trauma, and prejudice were entered into the equation.

Cultural Relativity and Anxiety

The cultural relativity of anxiety disorders and symptoms in particular has received recent attention (Cooley & Boyce, 2004; Harmon, Langley, & Ginsburg, 2006; Iwamasa & Pai, 2003; Manassis, Hudson, Webb, & Albano, 2004). Anxiety and anxiety disorders are believed to be universal to human kind; however, the expression of anxiety symptoms may be influenced by culture-specific factors (Good & Kleinman, 1985).

Studies with adult samples document cross-cultural variability in anxiety disorders (Hwu & Compton, 1994; Tseng et al., 1990), including the degree to which somatic symptoms are prominent in the symptom profile (Kirmayer & Young, 1998). In an attempt to address the cultural relativity of anxiety disorders, the DSM-IV includes descriptions of several “culture-specific” anxiety disorders, including ataques de nervios, dhat, and koro (for further discussion of culture-specific anxiety disorders, see Hinton, Chong, Pollack, Barlow, & McNally, 2008; Hinton, Um, & Ba, 2001; Hsia & Barlow, 2001).

The cultural relativity of youth anxiety disorders and symptoms has received much less empirical attention. It has been suggested that the prevalence and presentation of separation anxiety disorder (SAD) may vary across cultural groups due to variations in expectations regarding separation/individuation (Ginsburg & Silverman, 1996) and the emphasis on worry and apprehension rather than somatic symptoms in the DSM-IV criteria (Iwamasa & Pai, 2003). Upon reading the Separation Anxiety Disorder (SAD) section of the DSM-IV, mental health professionals are told that there are cultural variations in the degree to which it is considered to be desirable to tolerate separation, and that it is important to differentiate SAD from the high value some cultures place on strong interdependence among family members (APA, 1994). Given this acknowledgement, it is surprising that research has not specifically evaluated beliefs about the seriousness, prognosis, or nature of separation anxiety symptoms or the type of help sought in response to SAD symptoms among parents from culturally-diverse backgrounds. Specific information on the cultural relativity of SAD through empirical endeavors is certainly warranted.

Although no empirical studies have examined parental beliefs about SAD symptoms or treatment in relation to ethnic disparities in mental health treatment utilization, three studies have provided preliminary support for cross-ethnic and cross-national differences in beliefs and judgments about child internalizing problems (Jacobs et al., 2008; Varela et al., 2004; Weisz et al., 1988). Weisz and colleagues (1988) examined cross-national differences in beliefs about child behavior among community samples of adults (e.g., parents, teachers and psychologists) residing in Thailand and the United States. After reading a vignette of a child exhibiting internalizing behavior, adults in Thailand rated the behavior as less serious, less worrisome, and more likely to improve over time when compared to American adults, controlling for age and education. Adults in Thailand were also more likely to attribute the internalizing child behavior to ‘faulty child rearing, socialization, or teaching’, and were less likely to attribute the behavior to ‘personality trait/psychodynamics’ or ‘environmental stress’ when compared to adults in the United States. Although 73% of Thai adults proposed verbal interventions and 22% proposed behavioral interventions in response to the internalizing child behavior as compared to 30% and 58% of American adults, respectively, these differences did not reach significance after applying the Bonferroni correction. The results of this study certainly provide preliminary support for cross-national variation in beliefs about child internalizing problems; however, it is not known whether similar findings would emerge for symptoms specific to SAD, given the general nature of the internalizing symptoms described in the vignette.

Jacobs and colleagues (2008) examined etiological beliefs about depression among a multi-ethnic sample of parents seeking treatment for their depressed adolescent.

After controlling for parent education, income, and their interaction, European-American parents were more likely to attribute their adolescent's problems to physical factors such as genetics and physical injury when compared to African-American parents. Ethnic differences were not observed for causal attributions regarding external circumstances, family, or community. It is of note that the sample included only parents seeking treatment for their depressed adolescent; therefore, the results of this study may not generalize to parents in the community. Further, given that parents were asked about etiological beliefs specific to their own child's symptoms, the presentation of their child's depressive symptoms (e.g., somatic versus nonsomatic) may have impacted their beliefs. Unfortunately, the specific presentation of depressive symptoms, which may differ across ethnic groups (Canino, Rubio-Stipec, Canino, & Escobar, 1992), was not examined in this study.

Varela and colleagues (2004) took a different approach to the study of cross-ethnic and cross-national differences in parental beliefs about internalizing symptomatology by assessing the degree to which Mexican, Mexican-American, and Caucasian parents offered anxious (i.e., primarily psychological) versus non-anxious and somatic (i.e., physical causes not related to psychological processes) interpretations during family discussions of three ambiguous situations (e.g., On the way to school you begin to feel funny in your stomach). In this study, Mexican and Mexican-American parents expressed a greater proportion of somatic, non-anxious interpretations than Caucasian parents, and Mexican parents expressed a significantly lower proportion of anxious interpretations than Caucasian parents. These results suggest that Mexican and Mexican-American parents may be more likely to attribute ambiguous symptoms to

somatic, rather than psychological, factors. Given that children with high levels of anxiety often express their distress through ambiguous symptoms or complaints (e.g., “I don’t feel well”) and use these symptoms as ways to avoid anxiety-provoking situations (Hofflich, Hughes & Kendall, 2006), parental interpretations of ambiguous internalizing symptoms are crucial in determining what type of care children receive. Additional studies examining parental beliefs about child anxiety symptoms and treatment in multi-ethnic samples are clearly needed.

Moderators of the Relationship between Ethnicity and Parental Beliefs/Preferences

In addition to examining the direct relationships between ethnicity and parental beliefs about child anxiety symptoms and preferences for help-seeking, it is of interest to assess for potential moderators of these relationships. For example, despite ethnic and cultural differences in somatization (Canino et al., 1992; Pina & Silverman, 2004; Weisz, Sigman, Weiss, & Mosk, 1993), somatic interpretations of child symptomatology (Varela et al., 2004), and distress associated with somatic symptoms (Pina & Silverman, 2004), the degree to which somatic symptoms are salient in the symptom presentation has been ignored when examining ethnicity in relation to parental beliefs about child symptoms and preferences for help-seeking. Given that somatic symptoms tend to be prominent in the symptom profiles of youth from certain ethnic minority groups (Pina & Silverman, 2004; Weisz et al., 1993) and have been rated as more distressing among Latino youth as compared to Caucasian youth (Pina & Silverman, 2004), it is possible that parents of ethnic minority youth will perceive a higher level of interference and a poorer prognosis when somatic symptoms are present as compared to when they are absent. It also seems

likely that parental beliefs about the causes of child symptoms and appropriate forms of help-seeking will vary based on the presence or absence of somatic symptoms.

Given research suggesting that ethnic minority families may delay the pursuit of mainstream mental health services until symptomatology is severe (McMiller & Weisz, 1996; Yeh, Takeuchi, & Sue, 1994), the potential moderating role of symptom severity in the relationships between ethnicity and parental beliefs about child anxiety symptoms and preferences for help-seeking is also of interest. Ethnic differences in parental beliefs about child symptoms and preferences for help-seeking may decrease in magnitude as the relative severity of the symptom presentation increases.

Lastly, the role of child gender in relation to parental beliefs about child anxiety symptoms and preferences for help-seeking is of interest. Parental beliefs about the prognosis (Bussing, Schoenberg, et al., 1998) and etiology (Bussing, Gary, et al., 2003) of ADHD symptoms in multi-ethnic samples have been found to differ based on the gender of the child, and in a single study conducted with African-American and Caucasian parents of children at high-risk for ADHD, race and child gender were found to interact in predicting parental beliefs about child symptoms and help-seeking efforts (Bussing, Koro-Ljungberg, Gary, Mason, & Garvan, 2005). Further research is needed to evaluate whether similar findings are observed in relation to youth anxiety symptoms.

Race/Ethnicity as a Proxy for Cultural Factors

The majority of studies examining the relationships between ethnicity and parental beliefs about child symptoms and preferences for help-seeking have not measured directly the cultural constructs that are believed to account for differences between ethnic groups. Although researchers often hypothesize about specific cultural

factors that may be related to parental judgments about child symptomatology (e.g., greater emphasis on interdependence among family members), these hypotheses are rarely tested empirically and remain speculation. The practice of using ethnicity as a proxy for underlying cultural values and beliefs is problematic, as ethnicity is an imprecise measure of culture and does not take into account vast within-group differences (Okazaki & Sue, 1995). More recently, it has been suggested that the study of ethnic differences alone is of little value, and that instead, ethnic categories should be entered into analyses following the constructs that are hypothesized to account for group differences (i.e., cultural constructs) to evaluate whether these constructs replace ethnic categories as predictors (Helms, Jernigan, & Mascher, 2005; Steinberg & Fletcher, 1998).

Several cultural constructs have been identified as potentially important in the presentation and conceptualization of anxiety disorders, as well as in determining the particular form of help that is sought (Harmon et al., 2006; Iwamasa & Pai, 2003). These include acculturation to mainstream American culture, independent and interdependent self-construals, and strength of religious faith.

Acculturation to Mainstream American Culture

Acculturation, the process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members (Berry, 2006), has been demonstrated to play an important role in the risk for, and expression of, psychological distress. In most cases, low levels of acculturation to mainstream American culture and high levels of acculturative stress appear to exacerbate or increase one's risk for psychological symptoms and disorders, including anxiety disorders (Crockett et al., 2007; Hwang & Ting, 2008). Research has also begun to focus

on the relationships between acculturation, beliefs about health and mental health symptomatology, and help-seeking attitudes and behaviors. Studies with Latino adults have demonstrated a negative relationship between acculturation to mainstream American culture and equity attribution beliefs (i.e., beliefs that negative health outcomes are due to punishment by an outside force because of a person's violation of community standards) (Murguia, Zea, Reisen, & Peterson, 2000), and a positive relationship between acculturation and psychological help-seeking behaviors (Miville & Constantine, 2006). Research with Asian-American adults suggests that acculturation to mainstream American culture among Asian-American college students is positively associated with greater similarity in etiological beliefs between students and mental health professionals (Mallinckrodt, Shigeoka, & Suzuki, 2005) and with more positive attitudes toward professional mental health treatment (Atkinson & Gim, 1989; Tata & Leong, 1994). In contrast, a study examining Chinese-American parents' beliefs about child symptoms and intentions for help-seeking did not find significant relationships between adherence to traditional Chinese culture and perceived severity of child problems or intentions for psychological help-seeking (Lau & Takeuchi, 2001). Research is needed to evaluate the role of acculturation in predicting parental beliefs about child anxiety symptoms and preferences for help-seeking.

Independence vs. Interdependence

Independent and interdependent self-construals are views of the self in relation to the collective that tend to correspond with the cultural constructs of individualism-collectivism (Singelis, 1994). The independent self-construal emphasizes the separateness, internal attributes, and uniqueness of individuals, whereas the

interdependent self-construal emphasizes connectedness, social context, and relationships (Markus & Kitayama, 1991; Singelis, 1994). Individuals in regions of the world that are thought to be high in collectivism (i.e., Asia, Latin America) have been found to endorse higher levels of interdependent self-construal and lower levels of independent self-construal than those in more individualist regions, such as the United States or Canada (Sapru, 2006; Varela et al., 2004; Wang & Mallinckrodt, 2006). Similarly, ethnic differences with regard to independent and interdependent self-construals have been observed in the United States, with Asian-American individuals reporting higher levels of interdependent self-construal and lower levels of independent self-construal than Caucasian individuals (Singelis, 1994; Singelis & Sharkey, 1995).

Few studies have examined the constructs of independent and interdependent self-construals in relation to beliefs about symptomatology. However, given findings that people with high levels of interdependent self-construal are more likely than those with high levels of independent self-construal to attribute a person's behavior during a social interaction to situational factors (Singelis, 1994), it seems likely that attributions about symptomatology may also differ based on one's self-construal (i.e., situational vs. internal attributions). The few studies examining independent and interdependent self-construals in relation to attitudes about professional mental health treatment have found lower levels of independent self-construal and higher levels of interdependent self-construal to be associated with positive attitudes towards mental health treatment among Asian and Asian-American adolescents and adults (Hao & Liang, 2007; Tata & Leong, 1994; Yeh, 2002). The idea that people who view themselves as more reliant on others tend to have more positive attitudes towards psychological help-seeking makes

theoretical sense, but does not help to explain why ethnic groups that have been found to report high levels of interdependent self-construal and low levels of independent self-construal (e.g., Asian-Americans) tend to underutilize professional mental health services.

Of particular interest are the relationships between independent and interdependent self-construals and beliefs about SAD. Given that the failure to construct and maintain a distinction between self and others tends to be viewed as pathological in individualist cultures (i.e., enmeshment), but normative in collectivist cultures (Landrine, 1995), it seems likely that parents' beliefs about the appropriate degree of autonomy granted to youth would also vary across individualistic and collectivist cultures. Indeed, research has documented ethnic and cultural differences in parental values and expectations regarding child behavior (Gonzales-Ramos, Zayas, & Cohen, 1998; Harkness & Super, 1992; Harwood, Handwerker, Schoelmerich, & Leyendecker, 2001). Harwood and colleagues (2001) found that Puerto Rican mothers placed less emphasis on self-maximization and self-control as compared to proper demeanor when asked about long-term socialization goals for their children, whereas the opposite was true for European-American mothers. Similarly, Puerto Rican mothers ranked respectfulness, loyalty to family, affectionateness, and sharing with others as more important values to teach their pre-school age child than independence, assertiveness, or creativity (Gonzales-Ramos et al., 1998). To date, no study has examined the constructs of independent and interdependent self-construals in relation to parental beliefs about SAD.

Religious Faith

Religious faith plays an important role in the way that individuals and communities conceptualize and respond to life circumstances, and mental health problems are likely no exception. Individuals who are highly religious or belong to cultures in which religion plays a prominent role have been found to attribute symptoms to religious causes, such as punishment by God, and to seek help from religious leaders rather than, or in addition to, mental health professionals (Abe-Kim, Gong, & Takeuchi, 2004; Hartog & Gow, 2005; Mathews, 2008; Mrinal, Mrinal, & Takooshian, 1994; Wilcox, Washburn, & Patel, 2007). For example, Christian clergymen in Singapore were found to attribute psychological problems to religious causes more often than psychological or organic causes (Mathews, 2008), and Indian mothers whose children received a diagnosis of ADHD were found to utilize religious interventions more often than professional mental health treatment (Wilcox et al., 2007). A recent study conducted with Christian adults demonstrated that religious beliefs and values significantly predicted the perceived likelihood that major depression and schizophrenia resulted from religious causes and the perceived helpfulness of religious interventions (Hartog & Gow, 2005). Although the importance of religious faith in relation to beliefs about youth anxiety disorders and preferred forms of treatment has been emphasized in the literature (Harmon et al., 2006), the exact nature of this relationship has yet to be examined empirically.

Etic vs. Emic Approaches

With the recent attention placed on the cultural relativity of psychological symptoms and disorders, researchers have begun to question the most appropriate ways

to measure psychological constructs in cultures different from their own. Two varied approaches have been proposed – the *etic* and the *emic* approach. With the *etic* approach, the investigator studies psychological constructs in one or more cultures from the outside, using methods that reflect his or her theoretical framework (Zayas & Rojas-Flores, 2002). Researchers who use this approach are generally interested in cross-cultural similarities and differences in psychological constructs, which may include the prevalence, presentation, or etiology of psychopathology across cultures (Tanaka-Matsumi, 2001). Optimally, this approach yields some generalizations to cultures not directly under study. With the *emic* approach, the investigator examines psychological constructs from within a specific culture, without imposing a priori definitions or ideas (Tanaka-Matsumi, 2001). The methods of research are based on the appropriateness to the culture being studied, rather than on the culture of the researcher, and any research findings are interpreted only in relation to that culture (Zayas & Rojas-Flores, 2002). Given that both *etic* and *emic* approaches have unique strengths and answer different research questions, a combination of *etic* and *emic* approaches is often recommended (Tanaka-Matsumi, 2001; Triandis, 2001; Zayas & Rojas-Flores, 2002). Further, even when the primary research questions involve cross-cultural (i.e., *etic*) comparisons, the importance of consulting with individuals who belong to the cultural groups of interest during development or validation of the research instruments has been emphasized (Bravo, 2003).

The Present Study

The present study evaluated parental beliefs about SAD symptomatology and the perceived likelihood of various forms of help-seeking among mothers from three ethnic groups (Puerto Rican, Indian-American, European-American). Ethnic differences in

parental beliefs about SAD symptoms and the perceived likelihood of various forms of help-seeking were examined, as were potential moderators of these relationships. Importantly, this study also examined the relative contributions of various cultural factors, strength of religious faith, and ethnicity in predicting parental beliefs about SAD symptoms and the perceived likelihood of various forms of help-seeking. Although this study used an etic approach, psychologists from the cultural groups of interest were consulted in the development of the primary measures (i.e., vignettes). Participants were limited to mothers because they tend to be primary caregivers (Pleck, 1997; Seymour, 1999; Falicov, 1998) and the gatekeepers of child mental health care (Costello, Pescosolido, Angold, & Burns, 1998). Puerto Rican and Indian ethnic groups were chosen because they are thought to hold cultural views and values regarding family structure (e.g., interdependence), relationships between mind and body (e.g., integrated rather than separate), and attributions of emotional distress (e.g., external rather than internal), which may affect beliefs about child symptoms and professional mental health treatment (Falicov, 1998; Prathikanti, 1997). Both groups are highly populated in the United States, particularly within the Philadelphia area. This area has the third largest Puerto Rican population and the fourth largest Indian-American population in the United States (U.S. Census Bureau, 2000b). Unfortunately, Indian-Americans have been virtually ignored in empirical literature (Durvasula & Mylvaganam, 1994; Uba, 1994). Given the absence of this group in mental health services (Prathikanti, 1997) despite their increasing prevalence rates and current position as the third largest Asian ethnic group in the United States, the importance of studying the cultural views and practices of Indian-Americans as they relate to treatment utilization cannot be overemphasized.

CHAPTER 2 OVERVIEW OF PRESENT STUDY

Study Aims

The aims of the present study were two-fold. First, this study compared parental beliefs about separation anxiety disorder (SAD) symptomatology and the likelihood of various forms of help-seeking across ethnic groups (Puerto Rican, Indian-American, European-American), child gender, symptom severity (moderate, severe), and symptom type (somatic, nonsomatic). Interactions between variables were examined to assess for potential moderators of the relationship between ethnicity and parental beliefs/help-seeking. Second, this study evaluated the relative contributions of various cultural factors (acculturation, independent self-construal, interdependent self-construal), strength of religious faith, and ethnicity in predicting parental beliefs about SAD symptomatology and the likelihood of various forms of help-seeking. It was of particular interest to determine whether cultural and religious variables could better account for differences in parental beliefs and help-seeking than ethnic group membership. The specific parental beliefs and forms of help-seeking examined as dependent variables (DVs) in the present study are reported in Table 1.

Primary Hypotheses

Main Effects of Ethnicity

With regard to parental beliefs, it was hypothesized that both Puerto Rican (PR) and Indian-American (IA) participants would rate SAD symptoms as less concerning, less interfering, less likely to result from psychological causes, more likely to result from

Table 1. Questions Posed to Participants and Corresponding Dependent Variables

Dependent Variable (DV)	DV Abbreviation	Question Posed to Participants
Parental Concern	Concern	If you were this child's parent, how worried would you be about his (her) behavior?
Perceived Interference	Interference	How much do you think this child's behavior would interfere with his (her) life (for example, with school, friends, and family)?
Perceived Prognosis	Prognosis	How likely is it that this child's behavior will improve on its own in a year or two?
Psychological Etiological Beliefs	Psych Etiology	How likely is it that this child's behavior is due primarily to a psychological, emotional, or mental problem?
Medical Etiological Beliefs	Med Etiology	How likely is it that this child's behavior is due primarily to a medical condition or illness?
External Etiological Beliefs ¹	External Etiology	How likely is it that this child's behavior is due primarily to a situation that he is in (for example, being bullied or having a mean teacher)?
Religious Etiological Beliefs ¹	Religious Etiology	How likely is it that this child's behavior is due to God's will (for example, God is punishing you or your family for something that you have done)?
Likelihood of Seeking help from a MH Professional	Psych Help	If you were this child's parent, how likely is it that you would seek help for this child from a psychologist/counselor?
Likelihood of Seeking Help from a Physician	Med Help	If you were this child's parent, how likely is it that you would seek help for this child from a medical doctor/physician?
Likelihood of Seeking Help from Family or Friends ¹	Fam/Friends Help	If you were this child's parent, how likely is it that you would seek help for this child from a family member or close friend?

Table 1. (continued)

Likelihood of Seeking Help from a Religious Leader ¹	Religious Help	If you were this child's parent, how likely is it that you would seek help for this child from a religious leader (for example, a priest, minister, guru, sadhu, rabbi)?
Likelihood of Seeking Help of Any Kind	Any Help	If you were this child's parent, how likely is it that you would seek help of any type for this child?

Note. ¹ These DVs were included in secondary analyses, but not primary analyses.

medical causes, and more likely to improve on their own when compared to European-American (EA) participants. With regard to help-seeking, it was hypothesized that PR and IA participants would report a lower likelihood of seeking help of any kind, a lower likelihood of seeking help from a mental health professional, and a higher likelihood of seeking help from a physician.

Main Effects of Symptom Severity

With regard to parental beliefs, it was hypothesized that all participants would rate severe symptoms as more concerning, more interfering, and less likely to improve on their own when compared to moderate symptoms. With regard to help-seeking, it was hypothesized that all participants would report a higher likelihood of seeking help of any kind and a higher likelihood of seeking help from a mental health professional or a physician in response to severe vs. moderate symptomatology.

Main Effects of Symptom Type

With regard to parental beliefs, it was hypothesized that all participants would rate somatic symptoms as more concerning, more interfering, less likely to result from psychological causes, more likely to result from medical causes, and less likely to

improve on their own when compared to moderate symptomatology. With regard to help-seeking, it was hypothesized that all participants would report a higher likelihood of seeking help of any kind, a lower likelihood of seeking help from a mental health professional, and a higher likelihood of seeking help from a physician in response to somatic vs. nonsomatic symptomatology.

Interactions

It was hypothesized that Ethnicity X Severity and Ethnicity X Symptoms interactions would be observed, in that ethnic differences would be greater for the moderate condition as compared to the severe condition and for the nonsomatic condition as compared to the somatic condition.

Secondary Hypotheses

Effect of Acculturation

It was hypothesized that acculturation to mainstream American culture would be positively related to level of concern, perceived interference, the likelihood that the symptoms resulted from psychological causes, the likelihood of seeking help of any kind, and the likelihood of seeking help from a mental health professional. It was hypothesized that acculturation to mainstream American culture would be negatively related to the perceived likelihood that symptoms will improve on their own, the likelihood that the symptoms resulted from medical causes, and the likelihood of seeking help from a physician.

Effects of Independent and Interdependent Self-Construal

It was hypothesized that independent self-construal would be positively related, and interdependent self-construal would be negatively related, to level of concern,

perceived interference, and the likelihood of seeking help of any kind. Conversely, it was hypothesized that independent self-construal would be negatively related, and interdependent self-construal would be positively related, to the perceived likelihood that symptoms will improve on their own, the likelihood that symptoms resulted from external causes, and the likelihood of seeking help from a friend or family member.

Effect of Strength of Religious Faith

It was hypothesized that strength of religious faith would be positively related to the likelihood that the symptoms resulted from religious causes and the likelihood of seeking help from a religious leader.

Effect of Ethnicity

It was hypothesized that ethnicity would no longer be significantly related to any of the DVs after accounting for the cultural variables.

CHAPTER 3 METHODS

Participants

Participants were 117 mothers of Puerto Rican ($N = 39$), Asian-Indian ($N = 39$), or European ($N = 39$) descent who were living in the United States and were recruited from the community. All participants had at least one child between the ages of 7 to 13 and were able to speak and read English fluently.

Puerto Rican mothers ranged in age from 24 to 52 ($M = 33.08$, $SD = 6.37$). Thirty-eight mothers reported their background to be fully Puerto Rican and one mother reported her ethnic background to be 75% Puerto Rican and 25% Dominican (e.g., three grandparents were of Puerto Rican descent and one grandparent was of Dominican descent). Thirty-one percent were the first generation in their family to live in the United States (e.g., they immigrated to the United States from Puerto Rico), 56.4% were the second generation in their family to live in the United States (e.g., one or both parents immigrated to the United States from Puerto Rico), 10.3% were the third generation in their family to live in the United States (e.g., one or more grandparents immigrated to the United States from Puerto Rico), and 2.6% reported that their family had been in the United States for more than three generations. First generation PR participants had lived in the United States for an average of 28.75 years. Three percent of Puerto Rican mothers had at least some graduate school training, 2.6% completed a bachelor's degree, 23.1% had some college training, 48.7% completed high school or received their GED, and 12.8% did not complete high school. Education level is not known for approximately 10% of the PR sample due to a misinterpretation of education categories. This issue is

discussed in detail in Footnote 14. Fifty-one percent of participants reported their total household income to be below \$20,000, 30.8% reported their household income to be \$20,000–\$39,000, 12.8% reported their total household income to be \$40,000–\$59,000, 2.6% reported their household income to be \$60,000–\$80,000, and no participants reported a household income over \$80,000. Fifteen percent of Puerto Rican mothers reported that English is spoken at home 100% of the time, 56.4% reported that English is spoken at home more than 75% of the time, 23.1% reported that English is spoken at home between 50-75% of the time, and 5.2% reported that English is spoken at home less than 50% of the time. In addition to English, languages spoken at home included Spanish (84.6% of mothers) and Mayan (2.6% of mothers). Table 2 reports additional demographic information for this sample.

Indian-American mothers ranged in age from 29 to 46 ($M = 38.16$, $SD = 3.25$). All Indian-American mothers included in the present study were the first generation in their family to live in the United States (e.g., they immigrated to the United States from India) and had resided in the United States for an average of 15.51 years. Forty-one percent had at least some graduate school training, 46.2% completed a bachelor's degree, 2.6% had some college training, and 10.3% completed high school or received their GED. No participants reported their total household income to be below \$20,000, 15.4% reported their household income to be \$20,000–\$39,000, 5.2% reported their total household income to be \$40,000–\$59,000, 10.3% reported their household income to be \$60,000–\$80,000, and 69.2% reported that household income to be over \$80,000. Eighteen percent of Indian-American mothers reported that English is spoken at home more than 75% of the time, 23.1% reported that English is spoken at home 50-75% of the

Table 2. Demographic Information for Study Participants

	Euro-American	Puerto Rican	Indian-American
Participant Age (M±SD)	39.0 ± 6.1	33.1 ± 6.4	38.2 ± 3.3
Generations in U.S. (%)			
1 st Generation	2.6%	30.8%	100%
2 nd Generation	7.7%	56.4%	0%
3 rd Generation	35.9%	10.3%	0%
4 th or > Generation	53.8%	2.6%	0%
Marital Status (%)			
Married	69.2%	23.1%	97.4%
Divorced	10.3%	10.3%	0%
Separated	5.1%	12.8%	2.6%
Widowed	2.6%	0%	0%
Never Married	12.8%	53.8%	0%
Religion (%)			
Catholic	56.4%	64.1%	0%
Christian	12.8%	15.4%	5.1%
Jewish	12.8%	0%	0%
Hindu	0%	0%	28.3%
Sikh	0%	0%	66.7%
Other	10.4%	12.9%	0%
No religion	5.1%	5.1%	0%
Missing Data	2.6%	2.6%	0%
Education Level (%)			
Graduate School	17.9%	2.6%	41.0%
College degree	28.2%	2.6%	46.2%
Some College	20.5%	23.1%	2.6%
High School Degree	28.2%	48.7%	10.3%
Did not complete HS	0%	12.8%	0%
Missing Data	5.1%	10.3%	0%
Household Income (%)			
< \$20,000	10.3%	51.3%	0%
\$20,000-\$39,000	15.4%	30.8%	15.4%
\$40,000-\$59,000	23.1%	12.8%	5.2%
\$60,000-\$80,000	17.9%	2.6%	10.3%
> \$80,000	33.3%	0%	69.2%
Missing Data	0%	2.6%	0%
Child's Gender (%)			
Males	61.5%	51.3%	43.6%
Females	38.5%	48.7%	56.4%
Child Age (M±SD)	9.3 ± 1.8	9.2 ± 2.0	8.7 ± 1.6

Note. SD = Standard deviation; HS = High school.

time, 33.3% reported that English is spoken at home 25-50% of the time, 23.1% reported that English is spoken at home less than 25% of the time, and 2.6% reported that they never speak English at home. In addition to English, languages spoken at home included Punjabi (69.2% of mothers), Hindi (35.9% of mothers), Gujarati (15.4% of mothers), Malayalam (5.1% of mothers), and Telugu (2.6% of mothers). Table 2 reports additional demographic information for this sample.

European-American mothers ranged in age from 26 to 51 ($M = 39$, $SD = 6.1$). 2.6% were the first generation in their family to live in the United States (e.g., they immigrated to the United States from Europe), 7.7% were the second generation in their family to live in the United States (e.g., one or both parents immigrated to the United States from Europe), 35.9% were the third generation in their family to live in the United States (e.g., one or more grandparents immigrated to the United States from Europe), and 53.8% reported that their family had been in the United States for more than three generations. Of the countries from which EA participants descended, the most commonly reported were Ireland (18%), Italy (18%), and Germany (8%). Thirty-eight European-American mothers were the biological mothers of at least one child between the ages of 7 to 13, and one mother was the adoptive parent of a child between these ages. Eighteen percent of European-American mothers had at least some graduate school training, 28.2% completed a bachelor's degree, 20.5% had some college training, and 28.2% completed high school or received their GED. Education level is not known for approximately 5% of the EA sample due to an omitted data response and a misinterpretation of education categories. This issue is discussed in detail in Footnote 14. Ten percent of participants reported their total household income to be below \$20,000, 15.4% reported their

household income to be \$20,000–\$39,000, 23.1% reported their total household income to be \$40,000–\$59,000, 17.9% reported their household income to be \$60,000–\$80,000, and 33.3% reported that household income to be over \$80,000. Ninety-seven percent of European-American mothers reported that English is spoken at home 100% of the time and 2.6 % reported that English is spoken at home more than 75% of the time. In addition to English, languages spoken at home included Spanish (2.6% of mothers), German (2.6% of mothers), and Polish (2.6% of mothers). Table 2 reports additional demographic information for this sample.

To determine which demographic variables should be included as covariates in primary and secondary analyses, preliminary analyses assessing for significant demographic differences across ethnic groups were conducted. The results of these group comparisons are reported in the Preliminary Analyses section of the Results.

Measures

Assessment of Demographic Information

Participants completed a questionnaire assessing demographic variables, such as race, ethnicity, age, marital status, religious affiliation, country of birth, age at time of immigration (if applicable), language(s) spoken at home, total household income, years of education and current occupation for herself and her husband or partner (if applicable), and age(s) and gender of her child(ren).

Assessment of Independent Variables and Covariates

Socioeconomic status. Two indices of socioeconomic status (SES) were calculated for the purposes of the present study: The Hollingshead Four-Factor Index (Hollingshead, 1975) and the Nakao and Treas Socioeconomic Index of Occupations

(Nakao & Treas, 1992). The Hollingshead Four-Factor Index is a widely used measure of SES that takes into account both education and occupation levels. The Nakao and Treas Socioeconomic Index of Occupations (SEI) is derived from both educational attainment and income of job incumbents corresponding to the 503 detailed occupational categories in the 1980 census.

To calculate the Hollingshead Four-Factor Index score, a participant's education level was assigned a score on a 7-point scale, ranging from 1 (*Less than 7th Grade*) to 7 (*Graduate Professional Training*), and a participant's occupation level was assigned a score on a 9-point scale, ranging from 1 (*Farm Laborers, Menial Service Workers and Welfare Recipients*)¹ to 9 (*Higher Executives, Proprietors of Large Businesses, and Major Professionals*).² The occupation level of the participant's husband or partner (if applicable) was scored in the same manner. The Hollingshead Four-Factor Index score was then calculated by multiplying the participant's education score by three and the highest family occupation score by five and summing the two numbers. The decision to use the highest family occupation score rather than solely the participant's occupation score or her partner's occupation score was made to accommodate both single-parent families and families in which one parent is a homemaker supported by his or her partner's income. This is a widely used method for determining family occupation level

¹ Welfare Recipients was added to category 1, in line with procedures from the Child and Adolescent Anxiety Multimodal Study (Walkup, Albano, Piacentini, Birmaher, Compton, Sherrill, et al., 2008).

² The Hollingshead Four-Factor Index guidelines created for the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN) research consortium (Hunter et al., 2003) were referred to when questions arose regarding the most appropriate classification of an occupation.

(e.g., Brotherton, Stoddard, & Tang, 2000; Sellers, Burns, & Guyrke, 2002; Vitaro, Brendgen, & Tremblay, 2000).

To calculate the Nakao and Treas Socioeconomic Index of Occupations score, the participant and her husband or partner (if applicable) were assigned individual SEI scores that ranged from 17.07 (*Shoe Machine Operators*) to 97.16 (*Physicians*) based on their current occupations. The highest family SEI score was then identified and used as a measure of socioeconomic status.

Because an SEI score could not be calculated for families in which there was no working adult (N = 19), the Hollingshead Four-Factor Index was utilized as the primary measure of SES in the present study. The SEI was used to evaluate the concurrent validity of the Hollingshead Four-Factor Index.

Trait anxiety. The State-Trait Anxiety Inventory-Trait Scale (STAI-T; Spielberger, 1983) was used to assess mothers' trait anxiety. The STAI-T is a 20-item adult self-report measure of relatively stable individual differences in anxiety. The STAI-T has been found to have adequate reliability and validity (e.g., Barnes, Harp, & Jung, 2002; Kendall et al., 1976; Oei, Evans, & Crook, 1990; Spielberger, Gorsuch, & Lushene, 1970). The version of the STAI-T used in this study (Form Y) excludes previous STAI-T items that were found to correlate highly with depression, resulting in a pure measure of trait anxiety.

Acculturation to mainstream American culture. The Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000) is a bidimensional measure of acculturation, which consists of 10 items assessing identification with heritage culture and 10 items assessing identification with mainstream culture. Responses range from 1

(*strongly disagree*) to 9 (*strongly agree*). The heritage subscore is calculated by averaging across the responses to 10 items referring to heritage culture (e.g., “I believe in the values of my heritage culture”), and the mainstream subscore is calculated by averaging across the responses to 10 items referring to mainstream culture (“I believe in mainstream North American values”). Both subscales of the VIA have been found to have excellent internal consistency (Heritage subscale $\alpha = .91-.92$; Mainstream subscale $\alpha = .85-.89$), high mean interitem correlations (Heritage subscale $r_s = .51-.53$; Mainstream subscale $r_s = .38-.45$), factorial validity by means of principal components analysis, and concurrent validity with variables expected to correlate with acculturation (e.g., generational status) in samples of Chinese, non-Chinese East Asian, Indian, and European participants (Kennedy, Parhar, Samra, & Gorzalka, 2005; Ryder et al., 2000). Although both subscales were administered as part of the present study, only the Mainstream subscale (VIA-M) was included in analyses, given that participants were from multiple heritage cultures. References within the VIA to mainstream culture as *North American* was changed to *American*, as suggested by the developers of the instrument for use in the United States.

Independent self-construal/interdependent self-construal. The Self-Construal Scale (SCS; Singelis, 1994) is a widely used self-report measure assessing participants’ individualistic/collectivistic cultural orientations. The SCS consists of two subscales, one designed to measure an individual’s independent/individualistic self-construal (e.g., “I enjoy being unique and different from others in many respects”) and one designed to measure an individual’s interdependent/collectivistic self-construal (e.g., “If my brother or sister fails, I feel responsible”). These constructs are assessed separately, as they

coexist and are not mutually exclusive. Each subscale contains 15 items, with a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).³ Both subscales of the SCS have been found to have adequate internal consistency (independent subscale $\alpha = .65-.70$; interdependent subscale $\alpha = .63-.74$; Singelis, 1994; Wang & Mallinckrodt, 2006) and adequate test-retest reliability (Singelis et al., 2006) in multi-ethnic samples. Asian-American participants have been found to score higher on the interdependent subscale than Caucasian-American participants, whereas the opposite has been found for the independent subscale (Singelis, 1994; Singelis & Sharkey, 1995). A similar pattern has been found when comparing participants residing in Asia to those in the United States (Wang & Mallinckrodt, 2006).

Strength of religious faith. The Santa Clara Strength of Religious Faith Questionnaire (SCSORF; Plante & Boccaccini, 1997a) is a 10-item measure assessing strength of religious faith regardless of denomination (e.g., “My faith is an important part of who I am as a person”). Items are scored on a 4-point scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), with higher scores indicating greater strength of religious faith. This measure has demonstrated excellent internal consistency ($\alpha = .93 - .97$), split-half reliability ($r_s = .90 - .96$), and retest reliability ($r_s = .82 - .93$) in community and student samples (Lewis, Shevlin, McGuckin, & Navratil, 2001; Plante & Boccaccini, 1997a; Plante & Boccaccini, 1997b), cancer patients (Sherman et al., 2001), and recovering substance abusers (Plante, Yancey, Sherman, Guertin, & Pardini, 1999), and is significantly correlated with other existing scales of religiousness (Plante &

³ The original version of the SCS consisted of 12 items per subscale, but 3 items have since been added to each subscale. Research suggests that the 30-item SCS supports the same two-factor structure as the 24-item SCS (Hardin, Leong, & Bhagwat, 2004).

Boccaccino, 1997b; Plante et al., 1999). A confirmatory factor analysis supports the unidimensional structure of the SCSORF, with factor loadings ranging from 0.72 to 0.91 (Lewis et al., 2001). For purposes of the present study, the reference to “church” in item 5 was changed to “church/temple/gurudwara/mosque,” and the reference to “God” in item 7 was changed to “God(s)” (e.g., followers of the Hindu religion tend to worship multiple gods).

Assessment of Dependent Variables

Four vignettes were created for the purposes of this study to assess parental beliefs about SAD symptomatology and the likelihood of various forms of help-seeking (see Appendix A). This method has been used in past studies examining similar constructs (Lau & Takeuchi, 2001; Narikiyo & Kameoka, 1992; Tarnowski, Simonian, Bekeny & Park, 1992; Tarnowski, Simonian, Park & Bekeny, 1992; Weisz et al., 1988). The vignettes vary as to symptom type (somatic vs. nonsomatic) and as to their relative severity (moderate vs. severe). The moderate-somatic vignette describes a 7 year-old child exhibiting moderate DSM-IV symptoms of SAD with somatic symptoms, the severe-somatic vignette describes a 7 year-old child exhibiting severe DSM-IV symptoms of SAD with somatic symptoms, the moderate-nonsomatic vignette describes a 7 year-old child exhibiting moderate DSM-IV symptoms of SAD without somatic symptoms, and the severe-nonsomatic vignette describes a 7 year-old child exhibiting severe DSM-IV symptoms of SAD without somatic symptoms. All 4 vignettes were completed by each participant. After each vignette, 3 questions regarding the perceived seriousness of the symptoms, 4 questions regarding the perceived etiology of the symptoms, and 5 questions regarding the likelihood of various forms of help-seeking were posed using 7-point Likert

scales. These questions were modified from those used by Weisz et al. (1988) in their study of Thai and U.S. adult judgments about child behavior. As in the Weisz et al., study, each question posed to participants corresponds with one dependent variable for the present study. Table 1 presents the questions posed to participants and the corresponding dependent variables (DVs). For ease of reading, DVs will frequently be identified by their abbreviated names listed in Table 1.

Seven reliable diagnosticians in the area of child anxiety, all of whom have extensive experience administering the Anxiety Disorders Interview Schedule for Child and Parents (ADIS-C/P) and assigning diagnoses based on the DSM-IV (American Psychological Association, 1994), were consulted during the creation of the vignettes. Each vignette was read by 3 or 4 diagnosticians and was assigned a probable diagnosis, confidence-in-diagnosis rating (0%-100%), and a clinical severity rating (CSR) associated with the child behavior in each vignette (ranging from 0-8, with 4 being the minimum rating for a clinical diagnosis; see Albano & Silverman, 1996). The vignettes were modified once after being rated by the expert panel and were re-rated by the same panel of expert diagnosticians. The final versions of the vignettes received a probable diagnosis of SAD by all diagnosticians, with confidence ratings ranging from 80% to 99%. The severe-somatic and severe-nonsomatic vignettes both received a mean CSR of 6 and the moderate-somatic and moderate-nonsomatic vignettes both received a mean CSR of 4 (mean CSRs were rounded to the nearest whole number to be consistent with the range of possible CSR values for the ADIS-C/P; Albano & Silverman, 1996).

Prior to initiating data collection, the content validity of the vignettes for the specific cultures being studied was established through consultation with cultural experts

(one Puerto Rican psychologist who is familiar with Puerto Rican culture and one Indian-American psychologist who is familiar with Indian culture). The cultural experts were asked to identify a) any words or phrases included in the vignettes that are likely to be unfamiliar to participants or interpreted in a way different than that intended by the researcher, b) any activities described in the vignettes in which a child of their ethnic group would have little opportunity to participate, and c) any somatic symptoms included in the vignettes that rarely occur in children of their ethnic group. Minor changes were made to the vignettes based on feedback from the cultural experts (e.g., “slept over” was changed to “stayed overnight at”). The cultural experts were also asked, on a 7-point Likert scale from 1 (*Not at all likely*) to 7 (*Extremely likely*), 1) how likely is it that mothers from their ethnic group would understand the vignettes as written, 2) how likely is it that a child from their ethnic group would be presented with opportunities to engage in the activities described in each vignette, and 3) how likely is it that a child from their ethnic group could experience the described somatic symptoms when feeling unwell. All items received a score of 5 or above on a 7-point Likert scale by both cultural experts (Puerto Rican cultural expert Mean = 6; Indian cultural expert Mean = 6.5).

The relative severity of the vignettes for the specific cultures being studied was also established through consultation with the cultural experts. Consultants were asked, on a 7-point Likert scale from 1 (*Not at all severe*) to 7 (*Extremely severe*), how anxious this child becomes when separating from his caregiver, based on their judgment as a psychologist. Both cultural experts rated the severe vignettes (e.g., severe-somatic and severe-nonsomatic) as 2 points higher on the Likert scale than the moderate vignettes

(e.g., moderate-somatic and moderate-nonsomatic), indicating that there is a true difference in severity between the moderate and severe vignettes.

Procedure

Participants were recruited from the community.⁴ Sixty-nine percent of participants (39 PR mothers, 39 EA mothers, 3 IA mothers) were recruited from pediatrician's waiting rooms at a large urban medical center, and 31% of participants (36 Indian-American mothers) were recruited from three South Asian community centers that hold religious services and language/cultural classes for youth (13, 13, and 10 participants from each community center). Appendix B includes a discussion of barriers to the recruitment of ethnic minority participants and how these were addressed in the present study.

Potential participants underwent a brief in-person screening, consisting of the questions "Do you have a child between the ages of 7-13?" "What is your ethnic background?" and "Do you speak and read English fluently?" Mothers who indicated that their ethnic background was anything other than Asian-Indian, Puerto Rican, or European, who did not have a child between the ages of 7-13,⁵ or did not speak and read

⁴ The decision to include participants from the community was made based on research suggesting that certain ethnic minority groups utilize mental health services at a relatively low rate (Bui & Takeuchi, 1992; McCabe et al., 1999) and treatment-seeking participants differ significantly from community participants on a number of factors (e.g., ethnicity, severity, comorbidity) (Goodman et al., 1997). Were the sample to be limited to participants seeking treatment at a mental health clinic, findings would likely not generalize to parents who have not sought mental health services for their children.

⁵ Because the vignettes included in this study described a 7 year-old child, mothers were asked to participate only if they currently had a child between the ages of 7 and 13. Mothers of a child younger than 7 years old who have not yet parented a child of this age may have judgments that differ from those who have had experience parenting a

English fluently⁶ were excluded from the study. Mothers of multi-ethnic or multi-racial background were included only if their ethnic background is more than 50% Indian, Puerto Rican, or European (e.g., one parent fully Puerto Rican and one parent half-Puerto Rican).

Qualifying mothers were informed that the study involves questionnaires regarding personal views and values and beliefs about child behaviors and that they may withdraw their consent at any time at no cost. Those interested in participation began study procedures immediately. The principal investigator reviewed the consent form with the participant and answered all questions that arose. After obtaining informed consent, the participant completed the demographic information, the four vignettes (randomly ordered), and the self-report measures (randomly ordered). The gender of the child described in the vignettes matched the gender of the participant's child. In cases where a participant had more than one child between the ages of 7 and 13, the gender of the child in the vignette matched the gender of the child closest to the age of 7. Aside from the gender of the child, the content of the vignettes were identical for the male and female

7 year-old child. Similarly, mothers whose children are above the age of 13 have not had experience parenting a 7 year-old child in over 6 years, and may have judgments that differ from those who have recently parented a child of this age.

⁶ Although the exclusion of mothers who don't speak English may limit the generalizability of findings given that English-speaking individuals may differ from those who do not speak English on factors such as number of years in the United States, reason for immigration, and SES, the decision to limit participants to those who speak English was made based on the numerous complications involved in the translation of measures (e.g., lack of translated measures with demonstrated validity, multiple samples needed to achieve translation equivalence) (Geisinger, 1994; Okazaki & Sue, 1995).

versions. Study participation took approximately 30 minutes. Following participation in the study, mothers were compensated for their time with a \$10 gift card.

Of 244 mothers who were informed about the study, 57 were excluded because they did not have a child between the ages of 7 to 13, 28 indicated that they were not interested in participation, and 21 were excluded because they did not speak and read English fluently. 138 participants signed consent for the present study. Of these, 117 participants who met all inclusion criteria and completed the study were included in analyses.

All participants were assigned an ID number, and participants were identified by this number on all forms. Data was stored in a locked filing cabinet, located in a locked room, and only the ID number was associated with their responses when entered into a password-protected SPSS database for analysis.

To assess the convergent validity of the Hollingshead Four-Factor Index, its correlation with the SEI⁷ and total household income was examined. It was expected that the Hollingshead Four-Factor Index would be positively and significantly correlated with the SEI and with total household income. To assess the convergent validity of the VIA-M, the degree to which the VIA-M is correlated with the number of generations one's family has been in the United States, the age at which one moved to the United States (for first generation participants only), and the percentage of time English is spoken in the home was examined. It was expected that there would be a significant positive correlation between the VIA-M and number of generations in the United States and percentage of

⁷ The 19 participants from families in which there is no working adult were excluded from these analyses.

time English is spoken in the home, and a significant negative correlation between the VIA-M and the age at which one moved to the United States.

In cases where an appropriate convergent measure was not available, divergent validity was assessed instead. The SORF total score was compared across religious affiliations, with the hypothesis that strength of religious faith would not differ significantly across religious affiliations. The relationship between the STAI-T and the SCS independent and interdependent scales was examined, with the hypothesis that self-reported trait anxiety would not be significantly correlated with self-reported independent or interdependent self-construals.

To assess the internal consistency of study measures, Cronbach's alpha was calculated for all questionnaires. Values of 0.8 and above represent good internal consistency and values between 0.7-0.8 represent adequate internal consistency (Field, 2005).

Handling of Missing Data

In cases where a participant was missing one or more items of a measure and the missing items comprised 10% or fewer of the total number of items, missing values were replaced with the individual's mean score on that measure. In cases where the missing items comprised more than 10% of the total number of items, these participants were excluded from all analyses involving that measure.

Analytic Plan

Plans for Testing Statistical Assumptions

Prior to conducting analyses, assumptions of RM-MANCOVA and follow-up univariate ANCOVAs were evaluated. To assess whether the dependent variables were

normally distributed, the Shapiro-Wilk statistic, skewness, and kurtosis were examined. Because the Shapiro-Wilk statistic is overly sensitive to slight departures from normality, the test statistic (i.e., correlation between the raw data and the expected data if the observations followed a normal distribution) was used to assess normality rather than the p value. Shapiro-Wilk correlations that were less than .85 were used as indicators of non-normality (Karpinski, 2003). Skewness and kurtosis values were converted to z scores, with absolute values greater than 1.96 indicating significant departures from the normal curve. Outliers were identified through an examination of z -scores.

To assess for homogeneity of variances and covariance matrices, Levene's test and Box's test were conducted. In addition to examining the p value for Levene's test, the ratio of the variances between the group with the largest variance and the group with the smallest variance was calculated, with ratios less than 2 indicating homogeneity of variances (Field, 2005). When assumptions for RM-MANCOVAs were violated, the Pillai-Bartlett Trace test statistic was used, given that this statistic is robust to violations of assumptions when there are equal sample sizes in each group (Field, 2005).

Prior to conducting analyses, assumptions for hierarchical multiple regression were also evaluated. Correlations among independent variables (IVs) were assessed using collinearity diagnostics such as Tolerance, VIF, and Pearson's correlation. Tolerance values greater than 10, VIF values less than .10, or Pearson's correlations greater than .80 are indicative of multicollinearity. The degree to which errors were independent was assessed through the Durbin-Watson test, with values less than 1 or greater than 3 being cause for concern. Linearity, homoscedasticity (i.e., the variance of the residuals is constant across levels of the predictor variables), and the degree to which the residuals

were normally distributed was assessed through review of the standardized residuals against standardized predicted values plots and the normal probability plots.

Plan for Preliminary Analyses

Before primary and secondary hypotheses were tested, preliminary analyses were conducted. ANOVAs and Chi-Squares were conducted to assess for significant differences across ethnic groups on demographic and potentially confounding variables such as SES, participant age, child gender, child age, and maternal trait anxiety. ANOVAs and correlational tests were conducted to assess for significant relationships between demographic or potentially confounding variables and the DVs. When significant relationships were found, the demographic or confounding variable was controlled in subsequent analyses. To evaluate the effect of recruitment site on the constructs of interest, ANOVAs were conducted to compare participants within the same ethnic group who were recruited through different sources. Descriptive analyses of predictor variables (i.e., VIA-M, SORF, SCS) for each ethnic group were also conducted.

Prior to evaluating *between-subject* (e.g., ethnic, cultural) differences in etiological beliefs and help-seeking preferences, preliminary analyses assessed for *within-subject* comparisons of the perceived likelihood of potential etiologies and various help-seeking efforts. These analyses answer questions such as “Are Puerto Rican participants more likely to report medical etiological beliefs as compared to psychological etiological beliefs?” or “Are Indian participants more likely to seek help from family members or friends as compared to a mental health professional?” and may contribute to a better understanding of the data and of any significant findings that may result from the primary and secondary analyses. To evaluate within-subject comparisons of the perceived

likelihood of potential etiologies, one-way RM-ANOVAs were conducted where each type of etiological belief (e.g., psychological, medical, external, religious) was a level of the repeated measures factor. Similarly, to evaluate within-subject comparisons of the likelihood of engaging in various help-seeking efforts, one-way RM-ANOVAs were conducted where each type of help-seeking effort (e.g., mental health professional, physician, family/friends, religious leader) was a level of the repeated measures factor. These analyses were conducted separately for each ethnic group. In cases where the assumption of sphericity was violated, the Greenhouse-Geisser correction was applied (Field, 2005). Significant omnibus tests were followed up with all possible pairwise comparisons with the Bonferroni corrected alpha set at $.05/6 = .008$.

Plan for Primary Analyses

To test the primary hypotheses, four 3(Ethnicity; PR, IA, EA) X 2(Child Gender; Male, Female)⁸ X 2 (Symptom Severity; Moderate, Severe) X 2 (Symptom Type; Somatic, Nonsomatic) Repeated-Measures Multivariate Analyses of Covariance (RM-MANCOVA) were conducted.⁹ Each RM-MANCOVA included two DVs that were

⁸ The decision to include child gender as an independent variable rather than a covariate in the RM-MANCOVA analyses is two-fold. First, MANCOVA accommodates only continuous covariates, and therefore, categorical covariates are better examined as factors in the model (Field, 2005). Second, child gender is likely to be an important variable given that participants read different versions of the vignettes depending upon their child's gender (e.g., mothers of boys read vignettes describing a boy), and has been included as an independent variable in studies with similar methodology (e.g., Narikiyo & Kameoka, 1992; Weisz et al., 1988). Although no specific hypotheses about gender were developed a priori, all significant findings regarding gender will be reported.

⁹ Only main effects and two-way interactions were interpreted to ensure sufficient power and ease of interpretability.

hypothesized a priori to be significantly correlated.¹⁰ The DVs for the first RM-MANCOVA were Concern and Interference, the DVs for the second RM-MANCOVA were Psych Etiology and Psych Help, the DVs for the third RM-MANCOVA were Med Etiology and Med Help, and the DVs for the fourth RM-MANCOVA were Prognosis and Any Help. An advantage of MANCOVA over a series of ANCOVAs when there are multiple DVs is protection against inflated Type I error due to multiple tests of correlated DVs (Tabachnick & Fidell, 2001, pg. 323). When found to be significant at the .05 level, the overall MANCOVAs were followed up with univariate ANCOVAs on each of the dependent variables. The overall MANCOVA protects against inflated Type 1 error rates, given that follow-up univariate ANCOVAs are conducted only when the initial test is significant (Bock, 1975). In cases where significant ethnic differences were observed, univariate ANCOVAs were further followed up with t-tests to locate significant differences. Given that two specific hypotheses regarding ethnic differences were determined a priori for each dependent variable (e.g., for Concern: IA group < EA group, PR group < EA group), these hypotheses were tested first via non-orthogonal contrasts with alpha set at $.05/2 = .025$. Following these tests, all possible pairwise comparisons were conducted and the Bonferroni correction was applied. SES was entered as a covariate in all analyses. Effect sizes (r) were calculated for all significant univariate comparisons. Previous studies on similar topics have used multivariate analytic strategies

¹⁰ Additional analyses were conducted to evaluate the relationships between specific parental beliefs (e.g., perceived prognosis, etiological beliefs) and the perceived likelihood of engaging in various forms of help-seeking within each ethnic group. The results of these analyses are reported in Appendix C and provide further justification for MANCOVA analyses, rather than a series of ANCOVAs.

to address correlations between DVs (e.g., attitudes towards mental health treatment and help-seeking behavior among Mexican Americans; Miville & Constantine, 2006).

Plan for Secondary Analyses

To evaluate the relative contributions of acculturation to mainstream American culture, independent self-construal, interdependent self-construal, strength of religious faith, and ethnicity in predicting to parental beliefs about SAD symptomatology and the likelihood of various forms of help-seeking, hierarchical multiple regression analyses were conducted. In addition to the eight DVs included in the primary analyses, secondary analyses included four additional dependent variables (External Etiology, Religious Etiology, Fam/Friends Help, Religious Help) that were hypothesized to be related to one or more of the cultural variables. For all analyses, SES and child gender were entered into the first block to account for the variance associated with these variables. Maternal trait anxiety was included in the first block only for the regression analysis predicting to Religious Etiology, based on preliminary analyses indicating that trait anxiety was significantly associated with Religious Etiology (see Preliminary Results section). Acculturation to mainstream American culture, independent self-construal, interdependent self-construal, and strength of religious faith were entered simultaneously into the second block for all analyses. Ethnicity, a variable with three categories (PR, IA, EA) was dummy coded, and the two resulting variables were entered into the third block for all analyses. As recommended by Helms and colleagues (2005) and in line with other studies that have included ethnicity in hierarchical multiple regression analyses (Ellis & Ryan, 2003; Ong & Phinney, 2002; Osborne, 2001), ethnicity was placed in the last block

to assess whether the cultural variables replace ethnic categories as predictors of the dependent measures.

Of the twelve DVs to which each hierarchical regression analysis corresponded, three were concerned with the seriousness of the symptoms (Concern, Interference, Prognosis), four were concerned with the etiology of the symptoms (Psych Etiology, Med Etiology, External Etiology, Religious Etiology), and five were concerned with the likelihood of various forms of help-seeking (Psych Help, Med Help, Fam/Friends Help, Religious Help, Any Help). In an effort to balance Type I and Type II errors, one DV in each category was designated to be of primary interest and was evaluated at the .05 alpha level. These DVs were Concern, Psych Etiology, and Psych Help, and were chosen to be consistent with the primary objectives of the present study (i.e., to evaluate factors that may lead to differential utilization of professional mental health treatment across ethnic groups). All remaining DVs were evaluated against a Bonferroni-corrected alpha level, where .05 was divided by the number of variables remaining in the category. The remaining two seriousness variables were evaluated at the .025 alpha level, the remaining three etiology variables were evaluated at the .017 alpha level, and the remaining four help-seeking variables were evaluated at the .013 alpha level. The practice of designating one variable as primary and others as secondary in the case of multiple outcome variables is commonly used and recommended (Cleophas, Zwinderman, & Cleophas, 2002).

For all regression analyses in which strength of religious faith (SORF) was found to be a significant predictor of the DV, exploratory regression analyses were conducted to examine whether SORF remains a significant predictor when religious affiliation is entered into the regression equation and whether religious affiliation additionally predicts

the dependent variable. The decision to conduct these exploratory follow-up analyses was based on preliminary findings suggesting that the SORF may be measuring aspects of religious faith specific to one or more religions rather than those applicable to all religions (see the Psychometrics of the Measures section). Because religious affiliation must be entered into the regression equation as dummy variables, with the number of dummy variables equaling the number of groups minus one, only the four most frequent religious affiliations in the sample were included in the follow-up analyses (Catholic, Christian,¹¹ Hindu, Sikh; $N = 97$).

Power Analysis

Based on existing studies utilizing similar methodology to the present study (i.e., community samples, ratings based on hypothetical child behavior or scenarios), medium effect sizes were expected. For example, Weisz and colleagues (1988) compared adult judgments about child behaviors in the United States and Thailand, resulting in a medium to large effect size of $f = 0.35$ (averaging across 5 Likert scale questions), and Varela and colleagues (2004) assessed differences in parents' anxious and somatic interpretations during family discussions of ambiguous and potentially anxiety-arousing situations across Mexican, Mexican-American, and European-American participants, also resulting in medium to large effect sizes ($f = 0.30$; $f = 0.39$).

¹¹ Although Catholicism is a form of Christianity, participants who self-identified as Catholic were analyzed separately from those who self-identified as Christian. This decision was made to be consistent with recent NIH policy that research participants be placed into sociocultural categories based on self-identification, rather than on judgments of the investigator (see NIH notice NOT-OD-01-053, 2001 for relevant policy referring to race and ethnicity).

For repeated-measures multivariate analyses of covariance (RM-MANCOVA), the number of participants needed is determined by the between-subject effect, using the same criteria as for MANCOVA (Tabachnick & Fidell, 2001). However, because within-subject independent variables are included, Tabachnick and Fidell recommend adding a few additional subjects to each group. With an expected medium effect of $f^2=.15$, power greater than 0.80 would be achieved with a sample size of 108 (obtained via G*Power; Erdfelder, Faul, & Buchner, 1996). Therefore, a sample size of 117 complies with the recommendations of Tabachnick and Fidell (i.e., 3 additional subjects in each ethnic group).

With an expected medium effect size and a sample size of 114,¹² hierarchical multiple regression analyses with up to nine predictors are adequately powered (>0.80, obtained via G*Power; Erdfelder et al., 1996).

¹² Three participants were excluded from regression analyses due to missing data.

CHAPTER 4 RESULTS

Psychometrics of the Measures

Convergent validity was established for the Hollingshead Four-Factor Index based on a priori criteria. The Hollingshead Four-Factor Index was significantly and positively correlated with the SEI¹³ and with total household income with $r_s > .85$ and $p < .01$ (see Table 3).

Table 3. Convergent Validity of the Hollingshead Four-Factor Index

	Income (<i>r</i>)	SEI (<i>r</i>)
Hollingshead Four-Factor Index	.86**	.90**

Note. Income = Total Household Income; SEI = Nakao and Treas Socioeconomic Index of Occupations.

* $p < .05$. ** $p < .01$

Convergent validity was also established for the VIA-M based on a priori criteria. The VIA-M was significantly and positively correlated with number of generations in the United States, $r = .48$, $p < .01$, and percentage of time English is spoken at home, $r = .58$, $p < .01$, and significantly and negatively correlated with the age at which one moved to the United States, $r = -.45$, $p < .01$ (see Table 4).

Divergent validity for the SORF was not established according to a priori criteria (see Table 5). When the SORF total score was compared across the four most frequently reported religious affiliations in the present sample (e.g., Catholic, Christian, Hindu,

¹³ The 19 participants from families in which there was no working adult were excluded from these analyses.

Table 4. Convergent Validity of the Vancouver Index of Acculturation Mainstream Scale

	Generations (<i>r</i>)	English (<i>r</i>)	Age in U.S. (<i>r</i>)
VIA-M	.48**	.58**	-.45**

Note. VIA-M = Vancouver Index of Acculturation Mainstream Scale; Generations = Number of generations in the United States; English = % time English is spoken at home; Age in U.S. = Age at which participant moved to the United States (1st generation participants only).

* $p < .05$. ** $p < .01$

Table 5. Divergent Validity of the Strength of Religious Faith Scale

	Catholic		Christian		Hindu		Sikh	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
SORF Total	29.91 ^a	6.31	35.31 ^b	4.73	31.91 ^{a,b}	4.44	34.27 ^b	5.10

Note. Means identified with the same letter (a,b) do not differ significantly from one another. SORF = Strength of Religious Faith; SD = Standard deviation.

Sikh), significant differences were observed, $F(3,93) = 5.05$, $p < .01$. Contrasts conducted to locate significant differences between groups revealed that Catholic participants scored significantly lower on strength of religious faith than did Christian participants, $t(93) = -3.06$, $p < .01$, or Sikh participants, $t(93) = -3.16$, $p < .01$. These results suggest that the SORF may be measuring aspects of religious faith specific to one or more religions rather than those applicable to all religions. To address this potential confound, regression analyses examined whether the SORF total score remains a significant predictor when religious affiliation is entered into the regression equation and whether religious affiliation additionally predicts the dependent variable (see the Analytic Plan section).

Divergent validity was established for the STAI-T and the SCS independent and interdependent scales based on a priori criteria. The STAI-T was not significantly

correlated with either the SCS independent scale, $r = -.06$, *ns*, nor the SCS interdependent scale, $r = .08$, *ns*.

The Cronbach's alphas for the VIA-M, the STAI-T, and the SORF all exceeded 0.85, indicating good internal consistency for these measures (see Table 6).

Table 6. Internal Consistency of Study Measures

	Cronbach's α
VIA-M	.89
STAI-T	.88
SORF	.94
SCS Independent	.69
SCS Interdependent	.74

Note. VIA-M = Vancouver Index of Acculturation Mainstream Scale; STAI-T = The State-Trait Anxiety Inventory-Trait Scale; SORF = Strength of Religious Faith; SCS = Self-Constraint Scale.

The Cronbach alpha for the SCS Interdependent Subscale was 0.74, indicating adequate internal consistency for this measure. The Cronbach alpha for the SCS Independent Subscale was 0.69, indicating that the internal consistency for this measure is slightly below adequate. However, it has been suggested that values below 0.7 can realistically be expected when dealing with psychological constructs due to the diversity of the constructs being measured (Kline, 1999). Nevertheless, results for the SCS Independent Subscale should be viewed with some caution, given the limited internal consistency of this measure.

Tests of Statistical Assumptions

A review of the skewness and kurtosis values for each ethnic group indicated that the distributions for Med Etiology and Med Help in the Indian sample were positively skewed, and the distributions for Med Etiology and Prognosis were peaked. However,

examination of the Shapiro-Wilk statistics revealed that none of the dependent variables had distributions that deviated meaningfully from the normal curve (all Shapiro-Wilk statistics $> .85$).

To examine whether outliers were at risk of biasing the data, outliers were identified through an examination of z-scores. In a normal distribution, it would be expected that 5% of data would have values greater than 2, 1% of data would have absolute values greater than 2.58, and none would be greater than 3.29 (Field, 2005). In distributions where a higher number of outliers were observed, values that were greater than 2.58 standard deviations from the mean were replaced with a value 2.5 standard deviations from the mean, and values that were greater than 2 but less than 2.5 standard deviations from the mean were replaced with a value 2 standard deviations from the mean (see Field, 2005). For tests of the primary and secondary analyses, analyses were run both with the original data and with the outliers replaced. In cases where there were no significant differences, results with the original data were reported. In cases where significant differences were observed, results with the outliers replaced were reported in a footnote.

An examination of Levene's test revealed that none of the DVs included in the primary analyses violate the assumption of homogeneity of variances (e.g., all ratios of the largest group variance to the smallest group variance are less than 2). However, an examination of Box's test indicated that the variance-covariance matrices for several of the DVs are not equal across groups. The Pillai-Bartlett Trace test statistic were examined for all RM-MANCOVA analyses, given that this statistic is robust to violations of assumptions when there are equal sample sizes in each group (Field, 2005).

An examination of the Tolerance and VIF statistics and Pearson's correlations indicated that there is not multicollinearity among predictor variables (see Table 7 for the correlation matrix of predictor variables).

Table 7. Correlation (r) Matrix of Predictor Variables

	SES	Gender	VIA-M	SCS Ind	SCS Inter	SORF	PR vs. EA	IA vs. EA
SES	1	.08	-.21	-.17	.05	.03	-.68	.55
Gender		1	-.19	-.03	.03	-.02	.01	.12
VIA-M			1	.17	-.14	-.09	.14	-.55
SCS Ind				1	.27	.07	.38	-.17
SCS Inter					1	.35	.03	.29
SORF						1	.02	.28
PR vs. EA							1	-.50
IA vs. EA								1

Note. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation Mainstream Scale; SES Ind = Self-Construal Scale Independent Subscale; SES Inter = Self-Construal Scale Interdependent Subscale; SORF = Strength of Religious Faith; PR = Puerto Rican; EA = European-American; IA = Indian American.

Residual terms appear to be independent, as evidenced by Durbin-Watson statistics between 1 and 3. Based on review of the standardized residuals against standardized predicted values plots and the normal probability plots, the assumption of linearity has been met for all outcome variables, and the assumptions of homoscedasticity and normally distributed errors have been met for all but the two of the regression equations. When predicting to Religious Etiology and Religious Help, the variance of the residual terms do not appear to be constant at each level of the predictor variables and the residual terms do not appear to be normally distributed. Analyses predicting to Religious Etiology and Religious Help should be viewed with caution given that all assumptions have not been met.

Preliminary Analyses

Group Comparisons

Significant differences were found across ethnic groups on participants' age, $F(2,110) = 12.99, p < .01$, with PR participants being significantly younger than both EA participants, $t(73.3) = 4.13, p < .01$, and IA participants, $t(53.56) = 4.32, p < .01$.

Significant differences were also found across ethnic groups on SES,¹⁴ $F(2,114) = 54.91, p < .01$. IA participants had significantly higher SES than both EA participants, $t(67.59) = -3.77, p < .01$, and PR participants, $t(70.69) = 11.2, p < .01$, and EA participants had significantly higher SES than the PR participants, $t(75.43) = 6.09, p < .01$. No significant differences were found across ethnic groups on child gender, $X^2(2) = 2.54, p > .05$, child age, $F(2,114) = 1.14, p > .05$, or participants' trait anxiety, $F(2,112) = .66, p > .05$ (see Table 8).

Examination of Potential Confounds

When the relationships between demographic or potentially confounding variables and the DVs were assessed, SES, child gender, and maternal trait anxiety were found to be significantly associated with some, but not all, DVs (see Tables 9 and 10).

¹⁴ Partway through data collection for the present study, it came to the attention of the investigator that the "Graduate Professional Training" item on the Hollingshead education scale had likely been misinterpreted by five participants as technical or job training. One additional participant did not complete the question regarding education level. For these six participants, the misinterpreted or missing value was replaced with the most frequent Hollingshead education score for individuals of the same ethnicity with the same Hollingshead occupation level. The decision to consider only individuals of the same ethnicity when calculating the replacement scores was based on research suggesting that the relationship between education level and job status/income differs across ethnic and racial groups (Oliver & Shapiro, 1995). See Appendix D for the Hollingshead Four-Factor Index scores for each ethnic group with and without the six cases.

Table 8. Means and Standard Deviations for Independent/Predictor Variables by Ethnicity

	Euro-American		Puerto Rican		Indian-American	
	Mean	(SD)	Mean	(SD)	Mean	(SD)
SES	46.05 ^a	(13.68)	27.95 ^b	(12.53)	56.10 ^c	(9.46)
STAI-T	35.97 ^a	(8.48)	38.22 ^a	(10.33)	37.54 ^a	(7.49)
VIA-M	74.72 ^a	(12.72)	68.65 ^b	(11.04)	52.08 ^c	(15.99)
SORF	28.45 ^a	(7.57)	31.31 ^b	(5.68)	33.77 ^b	(4.95)
SCS Independent	72.21 ^a	(8.52)	80.08 ^b	(9.71)	72.57 ^a	(8.55)
SCS Interdependent	66.88 ^a	(7.97)	72.21 ^b	(11.72)	76.20 ^b	(9.33)

Note. Across each row of the table, means identified with the same letter (a,b,c) do not differ significantly from one another. SES = Hollingshead Four-Factor Index; STAI-T = The State-Trait Anxiety Inventory-Trait Scale; VIA-M = Vancouver Index of Acculturation Mainstream Scale; SORF = Strength of Religious Faith; SCS = Self-Constraint Scale; SD = Standard deviation.

Table 9. Pearson Correlations between Demographic and Potentially Confounding Variables and Dependent Variables

	Participant Age (<i>r</i>)	Child Age (<i>r</i>)	STAI-T (<i>r</i>)	SES (<i>r</i>)
Concern	-.07	.01	-.04	-.16
Interference	-.02	.07	-.02	-.11
Prognosis	.02	-.13	<.01	-.08
Psych Etiology	.08	.04	-.13	-.01
Med Etiology	-.10	.06	.09	-.27**
External Etiology	.07	-.07	-.07	-.02
Religious Etiology	-.01	.03	.26**	-.20*
Psych Help	-.01	.05	-.03	-.17
Med Help	-.04	-.02	.03	-.25**
Fam/Friends Help	-.04	-.13	-.10	.04
Religious Help	.07	.14	.09	-.20*
Any Help	-.07	.05	-.04	-.18

Note. STAI-T = State-Trait Anxiety Inventory-Trait Scale; SES = Hollingshead Four-Factor Index.

* $p < .05$. ** $p < .01$

Table 10. Means and Standard Deviations for Dependent Variables by Child Gender

	Child Gender	
	Male	Female
Concern		
Mean	4.71 ^a	5.12 ^a
(SD)	(1.21)	(1.20)
Interference		
Mean	4.73 ^a	5.03 ^a
(SD)	(1.17)	(1.21)
Prognosis		
Mean	4.61 ^a	4.42 ^a
(SD)	(1.15)	(1.27)
Psych Etiology		
Mean	4.78 ^a	4.75 ^a
(SD)	(1.42)	(1.46)
Med Etiology		
Mean	2.83 ^a	3.45 ^b
(SD)	(1.45)	(1.60)
External Etiology		
Mean	3.78 ^a	3.88 ^a
(SD)	(1.50)	(1.56)
Religious Etiology		
Mean	1.40 ^a	1.56 ^a
(SD)	(0.85)	(1.28)
Psych Help		
Mean	4.56 ^a	4.58 ^a
(SD)	(1.59)	(1.69)
Med Help		
Mean	4.00 ^a	4.25 ^a
(SD)	(1.82)	(1.88)
Fam/Friends Help		
Mean	3.91 ^a	4.07 ^a
(SD)	(1.45)	(1.65)
Religious Help		
Mean	2.08 ^a	2.14 ^a
(SD)	(1.42)	(1.53)
Any Help		
Mean	4.80 ^a	5.03 ^a
(SD)	(1.52)	(1.41)

Note. Across each row of the table, means identified with the same letter (a,b,c) do not differ significantly from one another. SD = Standard deviation.

Participant age and child age were not found to be significantly associated with any of the DVs. SES was controlled for in all analyses due to its strong association with ethnicity and its significant relationship with several DVs. Child gender was included as an independent variable in all RM-MANCOVA analyses¹⁵ and was included as a covariate in all hierarchical multiple regression analyses. Maternal trait anxiety¹⁶ was controlled for only in analyses that involve the DV with which it was significantly related (i.e., Religious Etiology). Although participant age differed significantly across ethnic groups, it was not controlled for in analyses given that it was not found to be significantly associated with any of the DVs.

Given that IA participants were recruited from multiple sites, ANOVAs were conducted to assess for significant relationships between recruitment site and the dependent variables.¹⁷ No significant site differences were observed for any of the DVs (see Table 11).

¹⁵ The decision to include child gender as an independent variable rather than a covariate in the RM-MANCOVA analyses is two-fold. First, MANCOVA accommodates only continuous covariates, and therefore, categorical covariates are better examined as factors in the model (Field, 2005). Second, child gender is likely to be an important variable given that participants read different versions of the vignettes depending upon their child's gender (e.g., mothers of boys read vignettes describing a boy), and has been included as an independent variable in studies with similar methodology (e.g., Narikiyo & Kameoka, 1992; Weisz et al., 1988). Although no specific hypotheses about gender were developed a priori, all significant findings regarding gender will be reported.

¹⁶ Two participants were excluded from analyses involving the STAI-T due to missing items that comprised more than 10% of the total number of scale items.

¹⁷ Only participants recruited through the three community centers were included in these analyses given that only 3 Indian-American participants were recruited through the medical center.

Table 11. Means and Standard Deviations for Dependent Variables by Recruitment Site

	Recruitment Site ^{1,2}		
	1	2	3
	Mean (SD)	Mean (SD)	Mean (SD)
Concern	4.48 (0.89)	5.10 (1.11)	4.75 (1.13)
Interference	4.33 (0.89)	5.15 (1.26)	4.93 (0.94)
Prognosis	4.60 (1.10)	4.23 (1.23)	4.45 (1.17)
Psych Etiology	3.98 (0.97)	4.85 (1.12)	4.68 (1.58)
Med Etiology	2.40 (1.12)	2.50 (1.54)	3.10 (1.26)
External Etiology	2.96 (1.10)	3.73 (1.74)	4.00 (1.46)
Religious Etiology	1.85 (0.98)	1.23 (0.44)	1.63 (1.73)
Psych Help	3.92 (1.19)	4.04 (1.65)	4.30 (1.68)
Med Help	3.10 (1.48)	3.33 (1.65)	3.43 (1.95)
Fam/Friends Help	4.23 (1.64)	4.67 (1.34)	4.48 (1.17)
Religious Help	1.85 (0.73)	1.31 (0.51)	2.30 (1.80)
Any Help	4.81 (1.20)	4.44 (1.44)	4.48 (1.59)

Note. ¹ Only Indian-American participants recruited through three community centers were included in these analyses. ² No significant site differences were observed.

Examination of Predictor Variables

Descriptive analyses of predictor variables for each ethnic group were conducted and were reported in Table 8. Significant differences across ethnic groups were found for the VIA-M, $F(2,114) = 29.79, p < .01$, the SORF,¹⁸ $F(2,113) = 7.21, p < .01$, the SCS Independent Scale,¹⁹ $F(2,112) = 9.54, p < .01$, and the SCS Interdependent Scale,²⁰ $F(2,112) = 8.67, p < .01$. For the VIA-M, EA participants scored significantly higher than either PR or IA participants, and PR participants scored significantly higher than IA

¹⁸ One participant was excluded from all analyses involving the SORF due to missing items that comprised more than 10% of the total number of scale items.

¹⁹ Two participants were excluded from analyses involving the SCS Independent Scale due to missing items that comprised more than 10% of the total number of scale items.

²⁰ Two participants were excluded from analyses involving the SCS Interdependent Scale due to missing items that comprised more than 10% of the total number of scale items.

participants. For the SORF, PR and IA participants, who were not significantly different from one another, both scored significantly higher than EA participants. For the SCS Independent Scale, PR participants scored significantly higher than EA or IA participants, who were not significantly different from one another. Lastly, for the SCS Interdependent Scale, PR and IA participants, who were not significantly different from one another, both scored significantly higher than EA participants.

Within-Subject Comparisons of the Likelihood of Potential Etiologies/Help-Seeking Efforts

To compare the perceived likelihood of potential etiologies and various help-seeking efforts within-subjects, one-way RM-ANOVAs were conducted separately for each ethnic group. In cases where the assumption of sphericity was violated, the Greenhouse-Geisser corrected F value and degrees of freedom are reported (Field, 2005). Significant omnibus tests were followed up with all possible pairwise comparisons with the Bonferroni corrected alpha set at $.05/6 = .008$. Tables 12 and 13 report the means and standard deviations for each level of the repeated measures variables.

Table 12. Within-Subject Comparisons of the Perceived Likelihood of Potential Etiologies

	Med Etiology		Psych Etiology		External Etiology		Religious Etiology	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Euro-American	2.74 ^a	(1.39)	4.99 ^b	(1.39)	4.17 ^c	(1.50)	1.25 ^d	(0.56)
Puerto Rican	3.95 ^a	(1.63)	4.76 ^b	(1.65)	3.74 ^a	(1.60)	1.62 ^c	(1.39)
Indian-American	2.69 ^a	(1.31)	4.54 ^b	(1.24)	3.57 ^c	(1.45)	1.56 ^d	(1.09)

Note. Across each row of the table, means identified with the same letter (a,b,c) do not differ significantly from one another. Comparisons are between etiological beliefs, not between ethnic groups. SD = Standard deviation.

Table 13. Within-Subject Comparisons of the Perceived Likelihood of Various Forms of Help-Seeking

	Med Help		Psych Help		Fam/Friends Help		Religious Help	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
Euro-American	4.08 ^a	(1.97)	4.51 ^a	(1.70)	3.69 ^a	(1.80)	1.95 ^b	(1.31)
Puerto Rican	4.90 ^a	(1.63)	5.09 ^a	(1.64)	3.88 ^b	(1.38)	2.42 ^c	(1.73)
Indian-American	3.36 ^a	(1.63)	4.11 ^b	(1.44)	4.40 ^b	(1.36)	2.00 ^c	(1.30)

Note. Across each row of the table, means identified with the same letter (a,b,c) do not differ significantly from one another. Comparisons are between forms of help-seeking, not between ethnic groups. SD = Standard deviation.

Puerto Rican sample. In the PR sample, significant within-subject differences in the likelihood of potential etiologies were observed, $F(2.34,89.06) = 45.79, p < .001$. Follow-up tests indicate that all comparisons except for the Med Etiology vs. External Etiology were significant at the $\alpha = .008$ level; Psych Etiology was rated as the most likely, followed by External Etiology and Med Etiology (not significantly different from one another), followed by Religious Etiology. Significant within-subject differences in the likelihood of engaging in various help-seeking efforts were also observed, $F(2.31,87.64) = 39.52, p < .001$. Follow-up tests indicate that all comparisons except for Med Help vs. Psych Help were significant at the $\alpha = .008$ level; Med Help and Psych Help were rated as most likely (not significantly different from one another), followed by Fam/Friends Help, followed by Religious Help.

Indian-American sample. In the IA sample, significant within-subject differences in the likelihood of potential etiologies were observed, $F(2.26,85.98) = 51.07, p < .001$. Follow-up tests indicate that all comparisons were significant ($ps < .001$): Psych Etiology was rated as most likely, followed by External Etiology, followed by Med Etiology,

followed by Religious Etiology. Significant within-subject differences in the likelihood of engaging in various help-seeking efforts were also observed, $F(2.53, 96.30) = 36.09$, $p < .001$. Follow-up tests indicate that all comparisons except for Psych Help vs. Fam/Friends Help were significant at the $\alpha = .008$ level; Psych Help and Family/Friends Help were rated as most likely (not significantly different from one another), followed by Med Help, followed by Religious Help.

European-American sample. In the EA sample, significant within-subject differences in the likelihood of potential etiologies were observed, $F(2.54, 96.51) = 83.51$, $p < .001$. Follow-up tests indicate that all comparisons were significant ($ps < .001$): Psych Etiology was rated as the most likely, followed by External Etiology, followed by Med Etiology, followed by Religious Etiology. Significant within-subject differences in the likelihood of engaging in various help-seeking efforts were also observed, $F(2.55, 96.80) = 23.99$, $p < .001$. Follow-up tests indicate that participants rated Religious Help as significantly less likely than all other help-seeking modes ($ps < .001$), which did not differ significantly from one another.

Primary Analyses

To test the primary hypotheses, four RM-MANCOVAs were conducted. Follow-up univariate ANCOVAs were conducted in cases where the overall RM-MANCOVA was significant. The results of each RM-MANCOVA are reported below, organized by the dependent variables. Table 14 reports the means and standard errors of each DV, adjusted for SES.

Table 14. Means and Standard Errors for Dependent Variables Included in the Primary Analyses, Adjusted for Socioeconomic Status

Concern		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	3.51 (0.33)	4.34 (0.42)	3.72 (0.43)	4.66 (0.43)	4.88 (0.43)	4.51 (0.39)
	Severe	4.63 (0.32)	5.02 (0.40)	5.22 (0.41)	5.58 (0.41)	5.66 (0.41)	5.11 (0.38)
Somatic	Moderate	4.06 (0.30)	4.63 (0.38)	5.03 (0.39)	4.76 (0.39)	4.99 (0.39)	4.96 (0.35)
	Severe	5.33 (0.27)	5.80 (0.34)	5.44 (0.35)	6.05 (0.35)	5.57 (0.35)	5.05 (0.32)
Interference		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	3.67 (0.35)	4.32 (0.43)	3.60 (0.44)	4.90 (0.45)	4.54 (0.44)	4.08 (0.40)
	Severe	4.64 (0.33)	4.83 (0.41)	4.99 (0.42)	5.81 (0.42)	5.25 (0.42)	5.37 (0.38)
Somatic	Moderate	4.01 (0.32)	4.42 (0.39)	4.79 (0.40)	4.93 (0.41)	4.66 (0.40)	4.75 (0.37)
	Severe	5.67 (0.27)	5.90 (0.33)	6.00 (0.34)	6.07 (0.34)	5.48 (0.34)	5.13 (0.31)
Med Etiology		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	1.97 (0.35)	2.95 (0.43)	1.88 (0.44)	3.32 (0.45)	3.58 (0.44)	2.36 (0.40)
	Severe	2.51 (0.35)	3.53 (0.44)	3.00 (0.45)	3.22 (0.45)	3.61 (0.45)	3.10 (0.41)
Somatic	Moderate	2.05 (0.35)	3.65 (0.43)	2.43 (0.44)	3.77 (0.44)	3.95 (0.44)	3.04 (0.40)
	Severe	2.46 (0.36)	4.84 (0.45)	2.89 (0.46)	4.00 (0.46)	4.52 (0.46)	3.42 (0.42)
Med Help		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	3.01 (0.42)	3.91 (0.52)	2.72 (0.53)	4.62 (0.54)	4.18 (0.53)	3.12 (0.49)
	Severe	3.63 (0.44)	4.74 (0.54)	3.78 (0.56)	4.81 (0.56)	5.04 (0.56)	2.83 (0.51)
Somatic	Moderate	3.34 (0.41)	4.50 (0.51)	3.37 (0.53)	4.50 (0.53)	4.58 (0.53)	3.72 (0.48)
	Severe	4.63 (0.41)	6.12 (0.50)	4.08 (0.52)	5.34 (0.52)	5.39 (0.52)	3.94 (0.47)

Table 14. (continued)

Psych Etiology		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	4.25 (0.41)	4.37 (0.51)	3.80 (0.52)	5.28 (0.52)	4.44 (0.52)	4.16 (0.47)
	Severe	5.00 (0.37)	4.70 (0.46)	5.04 (0.47)	5.35 (0.47)	4.69 (0.47)	4.68 (0.43)
Somatic	Moderate	4.80 (0.38)	4.77 (0.47)	4.58 (0.48)	4.98 (0.49)	4.28 (0.49)	4.66 (0.44)
	Severe	5.40 (0.35)	5.93 (0.43)	4.57 (0.44)	5.15 (0.44)	5.08 (0.44)	4.67 (0.40)
Psych Help		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	3.64 (0.40)	4.23 (0.50)	3.14 (0.51)	4.73 (0.52)	4.67 (0.51)	4.06 (0.47)
	Severe	4.51 (0.40)	5.35 (0.49)	4.79 (0.50)	5.30 (0.51)	5.53 (0.50)	4.13 (0.46)
Somatic	Moderate	3.75 (0.42)	5.05 (0.52)	3.93 (0.54)	4.02 (0.54)	4.63 (0.54)	3.91 (0.49)
	Severe	5.44 (0.38)	6.11 (0.48)	4.73 (0.49)	5.10 (0.49)	5.01 (0.49)	4.31 (0.45)
Prognosis		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	5.00 (0.32)	4.54 (0.39)	5.15 (0.40)	4.85 (0.40)	4.93 (0.40)	4.51 (0.37)
	Severe	4.76 (0.34)	3.96 (0.42)	4.76 (0.43)	4.32 (0.43)	4.06 (0.43)	4.44 (0.39)
Somatic	Moderate	5.17 (0.29)	4.55 (0.36)	4.84 (0.37)	5.04 (0.37)	4.95 (0.37)	4.13 (0.34)
	Severe	4.32 (0.31)	3.60 (0.38)	4.51 (0.39)	3.92 (0.40)	3.54 (0.39)	4.57 (0.36)
Any Help		Male			Female		
		EA	PR	IA	EA	PR	IA
Nonsomatic	Moderate	3.93 (0.40)	4.21 (0.49)	3.94 (0.51)	5.11 (0.51)	4.86 (0.51)	4.67 (0.46)
	Severe	4.63 (0.36)	5.24 (0.45)	4.93 (0.46)	5.49 (0.47)	5.62 (0.46)	4.83 (0.42)
Somatic	Moderate	4.14 (0.39)	5.07 (0.48)	4.65 (0.50)	4.82 (0.50)	4.81 (0.50)	4.61 (0.45)
	Severe	5.66 (0.34)	6.34 (0.42)	4.85 (0.43)	5.60 (0.44)	5.67 (0.43)	4.74 (0.39)

Parental Concern and Perceived Interference

After controlling for the effect of SES,²¹ RM-MANCOVA revealed a significant main effect for Severity, $F(2,109) = 3.08, p = .05$; follow-up univariate ANCOVAs indicated that mothers reported higher perceived interference for the severe vignettes as compared to the moderate vignettes, $F(1,110) = 5.73, p = .02, r = .22$. After controlling for the effect of SES, RM-MANCOVA also revealed a significant interaction for Symptom Type x Child Gender, $F(2,109) = 3.75, p = .03$; follow-up univariate ANCOVAs indicated that child gender had little effect on parental concern and perceived interference for the somatic vignettes, whereas it had a larger effect for the nonsomatic vignettes, with mothers of girls reporting higher levels of concern and interference than mothers of boys; Concern: $F(1,110) = 5.18, p = .03, r = .21$; Interference: $F(1,110) = 7.55, p < .01, r = .25$ (see Figures 1 and 2). No main effects or interactions for Ethnicity were observed.

Psychological Etiological Beliefs and the Likelihood of Seeking Help from a Mental Health Professional

After controlling for the effect of SES, RM-MANCOVA revealed a significant main effect for Ethnicity, $F(4,220) = 2.47, p = .046$; however, follow-up univariate ANCOVAs did not indicate significant group differences for either Psych Etiology, $F(2,110) = 1.08, p > .05$, or Psych Help, $F(2,110) = 1.71, p > .05$. These results suggest that ethnic groups differ significantly on a combination of DVs, rather than on either of

²¹ For all RM-MANCOVA analyses, SES was not significantly related to the DVs when entered as a covariate.

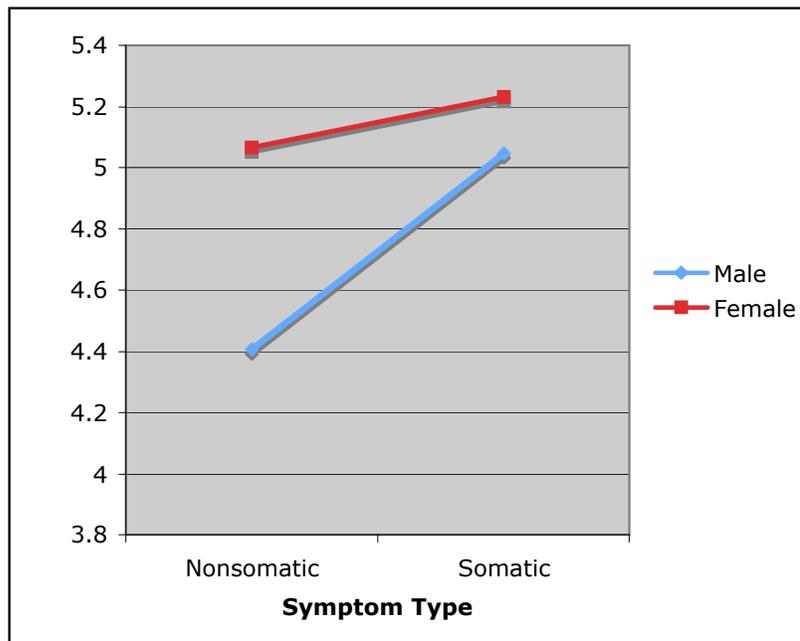


Figure 1. Interaction between Symptom Type and Child Gender Predicting Parental Concern

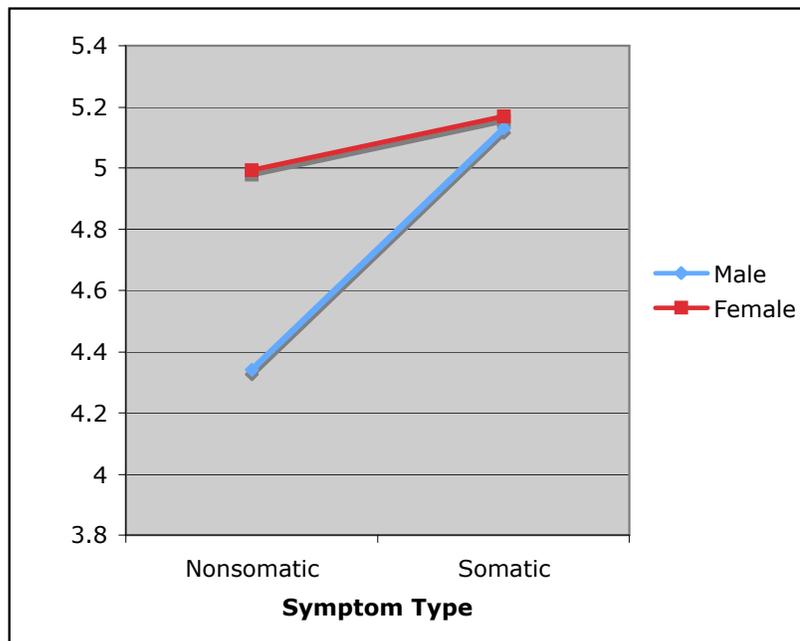


Figure 2. Interaction between Symptom Type and Child Gender Predicting Perceived Interference

the DVs independently (Field, 2005, pg. 602). To determine how the DVs interact, a discriminant function analysis was performed using 1) Psych Etiology and 2) Psych Help as predictors of ethnic group membership. Group differences shown by the RM-MANCOVA were found to be explained in terms of one underlying dimension: Variate 1 $X^2 = 18.29$, $p < .01$; Variate 2 $X^2 = 1.88$, $p > .05$. The structure matrix indicated that group separation is determined by the difference between the dependent variables (i.e., one DV has a positive correlation whereas the other DV has a negative correlation), but that Psych Help ($r = .59$) is more important in differentiating the groups than Psych Etiology ($r = -.01$) due to its larger canonical variate correlation. Lastly, the values of the variate centroids (i.e., the mean variate scores) for each group indicate that variate 1 discriminates the PR group (.55) from the EA (-.28) and IA (-.27) groups given that the variate centroid is a positive value for the PR group and a negative value for the EA and IA groups. Through an examination of the estimated marginal means for Psych Help (controlling for SES), it was revealed that the PR group endorsed a higher likelihood of seeking help from a mental health professional ($M = 5.07$, $SE = .33$) than either the EA ($M = 4.56$, $SE = .27$) or IA ($M = 4.13$, $SE = .31$) groups, although these differences did not reach statistical significance when examined independent of Psych Etiology. An examination of the estimated marginal means for Psych Etiology (controlling for SES) revealed that the PR group endorsed a slightly lower likelihood that symptoms resulted from psychological causes ($M = 4.78$, $SE = .29$) when compared to the EA group ($M = 5.03$, $SE = .24$), although this difference did not reach statistical significance when examined independent of Psych Help. The significant RM-MANCOVA may reflect the PR group's higher perceived likelihood of seeking help from a mental health professional

in combination with a lower perceived likelihood that symptoms resulted from psychological causes.

After controlling for the effect of SES, RM-MANCOVA also revealed a significant Severity x Child Gender interaction, $F(2,109) = 3.12$, $p = .048$, and a significant Symptom Type x Child Gender interaction, $F(2,109) = 5.45$, $p < .01$. Follow-up univariate ANCOVAs for the Severity x Child Gender interaction indicated that the relationship between severity and seeking help from a mental health professional is stronger for mothers of boys as compared to mothers of girls, although the direction of effects is the same for both groups (i.e., they are more likely to seek help when the symptoms are severe vs. moderate, $F(1,110) = 6.22$, $p = .01$, $r = .23$ (see Figure 3).

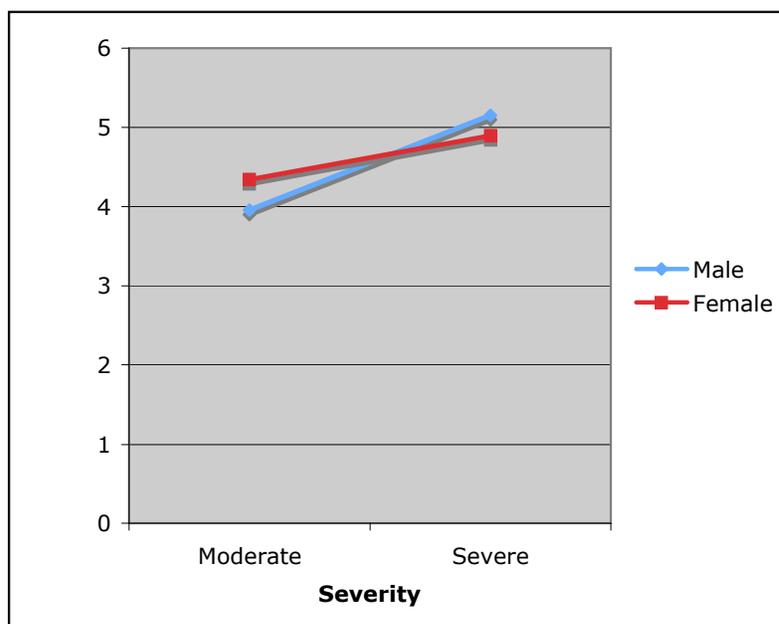


Figure 3. Interaction between Severity and Child Gender Predicting the Likelihood of Seeking Help from a Mental Health Professional

Follow-up univariate ANCOVAs for the Symptom Type x Child Gender interaction indicated that the relationship between the nature of the symptoms and seeking help from

a mental health professional is stronger for mothers of boys as compared to mothers of girls, with the effects running in opposite directions (e.g., mothers of boys were more likely to seek help from a mental health professional when the symptoms were somatic vs. nonsomatic, whereas mothers of girls were less likely to seek help from a mental health professional when the symptoms were somatic vs. nonsomatic), $F(1,110) = 10.94$, $p < .01$, $r = .30$ (see Figure 4).

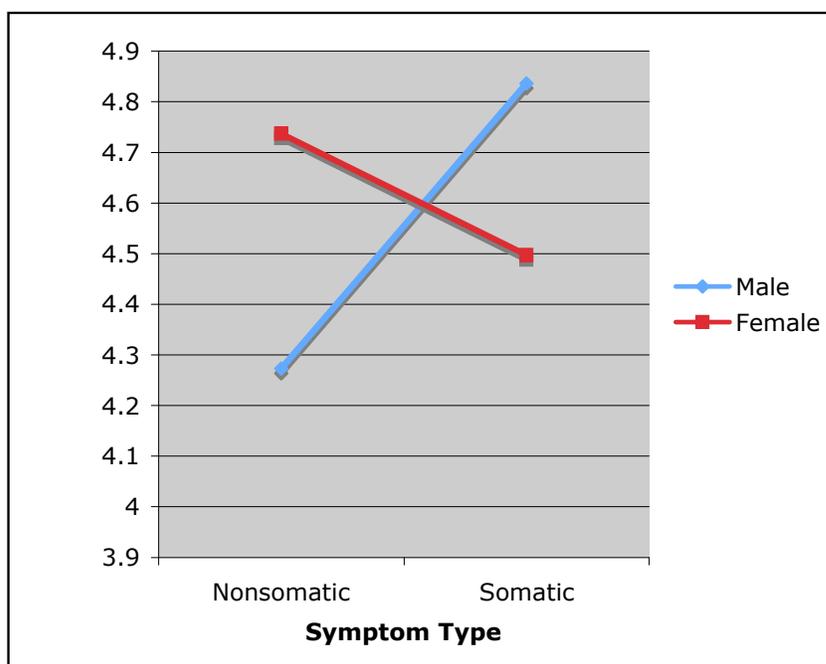


Figure 4. Interaction between Symptom Type and Child Gender Predicting the Likelihood of Seeking Help from a Mental Health Professional

Medical Etiological Beliefs and the Likelihood of Seeking Help from a Physician

After controlling for the effects of SES and maternal trait anxiety, RM-MANCOVA revealed a significant main effect for Ethnicity, $F(4,220) = 3.04$, $p = .02$; follow-up univariate ANCOVAs indicated that ethnic groups differed significantly on both Med Etiology, $F(2,110) = 3.38$, $p = .04$, and Med Help, $F(2,110) = 3.22$, $p = .04$;

Tests of the specific hypotheses revealed that PR mothers were more likely than the EA mothers to interpret the child's behavior as resulting from medical causes, $t(110) = -.92$, $p = .02$, $r = .09$ (alpha set at .025), whereas there was no difference between the IA and EA mothers. Post hoc tests conducted to explore additional differences between the groups revealed that PR mothers were significantly more likely than IA mothers to seek help from a physician, $t(110) = -1.36$, $p = .015$, $r = .13$ (Bonferroni-corrected alpha set at .017).

After controlling for the effect of SES and maternal trait anxiety, RM-MANCOVA also revealed a significant main effect for Child Gender, $F(2,109) = 3.48$, $p = .03$, and a significant Severity x Child Gender interaction, $F(2,109) = 3.94$, $p = .02$; follow-up univariate ANCOVAs indicated that child gender had little effect on the likelihood of seeking help from a physician for the severe vignettes, whereas it had a larger effect for the moderate vignettes, with mothers of girls reporting a higher likelihood of seeking help from a physician than mothers of boys, $F(1,110) = 6.66$, $p = .01$, $r = .24$ (see Figure 5).

Prognosis and the Likelihood of Seeking Help of Any Kind

After controlling for the effect of SES, RM-MANCOVA revealed a significant Symptom Type x Child Gender interaction, $F(2,109) = 3.78$, $p = .03$; follow-up univariate ANCOVAs indicated that child gender had little effect on the likelihood of seeking help of any kind for the somatic vignettes, whereas it had a larger effect for the nonsomatic vignettes, with mothers of girls reporting a higher likelihood of seeking help of any kind than mothers of boys, $F(1,110) = 7.51$, $p < .01$, $r = .25$ (see Figure 6). No main effects or interactions for Ethnicity were observed.

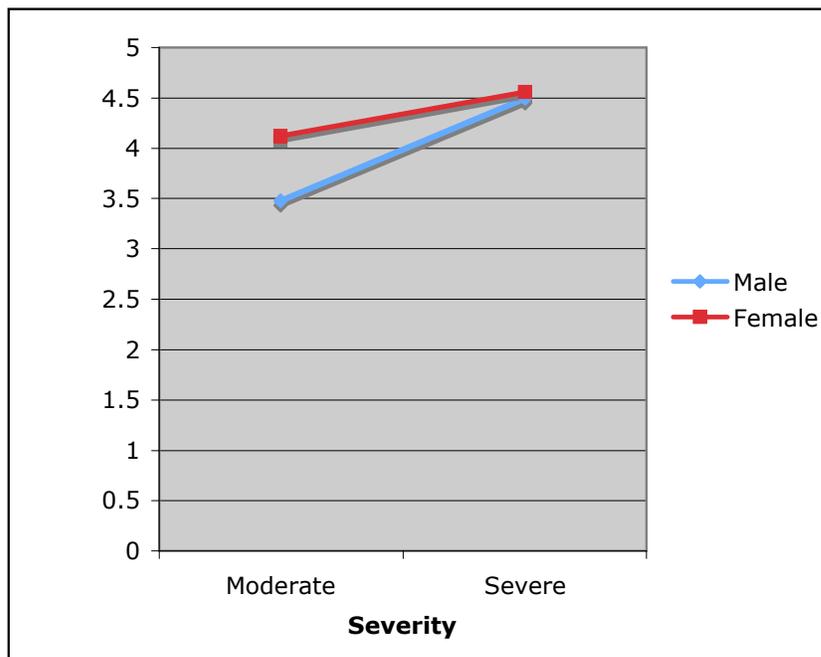


Figure 5. Interaction between Severity and Child Gender Predicting the Likelihood of Seeking Help from a Physician

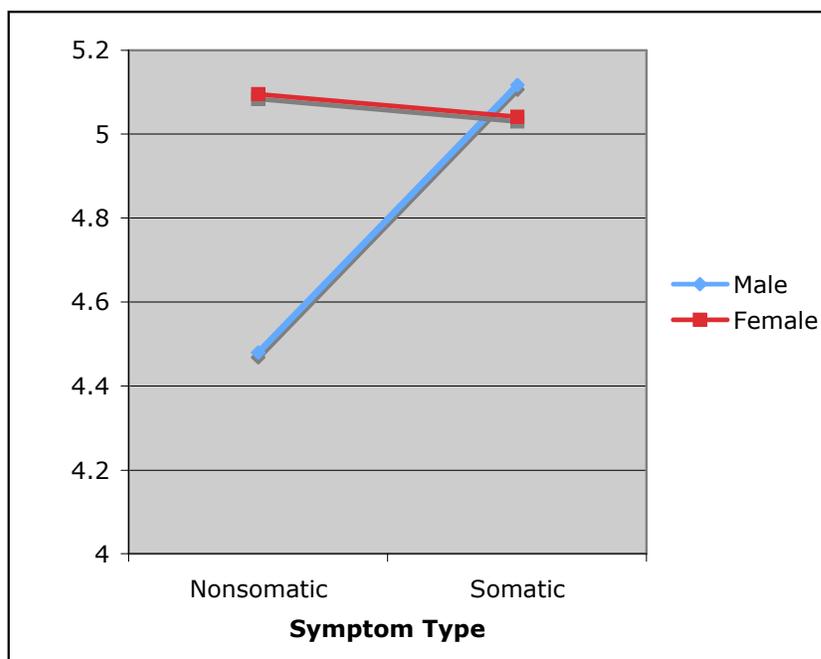


Figure 6. Interaction between Symptom Type and Child Gender Predicting the Likelihood of Seeking Help of Any Kind

Secondary Analyses

To test the secondary hypotheses, hierarchical multiple regression analyses predicting to each of 12 dependent variables (averaged across levels of symptom severity and symptom type) were conducted. For all analyses, SES and child gender were entered into the first block to account for the variance associated with these variables,²² acculturation to mainstream American culture, independent self-construal, interdependent self-construal, and strength of religious faith were entered simultaneously into the second block, and ethnicity was entered into the third block. As discussed in the Analytic Plan section, Concern, Psych Etiology, and Psych Help are of primary interest and were therefore evaluated against an alpha level of .05; the remaining two seriousness variables were evaluated at the $.05/2 = .025$ level, the remaining three etiology variables were evaluated at the $.05/3 = .017$ level, and the remaining four help-seeking variables were evaluated at the $.05/4 = .013$ level. Results for the overall model with the addition of each block of variables are discussed below. Standardized betas and significance levels are reported for unique relationships between predictor and outcome variables. For all regression analyses in which strength of religious faith was found to be a significant predictor of the DV, exploratory regression analyses were conducted to examine whether SORF remains a significant predictor when religious affiliation is entered into the regression equation and whether religious affiliation additionally predicts the dependent variable. In the following sections, the term ‘cultural variables’ refers to acculturation to

²² Participants’ trait anxiety was also included in the first block only for the regression analysis predicting to Religious Etiology, based on preliminary analyses indicating that trait anxiety was significantly associated with Religious Etiology.

mainstream American culture, independent self-construal, interdependent self-construal, and strength of religious faith.

Parental Concern

Demographic variables in the first block significantly improved the ability to predict Concern, $F(2,111) = 3.68$, $p = .03$, accounting for 6% of the variance. SES uniquely predicted Concern, $\beta = -.20$, $p = .04$, in that lower SES predicted higher levels of concern. The ability to predict Concern was not significantly improved when the cultural variables and ethnicity were entered into the equation.

Psychological Etiological Beliefs

The overall model for Psych Etiology was nonsignificant with the addition of each block of variables. However, the unique relationship between acculturation to mainstream American culture and Psych Etiology was significant, $\beta = .25$, $p = .016$, in that higher levels of acculturation predicted stronger psychological etiological beliefs.

Medical Etiological Beliefs

Demographic variables in the first block significantly improved the ability to predict Med Etiology, $F(2,111) = 8.75$, $p < .01$, accounting for 14% of the variance. SES was uniquely related to Med Etiology, $\beta = -.32$, $p < .01$, in that lower SES predicted stronger medical etiological beliefs. Child Gender was also uniquely related to Med Etiology, $\beta = .22$, $p = .014$, in that mothers of girls endorsed stronger medical etiological beliefs than mothers of boys. When the cultural variables were entered into the equation, the ability to predict Med Etiology was not significantly improved when evaluated against $\alpha = .017$. However, strength of religious faith was uniquely related to Med Etiology, $\beta = .27$, $p < .01$, in that the stronger one's strength of religious faith, the

stronger one's medical etiological beliefs. When ethnicity was entered into the equation, the ability to predict Medical Etiology was significantly improved, $F(2,105) = 4.44$, $p = .014$, and the model accounted for 28% of the variance. The relationship between strength of religious faith and Med Etiology was fully maintained, $\beta = .27$, $p < .01$, and being of PR ethnicity was additionally associated with Med Etiology; PR vs. EA: $\beta = .34$, $p = .01$; PR vs. IA: $\beta = .41$, $p = .01$.

When religious affiliation was entered into the equation after SORF, the relationship between strength of religious faith and Med Etiology was fully maintained, $\beta = .28$, $p < .01$, but having a Sikh as compared to Catholic religious affiliation was additionally negatively associated with Med Etiology, $\beta = -.28$, $p = .02$. However, the addition of religious affiliation did not significantly improve the ability to predict Med Etiology, $F(3,91) = 2.39$, $p = .07$.

Religious Etiological Beliefs

Variables in the first block significantly improved the ability to predict Religious Etiology, $F(3,109) = 5.21$, $p < .01$, accounting for 13% of the variance. Maternal trait anxiety uniquely predicted Religious Etiology, $\beta = .26$, $p < .01$, in that higher levels of trait anxiety predicted stronger religious etiological beliefs. However, the ability to predict Religious Etiology was not significantly improved when the cultural variables and ethnicity were entered into the equation.

Likelihood of Seeking Help from a Mental Health Professional

The overall model for Psych Help was nonsignificant with the addition of each block of variables. However, the unique relationship between SES and Psych Help was significant, $\beta = -.20$, $p = .04$, in that lower SES predicted a higher likelihood of seeking

help from a mental health professional. The unique relationship between acculturation to mainstream American culture and Psych Help was also significant, $\beta = .22$, $p = .03$, in that higher levels of acculturation predicted a higher likelihood of seeking help from a mental health professional.

Likelihood of Seeking Help from a Physician

Demographic variables in the first block significantly improved the ability to predict Med Help, $F(2,111) = 5.29$, $p < .01$, accounting for 9% of the variance. SES uniquely predicted Med Help, $\beta = -.29$, $p < .01$, in that lower SES predicted a higher likelihood of seeking help from a physician. When the cultural variables were entered into the equation, the ability to predict Med Help was not significantly improved when evaluated against an alpha = .013. However, Acculturation to mainstream American culture, $\beta = .26$, $p < .01$ was uniquely related to Med Help, in that higher levels of acculturation predicted a higher likelihood of seeking help from a physician. The ability to predict Med Help was not significantly improved after adding ethnicity into the regression equation.

Likelihood of Seeking Help from Family or Friends

The overall model for Fam/Friends Help was nonsignificant with the addition of each block of variables. However, the unique relationship between strength of religious faith and Fam/Friends Help was significant, $\beta = .26$, $p = .012$, in that the higher one's strength of religious faith, the more likely they are to seek help from family or friends.

When religious affiliation was entered into the equation after SORF, the relationship between strength of religious faith and Fam/Friends Help was maintained, $\beta = .23$, $p = .04$, and significant relationships between religious affiliation and Fam/Friends

Help were not observed. The addition of religious affiliation did not significantly improve the ability to predict Fam/Friends Help.

Likelihood of Seeking Help from a Religious Leader

Demographic variables in the first block did not significantly improve the ability to predict Religious Help. However, when the cultural variables were entered into the equation, the ability to predict Religious Help was significantly improved, $F(4,107) = 5.49$, $p < .01$, and the model accounted for 21% of the variance. Strength of religious faith, $\beta = .34$, $p < .01$, was significantly related to Religious Help in that higher levels of strength of religious faith predicted an increased likelihood of seeking help from a religious leader. The ability to predict Religious Help was not significantly improved after adding ethnicity into the regression equation.

When religious affiliation was entered into the equation after SORF, the relationship between strength of religious faith and Religious Help was fully maintained, $\beta = .40$, $p < .01$, but having a Sikh as compared to Catholic religious affiliation was additionally associated with a lower likelihood of seeking help from a religious leader, $\beta = -.28$, $p = .02$. The addition of religious affiliation to the model significantly improved its ability to predict Religious Help, $F(3,91) = 3.74$, $p = .01$.

Perceived Interference, Perceived Prognosis, External Etiological Beliefs, and the Likelihood of Seeking Help of Any Kind

The overall models for Interference, Prognosis, External Etiology, and Any Help were nonsignificant with the addition of each block of variables.

Tables 15-25 report beta values, standardized betas, and significance levels for all variables included in each block of the model and general statistics about the overall model for secondary analyses.

Table 15. Summary of Hierarchical Regression Analysis for Variables Predicting Parental Concern

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.06	.06*
Constant	5.36	0.32			
SES	-0.01	0.01	-.20*		
Child Gender	0.41	0.22	.17		
Block 2				.12	.05
Constant	3.91	1.27			
SES	-0.01	0.01	-.19*		
Child Gender	0.48	0.23	.20*		
VIA-M	0.01	0.01	.15		
SCS Indep	-0.01	0.01	-.09		
SCS Interdep	0.01	0.01	.05		
SORF	0.03	0.02	.18		
Block 3				.13	.01
Constant	3.86	1.27			
SES	-0.01	0.01	-.12		
Child Gender	0.46	0.23	.19*		
VIA-M	0.01	0.01	.18		
SCS Indep	-0.02	0.01	-.13		
SCS Interdep	0.01	0.01	.04		
SORF	0.03	0.02	.16		
PR vs. EA	0.40	0.36	.16		
IA vs. EA	0.16	0.38	.06		

Note. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Construal Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .05$.

Table 16. Summary of Hierarchical Regression Analysis for Variables Predicting Psychological Etiological Beliefs

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				< .01	<.01
Constant	4.80	0.40			
SES	<0.01	0.01	-.004		
Child Gender	-0.03	0.28	-.01		
Block 2				.06	.06
Constant	2.86	1.55			
SES	<0.01	0.01	.03		
Child Gender	0.09	0.28	.03		
VIA-M	0.02	0.01	.25*		
SCS Indep	-0.01	0.02	-.09		
SCS Interdep	0.01	0.02	.09		
SORF	0.01	0.02	.06		
Block 3				.06	<.01
Constant	2.84	1.57			
SES	<0.01	0.01	.05		
Child Gender	0.09	0.28	.03		
VIA-M	0.02	0.01	.21		
SCS Indep	-0.01	0.02	-.09		
SCS Interdep	0.01	0.02	.10		
SORF	0.02	0.02	.07		
PR vs. EA	-0.04	0.44	-.01		
IA vs. EA	-0.25	0.47	-.08		

Note. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Constraint Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .05$.

Table 17. Summary of Hierarchical Regression Analysis for Variables Predicting Medical Etiological Beliefs

	<i>B</i>	SE <i>B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.14	.14*
Constant	4.11	0.40			
SES	-0.03	0.01	-.32*		
Child Gender	0.68	0.28	.22*		
Block 2				.22	.08
Constant	2.14	1.52			
SES	-0.03	0.01	-.31*		
Child Gender	0.78	0.27	.25*		
VIA-M	0.01	0.01	.14		
SCS Indep	-0.01	0.02	-.07		
SCS Interdep	-0.003	0.01	-.02		
SORF	0.07	0.02	.27*		
Block 3				.28	.06*
Constant	1.93	1.48			
SES	-0.01	0.01	-.06		
Child Gender	0.71	0.26	.23*		
VIA-M	0.01	0.01	.13		
SCS Indep	-0.03	0.02	-.18		
SCS Interdep	<0.01	0.01	<.01		
SORF	0.07	0.02	.27*		
PR vs. EA	1.13	0.42	.34*		
IA vs. EA	-0.21	0.44	-.06		
PR vs. IA ¹	1.34	0.52	.41*		

Note.¹ This regression analysis was run twice to allow for all ethnic comparisons. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Constraint Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .017$.

Table 18. Summary of Hierarchical Regression Analysis for Variables Predicting Religious Etiological Beliefs

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.13	.13*
Constant	0.76	0.51			
SES	-0.01	0.01	-.20		
Child Gender	0.21	0.19	.10		
STAI-T	0.03	0.01	.26*		
Block 2				.16	.03
Constant	0.58	1.27			
SES	-0.01	0.01	-.22		
Child Gender	0.22	0.20	.10		
STAI-T	0.03	0.01	.24*		
VIA-M	<0.01	0.01	.05		
SCS Indep	-0.02	0.01	-.13		
SCS Interdep	0.02	0.01	.16		
SORF	<0.01	0.02	<.01		
Block 3				.18	.02
Constant	0.58	1.27			
SES	-0.02	0.01	-.32*		
Child Gender	0.22	0.20	.10		
STAI-T	0.03	0.01	.24*		
VIA-M	0.01	0.01	.14		
SCS Indep	-0.01	0.01	-.11		
SCS Interdep	0.01	0.01	.12		
SORF	-0.01	0.02	-.04		
PR vs. EA	-0.01	0.31	-.01		
IA vs. EA	0.52	0.33	.23		

Note. SES = Hollingshead Four-Factor Index; STAI-T = The State-Trait Anxiety Inventory-Trait Scale; VIA-M = Vancouver Index of Acculturation Mainstream Scale; SCS = Self-Construal Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.
* $p < .017$.

Table 19. Summary of Hierarchical Regression Analysis for Variables Predicting Likelihood of Seeking Help from a Mental Health Professional

	<i>B</i>	SE <i>B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.04	.04
Constant	5.44	0.44			
SES	-0.02	0.01	-.20*		
Child Gender	0.05	0.30	.02		
Block 2				.09	.05
Constant	3.02	1.72			
SES	-0.02	0.01	-.17		
Child Gender	0.17	0.31	.05		
VIA-M	0.02	0.01	.22*		
SCS Indep	-0.01	0.02	-.06		
SCS Interdep	0.01	0.02	.07		
SORF	0.02	0.03	.08		
Block 3				.11	.02
Constant	2.90	1.73			
SES	-0.004	0.01	-.04		
Child Gender	0.14	0.31	.04		
VIA-M	0.02	0.01	.21		
SCS Indep	-0.02	0.02	-.11		
SCS Interdep	0.01	0.02	.09		
SORF	0.02	0.03	.09		
PR vs. EA	0.60	0.49	.17		
IA vs. EA	-0.16	0.51	-.05		

Note. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Construal Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .05$.

Table 20. Summary of Hierarchical Regression Analysis for Variables Predicting Likelihood of Seeking Help from a Physician

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.09	.09*
Constant	5.38	0.49			
SES	-0.03	0.01	-.29*		
Child Gender	0.35	0.34	.10		
Block 2				.18	.09
Constant	2.47	1.85			
SES	-0.03	0.01	-.24*		
Child Gender	0.53	0.33	.15		
VIA-M	0.03	0.01	.26*		
SCS Indep	-0.001	0.02	-.01		
SCS Interdep	-0.01	0.02	-.07		
SORF	0.05	0.03	.19		
Block 3				.20	.02
Constant	2.33	1.85			
SES	-0.01	0.01	-.08		
Child Gender	0.49	0.33	.13		
VIA-M	0.03	0.01	.23		
SCS Indep	-0.01	0.02	-.07		
SCS Interdep	-0.01	0.02	-.05		
SORF	0.06	0.03	.20		
PR vs. EA	0.71	0.52	.18		
IA vs. EA	-0.33	0.55	-.09		
PR vs. IA ¹	1.05	0.65	.27		

*Note.*¹ This regression analysis was run twice to allow for all ethnic comparisons. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Constructual Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .013$.

Table 21. Summary of Hierarchical Regression Analysis for Variables Predicting Likelihood of Seeking Help from Family or Friends

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				<.01	<.01
Constant	3.85	0.42			
SES	<0.01	0.01	.03		
Child Gender	0.07	0.29	.02		
Block 2				.07	.06
Constant	3.20	1.64			
SES	<0.01	0.01	.01		
Child Gender	0.09	0.29	.03		
VIA-M	<0.01	0.01	-.01		
SCS Indep	-0.01	0.02	-.06		
SCS Interdep	-0.01	0.02	-.04		
SORF	0.06	0.02	.26*		
Block 3				.08	.02
Constant	3.26	1.64			
SES	-0.01	0.01	-.08		
Child Gender	0.09	0.29	.03		
VIA-M	0.01	0.01	.08		
SCS Indep	-0.01	0.02	-.04		
SCS Interdep	-0.01	0.02	-.08		
SORF	0.05	0.02	.22		
PR vs. EA	-0.01	0.46	-.004		
IA vs. EA	0.69	0.49	.21		

Note. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Construal Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .013$.

Table 22. Summary of Hierarchical Regression Analysis for Variables Predicting Likelihood of Seeking Help from a Religious Leader

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.05	.05
Constant	2.91	0.40			
SES	-0.02	0.01	-.22		
Child Gender	0.14	0.27	.05		
Block 2				.21	.16*
Constant	1.50	1.45			
SES	-0.02	0.01	-.23*		
Child Gender	0.25	0.26	.09		
VIA-M	0.02	0.01	.19		
SCS Indep	-0.03	0.01	-.21		
SCS Interdep	<0.01	0.01	.01		
SORF	0.08	0.02	.34*		
Block 3				.22	<.01
Constant	1.46	1.46			
SES	-0.02	0.01	-.19		
Child Gender	0.24	0.26	.08		
VIA-M	0.02	0.01	.21		
SCS Indep	-0.04	0.02	-.23		
SCS Interdep	<0.01	0.01	.01		
SORF	0.08	0.02	.34*		
PR vs. EA	0.28	0.41	.09		
IA vs. EA	0.11	0.43	.04		

Note. SES = Hollingshead Four-Factor Index; VIA-M = Vancouver Index of Acculturation-Mainstream Scale; SCS = Self-Construal Scale; SORF = Strength of Religious Faith; PR = Puerto Rican group; EA = European-American group; IA = Indian American group.

* $p < .013$.

Table 23. Summary of Hierarchical Regression Analysis for Strength of Religious Faith and Religious Affiliation Predicting Medical Etiological Beliefs

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.05	.05*
Constant	4.10	0.46			
SES	-0.02	0.01	-.22*		
Block 2				.10	.05*
Constant	2.31	0.91			
SES	-0.02	0.01	-.24*		
SORF	0.06	0.03	.22*		
Block 3				.17	.07
Constant	1.70	0.95			
SES	-0.01	0.01	-.14		
SORF	0.07	0.03	.28**		
Chris vs. Cath	0.07	0.48	.02		
Hindu vs. Cath	-0.16	0.55	-.03		
Sikh vs. Cath	-0.99	0.42	-.28*		

Note. SES = Hollingshead Four-Factor Index; SORF = Strength of Religious Faith; Chris = Christian; Cath = Catholic.

* $p < .05$. ** $p < .01$.

Table 24. Summary of Hierarchical Regression Analysis for Strength of Religious Faith and Religious Affiliation Predicting the Likelihood of Seeking Help from Family or Friends

	<i>B</i>	<i>SE B</i>	β	<i>R</i> ²	<i>R</i> ² change
Block 1				.01	.01
Constant	3.72	0.46			
SES	0.01	0.01	.08		
Block 2				.06	.05*
Constant	2.01	0.90			
SES	0.01	0.01	.06		
SORF	0.06	0.03	.22*		
Block 3				.08	.03
Constant	2.19	0.96			
SES	<0.01	0.01	-.01		
SORF	0.06	0.03	.23*		
Chris vs. Cath	-0.51	0.49	-.12		
Hindu vs. Cath	0.37	0.56	.08		
Sikh vs. Cath	0.34	0.42	.10		

Note. SES = Hollingshead Four-Factor Index; SORF = Strength of Religious Faith; Chris = Christian; Cath = Catholic.

* $p < .05$. ** $p < .01$.

Table 25. Summary of Hierarchical Regression Analysis for Strength of Religious Faith and Religious Affiliation Predicting the Likelihood of Seeking Help from a Religious Leader

	<i>B</i>	SE <i>B</i>	β	R^2	R^2 change
Block 1				.01	.01
Constant	2.55	0.43			
SES	-0.01	0.01	-.11		
Block 2				.14	.13**
Constant	-0.07	0.80			
SES	-0.01	0.01	-.14		
SORF	0.09	0.02	.36**		
Block 3				.24	.09*
Constant	-0.53	0.82			
SES	-0.004	0.01	-.04		
SORF	0.09	0.02	.40**		
Chris vs. Cath	0.41	0.42	.10		
Hindu vs. Cath	0.08	0.48	.02		
Sikh vs. Cath	-0.88	0.36	-.28*		

Note. SES = Hollingshead Four-Factor Index; SORF = Strength of Religious Faith; Chris = Christian; Cath = Catholic.

* $p < .05$. ** $p < .01$.

CHAPTER 5 DISCUSSION

This study was the first to examine ethnicity and culture in relation to parental beliefs about SAD symptomatology and preferred forms of help-seeking. Parental beliefs about seriousness, etiology, and treatment in regard to SAD are of particular interest, given that both anxiety symptoms (Hwu & Compton, 1994; Tseng et al., 1990) and expectations for autonomy (Landrine, 1995) have been shown to be culturally relative. The importance of examining directly the cultural factors that are believed to underlie ethnic differences has been emphasized in the literature (Helms et al., 2005; Okazaki & Sue, 1995; Steinberg & Fletcher, 1998), but this practice has been overlooked by past studies examining parental beliefs about child symptomatology.

Ethnic Similarities/Differences in Parental Beliefs and Preferences for Help-Seeking

Contrary to hypotheses, ethnic differences were not observed for parental concern, perceived interference, or perceived prognosis with regard to SAD symptoms. These findings are surprising, given the strong emphasis on interdependence within IA and PR families (Cauce & Domenech-Rodriguez, 2002; Gonzales-Ramos et al., 1998; Prathikanti, 1997). It may be that there are no true ethnic differences in participants' concern or perceived interference and prognosis in response to a child who has difficulty separating from his or her parents; alternatively, other aspects of the vignettes may have influenced participants' responses. As is characteristic of children diagnosed with SAD, the children in the vignettes expressed outward distress when separated from their parents. For example, when reading the severe-nonsomatic vignette, participants are told that the child "often cries in the morning before school." It may be that participants

responded to the distress exhibited by the child in addition to, or rather than, the actual difficulty of separating from his or her parents.

Preliminary research suggests that the degree to which children express specific emotions and perceive emotional expression to be acceptable varies across cultures (Chen, Hastings, Rubin, Chen, Cen, & Stewart, 1998; Cole, Bruschi, & Tamang, 2002; Raval, Martini, & Raval, 2007). For example, Chinese children tend to be more behaviorally inhibited than Canadian children (Chen et al., 1998), and Indian children are more likely to believe that anger should not be communicated when compared to U.S. children (Cole et al., 2002). Although attempts were made to assure the cultural validity of the vignettes, it remains possible that an IA or PR child may be more likely to hide his or her emotions or express them indirectly through facial expressions or withdrawal (e.g., Raval et al., 2007), rather than to express distress outwardly as described in the vignettes. Were the displays of emotion described in the vignettes less common or acceptable among IA or PR children as compared to EA children, this could certainly increase levels of parental concern or perceived interference.

It is of note that the lack of ethnic differences in parental concern and perceived interference and prognosis are in contrast to the results of a similar study by Weisz et al. (1988), who found that adults in Thailand rated the child internalizing behavior as less serious, less worrisome, and more likely to improve over time when compared to American adults. However, these studies differed in several important ways. First, Asian participants in the present study were of Indian, rather than Thai, descent, and Puerto Rican participants were also included. Given the vast cultural differences between ethnic groups falling under the broad category of Asian (Lee, Lei, & Sue, 2001; Sue, Nakamura,

Chung, & Yee-Bradbury, 1994), it is not surprising that differing results were observed between the two studies. Second, this study compared adults of different ethnic backgrounds living in the United States, whereas Weisz and colleagues conducted cross-national comparisons. Although many participants in the present study were immigrants to the United States, most had resided in the U.S. for several years (PR immigrants averaged 29 years in the U.S. and IA immigrants averaged 16 years in the U.S.). Further, based on the acculturation data, it is clear that the participants in the present study were fairly acculturated to mainstream American culture. As reported in Table 8, the mean VIA-M score for PR participants was 68.65 and the mean VIA-M score for IA participants was 52.08, with a possible range of 10 to 90. Given these data, it would be expected that parental beliefs and help-seeking preferences would be more similar to one another than would be observed between parents residing in different countries. It would be interesting to examine in future studies whether parental beliefs and preferences for help-seeking differ among parents residing in the United States versus those in Puerto Rico and India. Last, the Weisz et al. study was conducted 20 years ago. Cultural values and beliefs tend not to be static; instead, they change over time. Due to factors such as globalization and industrialization, diverse groups may hold more similar beliefs currently as compared to 20 years prior (e.g., Chandler, 1999).

When medical etiological beliefs and the likelihood of seeking help from a physician were examined in relation to ethnicity, significant differences emerged. As expected, PR parents were more likely than EA parents to endorse medical etiological beliefs. This finding is consistent with research suggesting that distress is often expressed somatically among Latino youth (Canino et al., 1992; Pina & Silverman, 2004) and

Latino parents are more likely than EA parents to interpret ambiguous symptoms as somatic (Varela et al., 2004). PR participants also endorsed a higher likelihood of seeking help from a physician when compared to IA participants.

These findings have important clinical implications. Some research suggests that treatment may be most effective when the client and treatment provider share similar problem perceptions and therapy goals (Zane et al., 2005). Therefore, it may be important for treatment providers working with PR parents and youth to gather information about the beliefs and goals of their clients and to incorporate these into treatment. PR participants may benefit less from therapy focused exclusively on psychological causes and symptoms and instead may benefit from a more holistic approach that incorporates both mind and body. The setting of treatment can also be important. In an effort to facilitate greater collaboration between mental health professionals and physicians and to reduce disparities in the receipt of mental health care, psychological services are increasingly being provided within the context of primary care offices and medical centers (Patterson, Peek, Heinrich, Bischoff, & Scherger, 2002; Robinson, Strosahl, & Reiter, 2007). Such services may lead to better outcomes for PR youth, whose parents may seek help from the child's pediatrician due to somatic complaints and who may not otherwise receive mental health services. Within this treatment model, medical and mental health professionals can work together to treat both the physical and emotional manifestations of psychological distress.

There was no evidence to suggest that IA participants were more likely than other ethnic groups to interpret symptoms as medical in nature or to seek help from a physician; in fact, they were less likely to seek help from a physician than PR

participants. Although research indicates that Asian Americans tend to express distress somatically (Lee et al., 2001), few studies have examined the prevalence or acceptability of somatic symptoms among Indian-American youth specifically and none have looked at beliefs regarding child symptoms or preferences for help-seeking among Indian-American parents. Additional studies conducted with Indian-American youth and parents are needed before conclusions regarding somatic interpretations and medical help-seeking in this population can be drawn.

When psychological etiological beliefs and seeking help from a mental health professional were examined in relation to ethnicity, an unexpected pattern emerged. Ethnicity was not significantly related to the perceived likelihood that symptoms resulted from psychological causes or to the perceived likelihood of seeking help from a mental health professional when each variable was examined individually; however, ethnicity was significantly related to a combination of the dependent variables. Specifically, PR ethnicity was predicted by a higher perceived likelihood of seeking help from a mental health professional (when compared to both EA and IA participants) in combination with a slightly lower perceived likelihood that symptoms resulted from psychological causes (when compared to EA participants). These results could indicate that, when compared to EA participants, PR participants are more likely seek help from a mental health professional even when they are slightly less certain that problems are psychological in nature. This pattern is surprising, given that Latino youth have historically been found to utilize mental health services at a significantly lower rate than EA youth (Kataoka et al., 2002, McCabe et al. 1999). As these results are not backed by theory or past research,

they should be interpreted with extreme caution prior to being replicated by future studies.

Within-subject analyses of etiological beliefs and help-seeking preferences warrant attention. All groups rated psychological factors as the most likely, and religious factors as the least likely, causes of child symptoms. Similarly, all groups rated seeking help from a mental health professional as among the most likely, and seeking help from a religious leader as the least likely, help-seeking action. These findings contradict the literature suggesting that IA and PR groups tend not to attribute symptoms to psychological causes and tend to pursue alternative methods of help-seeking, including religious and spiritual interventions (Wilcox et al., 2007; Falicov, 1998). However, the present results are consistent with other studies in which Asian parents have been found to perceive child symptoms as psychological in nature and to endorse a surprisingly high likelihood of seeking help from a mental health professional (Daley, 2005; McKelvey, Baldassar, Sang, & Roberts, 1999). For example, Vietnamese parents from the community endorsed ‘biological/chemical imbalance in the brain’ and ‘trauma or bad experiences’ as among the most likely causes of child symptoms, and reported a high likelihood of seeking help from mental health clinics, psychiatrists, and psychologists and a low likelihood of seeking help from religious practitioners or spiritual healers (McKelvey et al., 1999). Similarly, Cambodian American parents endorsed mental health services as the most helpful, and traditional Cambodian interventions as the least helpful, treatment for both internalizing and externalizing child symptoms (Daley, 2005).

One important commonality between the present study and those by Daley et al. and McKelvey et al. is the use of hypothetical vignettes or symptom descriptions.

Parents' self-reports of beliefs and likely behavior in response to vignettes may differ from their actual beliefs and behavior were their own child to behave in this way.

Evidence suggests that stigma surrounding psychological disorders and treatment and a lack of awareness about available mental health services may prevent children from receiving services, even when problems are perceived as interfering and resulting from psychological causes (Lau & Takeuchi, 2001; McKelvey et al., 1999). The McKelvey et al. study clearly demonstrates this disconnect; despite the tendency for Vietnamese parents to attribute symptoms to psychological factors and to endorse a likelihood of seeking help from a mental health professional, the majority of parents (84%) reported that they were not aware of any mental health services in the community (McKelvey et al., 1999). This lack of awareness would likely prevent many parents from actually obtaining mental health services for their child, despite their intentions or preferences.

Further examination of the within-subject analyses revealed other interesting findings. Whereas both EA and IA participants rated external etiology as more likely than medical etiology, PR participants rated these as equally likely. In terms of help-seeking preferences, PR participants rated seeking help from a physician as equally likely to seeking help from a mental health professional, IA participants rated seeking help from family or friends as equally likely to seeking help from a mental health professional, and EA participants rated all three help-seeking routes as equally likely. Importantly, these results further highlight the tendency for PR participants to provide medical interpretations and to seek medical intervention in addition to psychological interpretations and help-seeking.

Symptom severity, symptom type, and gender were not found to moderate the relationships between ethnicity and parental beliefs or preferences for help-seeking. Previous research suggests that Latino youth may consider somatic symptoms to be more distressing than their Caucasian counterparts (Pina & Silverman, 2004), but no previous studies have looked at distress associated with child somatic symptoms among Puerto Rican or Indian parents. Past preliminary research has reported gender by ethnicity interactions in parental etiological beliefs and preferences for help-seeking (Bussing et al., 2005), but with different populations (i.e., African-American and Caucasian), symptomatology (i.e., ADHD), and study methodology (i.e., parents' beliefs about their own child's symptoms). Given the documented gender differences in the presentation of ADHD symptoms (Biederman et al., 2002), it is not surprising that ethnic differences in parental beliefs about ADHD would be found to vary across gender; however, this pattern may not generalize to anxiety disorders, given the greater similarity in symptom profiles across boys and girls (Treadwell, Flannery-Schroeder, & Kendall, 1995). Past preliminary research has also provided evidence that Asian-American families tend to delay professional mental health treatment until symptoms are severe (Yeh et al., 1994). It may be that these findings do not generalize to PR and IA parents; alternatively, it may be that the point at which parents self-report that they would seek help in response to a hypothetical situation is not equivalent to the point at which they would actually seek help for their own child. As previously discussed, factors such as stigma and knowledge of available services may cause ethnic minority parents to delay treatment until symptoms are severe. Future studies should examine whether ethnicity interacts with

symptom type, symptom severity, or gender in predicting parents' beliefs about their own child's symptoms and actual treatment utilization rates.

Cultural Variables in Relation to Parental Beliefs and Preferences for Help-Seeking

Acculturation to mainstream American culture appears to be an important construct in relation to parental etiological beliefs and preferences for help-seeking. Participants who reported higher levels of acculturation were more likely to attribute symptoms to psychological causes and were more likely to seek help from a mental health professional and a physician. It was hypothesized that acculturated participants would be more familiar with Western beliefs about psychology and mental health treatment and would therefore be more likely to endorse psychological causes for symptoms and to seek help from a mental health professional. These hypotheses were supported by the results. Conversely, it was hypothesized that participants who were less acculturated would be more likely to endorse medical causes for symptoms and to seek help from a physician. The results did not support either of these hypotheses. Whereas acculturation was found to have no relationship with medical etiological beliefs, it was positively related to the likelihood of seeking help from a physician. It may be that acculturated mothers are more comfortable seeking help from professionals, whether it be from a physician or a mental health professional, even if they are not more likely to interpret symptoms as medical in nature. Certainly, seeking professional help within a culture that is not entirely familiar or comfortable is likely to be intimidating and confusing.

After the variance associated with the cultural variables was removed, ethnicity did not improve the ability to predict the likelihood of seeking help from a physician.

This finding is of interest, given that ethnic differences in the likelihood of seeking help from a physician were observed in the primary analyses, when cultural variables were not considered. The results suggest that ethnic differences in help-seeking may be at least partially accounted for by differences on cultural variables, such as acculturation to mainstream American culture. These findings highlight the need for measurement of underlying cultural constructs in addition to the categories of ethnicity and race; they also provide strong support for the usefulness of analytic strategies recommended by Helms et al. (2005) to evaluate whether cultural constructs replace ethnic categories as predictors.

Strength of religious faith appears to be an important construct in relation to parental etiological beliefs and preferences for help-seeking. Participants who scored higher on strength of religious faith were more likely to attribute symptoms to medical causes and were more likely to seek help from family and friends or a religious leader. The finding that participants who reported strong religious faith were more likely to seek help from a religious leader than those who were less religious is consistent with hypotheses and with previous research suggesting that religious beliefs and values predict the perceived helpfulness of religious interventions (Hartog & Gow, 2005). It is of interest that religious affiliation additionally predicted the likelihood of seeking help from a religious leader, with Sikh participants being less likely than Catholic participants to endorse seeking help from a religious leader after strength of religious faith is accounted for. Given that research has not previously been conducted on this topic, any interpretations of this finding are purely speculation. However, it is of note that in the process of completing the study, one Sikh participant mentioned informally to the investigator that Sikh mothers turn to religious leaders for religious guidance, but may be

less likely to seek parenting advice due to the perception that the religious leaders have old-fashioned views on child rearing. It may be that Sikh religious leaders play a different role in the lives of families than do Catholic religious leaders, who often give guidance on family matters (i.e., premarital counseling).

The finding that strength of religious faith (but not religious affiliation) predicted the likelihood of seeking help from family and friends is of interest. Research shows that involvement in a religious community is positively associated with perceived social support and social network size (Ellison & George, 1994). Although many items on the SORF assess private religiosity, such as one's relationship with God and the role of religious faith in decision-making, some do assess directly one's involvement in a religious community (e.g., I consider myself active in my religious faith or church/temple/gurudwara/mosque). It may be that mothers who endorsed strong religious faith have close relationships with other members of their religious community with whom they feel comfortable seeking help or guidance.

The significant relationship between strength of religious faith and medical etiological beliefs was unexpected. It is not clear why mothers who are more religious would be more likely to interpret symptoms as medical in nature. It is also not clear why a Catholic as compared to Sikh religious affiliation would additionally predict medical etiological beliefs. It may be that the degree to which body and mind are considered distinct from one another varies across religious groups. Alternatively, given that PR participants scored higher on strength of religious faith than EA participants and 53% of Catholics in the present study were of Puerto Rican descent, these findings may instead represent the higher likelihood of medical etiological beliefs among Puerto Rican

participants. Future research is certainly needed to clarify the relationships between strength of religious faith, religious affiliation, and parental etiological beliefs.

Even after accounting for the variance associated with the cultural factors, ethnicity remained a predictor of medical etiological beliefs. PR mothers endorsed a higher perceived likelihood that symptoms resulted from medical causes in comparison to both EA and IA mothers. This pattern suggests that differences across ethnic groups on acculturation, independent or interdependent self-construals, or strength of religious faith do not underlie observed ethnic differences in medical etiological beliefs. Instead, it is likely that other aspects of culture not measured in the present study account for the observed differences. Future studies are needed to evaluate additional cultural variables that may contribute to higher levels of somatic interpretations among PR parents.

Independent and interdependent self-construals were not found to be predictors of parental beliefs about SAD or preferences for help-seeking. The lack of associations between the SCS scales and the dependent variables is surprising, given the hypothesis that parents' views about the appropriate degree of independence and interdependence between family members are related to beliefs about SAD. It is important to note, however, that the SCS assesses an adult's construal of herself in relation to others, but not in relation to her child specifically. A mother's beliefs about her child's autonomy may in fact be a different construct. Although previous studies have examined parents' expectations for child autonomy (Gonzales-Ramos et al., 1998; Harwood et al., 2001), this was achieved through the use of interviews, and no validated paper-and-pencil measures of this construct are available at the present time. Psychometric studies are

needed to develop and validate such a measure and to examine its relationship with parental beliefs about SAD and other forms of child symptomatology.

Contrary to hypotheses, none of the cultural variables were associated with parental concern, perceived interference, or prognosis. These findings are consistent with those of the one study that previously examined cultural constructs in relation to parental beliefs about the severity and prognosis of child symptoms; Lau and Takeuchi (2001) did not find a significant relationship between adherence to traditional Chinese culture and parental perceived severity and prognosis of child problems among a community sample of Chinese parents. It may be that the specific cultural constructs assessed in the present study are not the key cultural variables that predict parental concern or perceived interference and prognosis. Alternatively, the lack of findings may be due to a somewhat restricted range in the cultural variables, due to the exposure that all participants had to American cultural views and values. For example, only 2 participants scored below 30 on the VIA-M and no participants scored below 50 on the SCS Independent scale, although the range of possible scores on these measures were 10-90 and 15-105, respectively. Future studies evaluating the relationships between cultural constructs and parental perceptions of seriousness and prognosis may benefit from the inclusion of participants whose scores span the full range of possible scores on each cultural measure.

Interpretation of Covariates

SES was entered as a covariate in all primary and secondary analyses, given its strong association with ethnicity. Although SES predicted several dependent variables when entered into the first block of the regression equation, these relationships disappeared when SES was examined in conjunction with cultural variables and ethnicity.

For example, the negative relationship between SES and medical etiological beliefs was no longer significant when examined in conjunction with ethnicity, suggesting that this relationship was likely driven by the tendency for PR participants, who were of relatively low SES, to perceive symptoms as medical in nature when compared to EA and IA participants. A similar interpretation could be applied to the observed relationship between SES and the perceived likelihood of seeking help from a physician. Based on these results, SES does not appear to be an important variable in relation to parental beliefs about SAD and preferences for help-seeking, independent of ethnicity; however, the present sample was limited only to mothers from three ethnic groups and is not representative of the general population. Were SES to have been a variable of primary interest in this study, it would have been important for sample demographics to better match that of the general population. Future studies are clearly needed to appropriately examine the role of SES in parental beliefs about SAD and preferences for help-seeking.

Gender Interactions

Although not the primary focus of the present study, interactions between gender, symptom severity, and symptom type across the multiethnic sample warrant discussion. Overall, the severity and type of symptoms described in the vignettes had a greater effect on the ratings of mothers of boys as compared to mothers of girls. Whereas mothers of girls expressed concern, perceived interference, and endorsed various forms of help-seeking regardless of the severity and type of symptoms, mothers of boys tended to be less concerned, to perceive less interference, and to endorse a lower likelihood of seeking help when symptoms were moderate or nonsomatic as compared to when they were severe or somatic. Although boys are more likely to be diagnosed with, and treated for,

externalizing disorders such as ADHD (Bussing, Zima, et al., 2003), research suggests that anxiety symptoms and disorders may be more frequently identified among girls as compared to boys (for reviews, see Costello, Egger, & Angold, 2004; Ollendick, King, & Muris, 2002). It is interesting, however, that interactions were observed for help-seeking, but not for etiological beliefs. Given that anxiety is often seen as a less acceptable emotion for boys to experience or express (Birnbaum & Croll, 1984; Chaplin, Cole, & Zahn-Waxler, 2005), there may be more stigma associated with seeking help for anxiety problems among boys. Alternatively, given research suggesting that males tend to hold less positive views towards mental health treatment (Gonzales, Alegria, & Prihoda, 2005), this pattern may also result from parents' beliefs that their sons will not be willing to attend treatment unless the problem is severe or causing physical interference. Future research is needed to clarify the nature of these relationships.

Measures Included in the Present Study

Preliminary analyses provided support for the convergent/divergent validity of several measures included in the present study. For example, the VIA-M was significantly associated with generations in the United States, percentage of time English is spoken at home, and the age at which one moved to the United States, all in the expected directions. For the most part, observed ethnic differences in the cultural measures also conformed to expectations. Given the low proportion of immigrants within the EA sample and the earlier age of immigration among PR as compared to IA participants, the ethnic differences observed with regard to the VIA-M (EA > PR > IA) were consistent with expectations. It was also not surprising that PR and IA participants scored higher on both the SORF and the SCS-Interdependent Scale than did EA

participants, given the strong emphases on religion and interdependence among family members in both Indian and Puerto Rican cultures (Prathikanti, 1997; Koss-Chioino & Vargas, 1999; Falicov, 1998). The SCS-Independent scale behaved in a way that was initially unexpected; PR participants scored significantly higher than both EA and IA participants, who did not differ from one another. It is possible that this scale did not fully capture the construct that it was intended to measure; alternatively, due to changes over the last several decades in the structure and composition of PR families, this scale may have measured true ethnic differences in independent self-construal. PR mothers in the U.S. are increasingly likely to be unmarried, making them the sole providers and caretakers for their families (Cauce & Domench-Rodriguez, 2002). Within the present study, 77% of PR participants were unmarried as compared to only 31% of EA mothers and 3% of IA mothers. It may be necessary and adaptive for PR mothers to construe themselves as independent from others, given that they may not have a partner with whom to share experiences, responsibilities and household expenses. Future research exploring independent and interdependent self-construals among Latinas in relation to changes in family structure and composition would be of interest.

Limitations and Future Directions

Several potential limitations merit attention. The vignettes developed for this study describe hypothetical child behavior. This method is a useful way to assess the beliefs and likely actions of community participants whose children may not in reality be experiencing psychological distress. However, it is possible that parents' beliefs and likely actions in response to hypothetical child behavior may differ from their actual beliefs and actions were their child to behave in this way. For example, parents who

endorsed a high likelihood of seeking help from a mental health professional on a confidential questionnaire may in reality be hesitant to bring their child to a psychologist due to factors such as stigma or cost. Although efforts were made to increase the similarity between the children in the vignettes and a participant's actual child (i.e., age, gender), it is likely that the children in the vignettes differed from a participant's child in other ways. This may have made it difficult for parents to determine exactly how they would respond in each situation.

In addition, all measures included in the present study were self-report and were administered at one time-point. Future studies on this topic would benefit from multiple methods of assessment and longitudinal investigation. For example, in addition to self-report of behavior, researchers could code family interactions during situations that provoke anxiety in the child. Researchers could also examine the relationship of cultural factors to parental beliefs and help-seeking over time. As parents become more acculturated to mainstream America, how do their beliefs and help-seeking behaviors change?

The methodology of this study is consistent with the etic approach to cultural research. The primary research questions were cross-cultural in nature, and the methods were chosen a priori based on the theoretical framework of the investigator. For example, the dependent variables were assessed through the use of vignettes, a research method embedded in a Western framework, and the vignettes described symptoms that Western researchers believe to be characteristic of SAD. Further, the cultural constructs were assessed through the same measures for all ethnic groups included in the present study. Although efforts were made to increase the validity of the measures through consultation

with cultural experts and minor rewording of questionnaire items, it is certainly possible that the methodology of the present study was not appropriate or applicable to all groups of interest. Indeed, there is evidence to suggest that the SORF may not be equally applicable to all religious affiliations. Future studies are needed to evaluate youth anxiety within non-Western cultures using an emic approach. The recent increase in collaborative community-based research, in which community organizations or leaders serve as co-investigators, is encouraging (Dillard-Smith, 2008; Wallerstein & Duran, 2006). By minimizing the degree to which Western ideals are imposed on the research questions and methodology, we will likely gain a more accurate understanding of youth anxiety within diverse cultures.

On a related note, the cultural measures utilized in the present study may not have assessed precisely the constructs of interest. As previously discussed, the SCS was developed to measure an adult's self-construal in relation to others, such as parents, siblings, or peers, but not specifically in relation to her child. Measures included in the present study were limited to those that were available and psychometrically sound. However, future research should focus on the development and validation of cultural measures that may be associated with the presentation and interpretation of psychological symptoms.

Participants were limited to mothers given that they tend to be primary caregivers (Pleck, 1997; Seymour, 1999; Falicov, 1998). However, other family members may also play an important role in the development of etiological beliefs and decisions regarding help-seeking. Given research suggesting that men may be more likely than women to discourage the expression of submissive emotions in their children (Cassano, Perry-

Parrish, & Zeman, 2007), may attend less to the expression of sadness and anxiety in their sons as compared to their daughters (Chaplin, Cole, & Zahn-Waxler, 2005), and may be less open to seeking psychological help (Gonzales et al., 2005), it is possible that fathers would be less likely to interpret symptoms as psychological, particularly with regard to sons, and would be less willing to seek mental health services for their child. Although the child described in each vignette was only seven years old, it is also possible that the child's opinions about, and reactions to, different forms of help-seeking may influence actual help-seeking actions. Future studies are needed to evaluate the beliefs and preferences of all family members, including fathers and children, in relation to subsequent help-seeking efforts.

Participants were also limited to English speaking participants due to the numerous complications involved in the translation of measures (e.g., lack of translated measures with demonstrated validity, multiple samples needed to achieve translation equivalence) (Geisinger, 1994; Okazaki & Sue, 1995). It is possible that the exclusion of non-English speaking participants resulted in a sample that was more acculturated to mainstream American culture or of higher SES than the general population, which could affect the generalizability of results. Different patterns of findings may have emerged were non-English speaking mothers to be included in this study; indeed, previous studies have shown different patterns of results based on the language choice of participants (Pina & Silverman, 2004). When possible, future studies should attempt to study beliefs about child symptoms and preferences for help-seeking among both English and non-English speaking parents.

Sources of recruitment for IA participants differed from those for PR and EA participants, given the low proportion of IA families within the medical center. Because only 3 IA participants were recruited from the medical center, it was not possible to determine whether these participants differed from the remaining IA participants (recruited through community centers) on any demographic or dependent variables. Future studies should attempt to recruit all participants through the same or similar sources when possible.

As is the case in the general U.S. population (U.S. Census Bureau, 2000a), EA, IA, and PR participants differed significantly on SES. Were efforts to be made to recruit participants of similar SES, results would not be generalizable to the general population. However, significant differences in SES make it difficult to determine when effects are due to ethnicity versus SES versus a combination of the two. In an attempt to address this potential confound, SES was included as a covariate in primary and secondary analyses. Future studies examining ethnic differences may choose to include ethnic groups who are of similar SES to ease interpretation of results.

The present study did not evaluate which aspects of the vignettes were most salient to participants when determining the seriousness and likely etiology of the child symptoms and preferences for help-seeking. Few ethnic differences in parental beliefs and preferences for help-seeking were observed with regard to the vignettes as a whole; however, greater ethnic differences may have emerged in response to specific aspects of the vignettes (e.g., frequent visits to the school nurse, difficulty sleeping alone). For example, given the strong emphasis placed on academic success in Indian culture (Pandey, 2006), it could be hypothesized that IA participants would endorse higher levels

of concern regarding school interference when compared to EA or PR participants. To address this issue, future studies using similar methodology could pose questions to participants at several points throughout the vignette or could inquire directly about the most salient aspects of the vignette.

This study did not examine all parental variables that may predict the use of child mental health services. For example, perceptions of stigma in response to mental health treatment and beliefs about the effectiveness of mental health treatment were not examined directly, despite preliminary evidence highlighting their importance (Bussing, Zima, et al., 2003; Lau & Takeuchi, 2001; Nock, Phil, & Kazdin, 2001; Richardson, 2001). Future studies are needed to examine these variables in combination with those already included in the present study.

Despite limitations, this study makes important contributions to the literature. The results add further support for the existence of ethnic differences in somatization, somatic interpretations of symptoms, and preferences for help-seeking in response to child symptoms. The results also highlight the importance of examining underlying cultural constructs, such as acculturation and strength of religious faith, in addition to the sociopolitical categories of ethnicity and race. Given that cultural variables were found to predict parental beliefs and preferences for help-seeking, even in cases where ethnicity did not, these and other cultural variables should be routinely included in future studies examining patterns across and within ethnic groups.

Importantly, the findings of this study also highlight the many similarities in beliefs and help-seeking preferences of parents belonging to diverse ethnic groups in the United States. Of particular interest is the high likelihood of psychological causes and

seeking help from a mental health professional endorsed among parents from all three ethnic groups. It is clear from the results that while parental beliefs and preferences may contribute to ethnic disparities in mental health treatment utilization, they are not solely responsible for these patterns. Ideally, the results of this study will inform future research examining additional factors that may contribute to mental health treatment utilization.

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APPENDIX A
VIGNETTES CREATED FOR THE PRESENT STUDY

Severe-Nonsomatic Vignette

Instructions: The following paragraphs describe a 7 year-old boy. Imagine that this boy is your child. After reading the description, you will be asked to answer a number of questions about this child, using your judgment as a parent.

Your child is a 7 year-old boy. He has told you that he misses you a lot during the school day and that he has trouble concentrating at school because he is thinking about you. He often cries in the morning before school and asks to stay home from school so that he can spend time with you.

When your child is at home, he prefers to be in the same room as you. He does not like going to a different part of the house alone and always asks you to come with him. Your child enjoys playing with other children from the neighborhood, but does not like going to their houses without you. He usually invites these children to your house instead.

When it is time to go to sleep at night, your child often says that he does not want to sleep in his room alone and asks to sleep in your bed. He has slept over at his grandmother's house once, but called you in the middle of the night to ask if he would see you the next day.

Severe-Somatic Vignette

Instructions: The following paragraphs describe a 7 year-old boy. Imagine that this boy is your child. After reading the description, you will be asked to answer a number of questions about this child, using your judgment as a parent.

Your child is a 7 year-old boy. He likes his teacher and the children in his class, but has told you that he wishes that he could see you during the school day. He often complains of distressing stomachaches and headaches in the morning before leaving for school and begs you to let him stay home because he does not feel well. Your child visits the school nurse several times per week because of his stomachaches and headaches.

Your child does not like to go to friends' houses after school because he would rather spend time with you. When your child is at home, he often follows you around the house. He has told you that his heart pounds fast and his hands begin to sweat when he does not know where you are.

Your child often tells you that his stomach hurts when it is time to go to sleep and asks if he can sleep in your bed. Even when your child does fall asleep in his own bed, he usually comes into your room in the middle of the night complaining that he can't sleep. Your child tried to stay overnight at his cousin's house once, but called you in the evening and asked you to pick him up because he said that he wasn't feeling well.

Moderate-Nonsomatic Vignette

Instructions: The following paragraphs describe a 7 year-old boy. Imagine that this boy is your child. After reading the description, you will be asked to answer a number of questions about this child, using your judgment as a parent.

Your child is a 7 year-old boy. He likes school, but has told you that he sometimes thinks that you will forget to pick him up from school or from the bus. On the day that his class was scheduled to go on a field trip to the zoo, your child asked if he could stay home from school. He later told you that he thought that he would get lost at the zoo and wouldn't be able to see you again.

Your child gets along with the children in his class. He has been to several birthday parties this year, but calls you once or twice from each party to ask when you are coming to pick him up. Your child enjoys playing with children from the neighborhood. When playing with these children, your child will often come over to you to make sure that you are okay.

Although your child sleeps in his own bed every night, he often asks you to lie down with him for a few minutes. He has slept at his grandmother's house several times, but has not yet slept over at a friend's house because he thinks that he might miss you during the night.

Moderate-Somatic Vignette

Instructions: The following paragraphs describe a 7 year-old boy. Imagine that this boy is your child. After reading the description, you will be asked to answer a number of questions about this child, using your judgment as a parent.

Your child is a 7 year-old boy. He does well in school, but often complains that his heart pounds fast and his stomach hurts when he is saying goodbye to you in the morning. Your child visited the nurse's office only three times in the last year of school because he said that he did not feel well, but each time, the nurse did not find that he was ill. The nurse allowed him to speak to you on the phone, and after speaking to you, he was able to go back to class.

Your child has attended birthday parties for friends in his class, but often calls you and asks you to pick him up early because he has a stomachache or a headache. After you pick him up, he sometimes tells you that he missed you and thought that he might never see you again.

Your child sleeps in his own bed most nights. However, he sometimes complains of feeling sick before bedtime and asks you to lie down with him until he feels better. Your child stayed overnight at his cousin's house once, but has not slept over at a friend's house because he says that he does not like being away from his family at night.

APPENDIX B STRATEGIES USED TO OVERCOME BARRIERS TO RECRUITMENT

Several barriers to the recruitment of ethnic minority community participants have been discussed in the literature. Such barriers include the distrust of research and researchers, likely due to the mistreatment or abuse of ethnic minorities in past studies (Areán & Gallagher-Thompson, 1996; Shavers-Hornaday et al., 1997), discomfort or unfamiliarity with research settings (e.g., university campus; Gonzales, Hiraga & Cauce, 1998), discomfort with personal disclosure (Gonzales et al., 1998; Okazaki & Sue, 1995), lack of knowledge about the details and possible benefits of research participation (Barata, Gucciardi, Ahmad, & Stewart, 2006), and structural factors that impede study participation (e.g., lack of transportation or childcare; long or inflexible work hours; Areán & Gallagher-Thompson, 1996; Gonzales et al., 1998).

In an effort to overcome these and other barriers, this study was conducted at an urban medical center and three community centers, most accessible by public transportation and all located in neighborhoods with large ethnic-minority representations (e.g., one of the community centers was located in a neighborhood in which 40.2% of residents are Indian-American). Given that most participants were mothers of child patients at the medical center or frequent visitors of the community centers, the research environment was likely to be familiar and less intimidating than a university research laboratory. This study had flexible hours, and participants were given the option of completing the study at the time of recruitment or in coordination with medical appointments or visits to the community center already scheduled to reduce the burden associated with unnecessary travel. All participants were reimbursed for their time and

travel expenses, and childcare was provided when needed. In order to minimize discomfort associated with the disclosure of personal information, participants were asked to make ratings based on a hypothetical child, rather than on their own child. Prior to study participation, the investigator answered all questions asked by potential participants, discussed the benefits to study participation, and explained that all responses are confidential. The accommodations implanted for this study have been recommended in the literature for the recruitment of ethnic minority participants (Areán & Gallagher-Thompson, 1996; Shavers-Hornaday et al., 1997).

APPENDIX C
RELATIONSHIP BETWEEN PARENTAL BELIEFS AND PREFERENCES FOR
HELP-SEEKING

The unique contributions of specific parental beliefs (e.g., perceived interference and prognosis, etiological beliefs) in predicting the likelihood of engaging in various forms of help-seeking were examined through hierarchical multiple regression within each ethnic group. These analyses answer questions such as “Do medical etiological beliefs uniquely predict seeking help from a physician among Puerto Rican participants?” SES was entered as a covariate in the first block. Perceived interference and perceived prognosis (i.e., seriousness variables) were entered in the second block based on previous research demonstrating a relationship between parental perceived interference and prognosis and help-seeking (McMiller & Weisz, 1996; Morrissey-Kane & Prinz, 1999; Pavuluri, Luk, & McGee, 1996). Etiological beliefs (i.e., etiological variables) were entered simultaneously in the third block to evaluate whether specific etiological beliefs have a unique relationship with forms of help-seeking after controlling for parental beliefs about interference and prognosis.

Results for the overall model with the addition of each block of variables are discussed below and are organized by form of help-seeking. Standardized betas and significance levels are reported for unique relationships between predictor and outcome variables. Tables 26-28 report standardized betas and significance levels for all variables included in each block of the model.

Table 26. The Relationship between Parental Beliefs and Help-Seeking in the Puerto Rican Sample

	Med Help (β)	Psych Help (β)	Fam/Friends Help (β)	Religious Help (β)	Any Help (β)
Block 1					
SES	-.27	-.28	-.26	-.42**	-.34*
Block 2					
SES	-.17	-.15	-.21	-.38*	.23
Interference	.55**	.67**	.12	.22	.61**
Prognosis	-.08	-.13	.23	-.06	-.14
Block 3					
SES	-.14	-.23**	-.12	-.21	-.32**
Interference	-.14	-.06	-.37	.01	-.03
Prognosis	-.03	-.13	.13	-.18	-.13
Med Etiology	.71**	.06	.12	.15	.05
Psych Etiology	.32*	.82**	.40	.02	.74**
External Etiology	.03	.15	.12	.06	.12
Religious Etiology	-.06	-.11	.36*	.53**	-.13

Note. SES = Hollingshead Four-Factor Index.

* $p < .05$. ** $p < .01$

Table 27. The Relationship between Parental Beliefs and Help-Seeking in the Indian-American Sample

	Med Help (β)	Psych Help (β)	Fam/Friends Help (β)	Religious Help (β)	Any Help (β)
Block 1					
SES	.22	.28	-.25	.17	-.04
Block 2					
SES	.14	.16	-.32*	.17	-.15
Interference	.32*	.29*	.64**	-.01	.53**
Prognosis	-.17	-.36*	.16	.02	-.14
Block 3					
SES	-.12	-.05	-.32*	.06	-.23
Interference	-.14	-.09	.57**	-.24	.28
Prognosis	-.10	-.30**	.15	.01	-.12
Med Etiology	.63**	.46**	.33	.36	.56**
Psych Etiology	.28*	.41**	-.05	.17	.19
External Etiology	.20	.03	-.13	-.06	-.19
Religious Etiology	.15	-.10	.10	.33	-.11

Note. SES = Hollingshead Four-Factor Index.

* $p < .05$. ** $p < .01$

Table 28. The Relationship Between Parental Beliefs and Help-Seeking in the European American Sample

	Med Help (β)	Psych Help (β)	Fam/Friends Help (β)	Religious Help (β)	Any Help (β)
Block 1					
SES	.03	.08	.19	-.01	.19
Block 2					
SES	.05	.08	.21	.01	.20*
Interference	.76**	.65**	.31	-.04	.70**
Prognosis	-.01	-.28*	.09	.24	-.25*
Block 3					
SES	.09	.15	.27	.07	.24**
Interference	.36	.23	.12	-.47	.29*
Prognosis	-.06	-.14	.03	.16	-.15
Med Etiology	.33*	.09	.03	.50*	.12
Psych Etiology	.15	.61**	-.12	.15	.49**
External Etiology	.18	.02	.34	.09	.07
Religious Etiology	.05	.04	.13	.11	-.001

Note. SES = Hollingshead Four-Factor Index.

* $p < .05$. ** $p < .01$

Likelihood of Seeking Help from a Mental Health Professional

In the PR sample, the addition of the seriousness variables, $F(2,35) = 17.35$, $p < .01$, and the etiological variables, $F(4,31) = 16.52$, $p < .01$, significantly improved the ability to predict Psych Help. The model accounted for 54% of the variance when the seriousness variables were entered into the equation after SES and 85% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .67$, $p < .001$, and Psych Etiology, $\beta = .82$, $p < .001$, were positively associated with the likelihood of seeking help from a mental health professional. No other parental beliefs uniquely predicted the likelihood of seeking help from a mental health professional.

In the IA sample, the addition of the seriousness variables, $F(2,35) = 5.50$, $p < .01$, and the etiological variables, $F(4,31) = 10.31$, $p < .01$, significantly improved the

ability to predict Psych Help. The model accounted for 30% of the variance when the seriousness variables were entered into the equation after SES and 70% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .29$, $p = .05$, Med Etiology, $\beta = .46$, $p = .003$, and Psych Etiology, $\beta = .41$, $p = .003$, were positively associated with the likelihood of seeking help from a mental health professional. Prognosis, $\beta = -.36$, $p = .02$, was negatively associated with the likelihood of seeking help from a mental health professional, in that participants who believed that the symptoms would go away on their own were less likely to report seeking help from a mental health professional. No other parental beliefs uniquely predicted the likelihood of seeking help from a mental health professional.

In the EA sample, the addition of the seriousness variables, $F(2,35) = 32.70$, $p < .01$, and the etiological variables, $F(4,31) = 5.66$, $p < .01$, significantly improved the ability to predict Psych Help. The model accounted for 65% of the variance when the seriousness variables were entered into the equation after SES and 80% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .65$, $p < .001$, and Psych Etiology, $\beta = .61$, $p < .001$, were positively associated with the likelihood of seeking help from a mental health professional. Prognosis, $\beta = -.28$, $p = .02$, was negatively associated with seeking help from a mental health professional, in that participants who believed that the symptoms would go away on their own were less likely to report seeking help from a mental health professional. No other parental beliefs uniquely predicted the likelihood of seeking help from a mental health professional.

Likelihood of Seeking Help from a Physician

In the PR sample, the addition of the seriousness variables, $F(2,35) = 8.58$, $p < .01$, and the etiological variables, $F(4,31) = 20.24$, $p < .01$, significantly improved the ability to predict Med Help. The model accounted for 38% of the variance when the seriousness variables were entered into the equation after SES and 83% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .55$, $p < .001$, Med Etiology, $\beta = .71$, $p < .001$, and Psych Etiology, $\beta = .32$, $p = .04$, were positively associated with the likelihood of seeking help from a physician. No other parental beliefs uniquely predicted the likelihood of seeking help from a physician.

In the IA sample, only the addition of the etiological variables significantly improved the ability to predict Med Help, $F(4,31) = 18.23$, $p < .01$, with the overall model accounting for 76% of the variance. Interference, $\beta = .32$, $p = .05$, Med Etiology, $\beta = .63$, $p < .001$, and Psych Etiology, $\beta = .28$, $p = .02$, were positively associated with the likelihood of seeking help from a physician. No other parental beliefs uniquely predicted the likelihood of seeking help from a physician.

In the EA sample, only the addition of the seriousness variables significantly improved the ability to predict Med Help, $F(2,35) = 24.67$, $p < .01$. The model accounted for 59% of the variance when the seriousness variables were entered into the equation after SES. Interference, $\beta = .76$, $p < .001$, and Med Etiology, $\beta = .33$, $p = .01$, were positively associated with the likelihood of seeking help from a physician. No other parental beliefs uniquely predicted the likelihood of seeking help from a physician.

Likelihood of Seeking Help from Family or Friends

In the PR sample, only the addition of the etiological variables significantly improved the ability to predict Fam/Friends Help, $F(4,31) = 3.40$, $p = .02$, with the overall model accounting for 39% of the variance. Religious Etiology, $\beta = .36$, $p = .04$, was positively associated with the likelihood of seeking help from family or friends. No other parental beliefs uniquely predicted the likelihood of seeking help from family or friends.

In the IA sample, only the addition of the seriousness variables significantly improved the ability to predict Fam/Friends Help, $F(2,35) = 13.32$, $p < .01$. The model accounted for 47% of the variance when the seriousness variables were entered into the equation after SES. Interference, $\beta = .64$, $p < .001$, was positively associated with the likelihood of seeking help from family or friends. No other parental beliefs uniquely predicted the likelihood of seeking help from family or friends.

In the EA sample, neither the addition of SES nor the seriousness variables nor the etiological variables significantly improved the ability to predict Fam/Friends Help. No parental beliefs uniquely predicted the likelihood of seeking help from family or friends.

Likelihood of Seeking Help from a Religious Leader

In the PR sample, the addition of SES, $F(1,37) = 8.06$, $p < .01$, and the etiological variables, $F(4,31) = 4.89$, $p < .01$, significantly improved the ability to predict Religious Help. The model accounted for 18% of the variance when SES was entered into the equation and 53% of the variance when the seriousness and etiological variables were additionally entered into the equation. Religious Etiology, $\beta = .53$, $p = .001$, was

positively associated with the likelihood of seeking help from a religious leader. No other parental beliefs uniquely predicted the likelihood of seeking help from a religious leader.

In the IA sample, only the addition of the etiological variables significantly improved the ability to predict Religious Help, $F(4,31) = 4.92$, $p < .01$, with the overall model accounting for 41% of the variance. However, none of the etiological beliefs uniquely predicted the likelihood of seeking help from a religious leader.

In the EA sample, neither the addition of SES nor the seriousness variables nor the etiological variables significantly improved the ability to predict Religious Help. However, Med Etiology, $\beta = .50$, $p = .01$, was positively associated with the likelihood of seeking help from a religious leader. No other parental beliefs uniquely predicted the likelihood of seeking help from a religious leader.

Likelihood of Seeking Help of Any Kind

In the PR sample, the addition of SES, $F(1,37) = 4.83$, $p = .03$, the seriousness variables, $F(2,35) = 13.63$, $p < .01$, and the etiological variables, $F(4,31) = 7.99$, $p < .01$, significantly improved the ability to predict Any Help. The model accounted for 12% of the variance when SES was entered into the equation, 50% of the variance when the seriousness variables were additionally entered into the equation, and 76% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .61$, $p < .001$, and Psych Etiology, $\beta = .74$, $p < .001$, were positively associated with the likelihood of seeking help of any kind. No other parental beliefs uniquely predicted the likelihood of seeking help of any kind.

In the IA sample, the addition of the seriousness variables, $F(2,35) = 7.76$, $p < .01$, and the etiological variables, $F(4,31) = 4.31$, $p < .01$, significantly improved the

ability to predict Any Help. The model accounted for 31% of the variance when the seriousness variables were entered into the equation after SES and 56% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .53$, $p = .001$, and Med Etiology, $\beta = .56$, $p = .003$, were positively associated with the likelihood of seeking help of any kind. No other parental beliefs uniquely predicted the likelihood of seeking help of any kind.

In the EA sample, the addition of the seriousness variables, $F(2,35) = 45.63$, $p < .01$, and the etiological variables, $F(4,31) = 5.23$, $p < .01$, significantly improved the ability to predict Any Help. The model accounted for 73% of the variance when the seriousness variables were entered into the equation after SES and 84% of the variance when the etiological variables were additionally entered into the equation. Interference, $\beta = .70$, $p < .001$, and Psych Etiology, $\beta = .49$, $p < .001$, were positively associated with the likelihood of seeking help of any kind. Prognosis, $\beta = -.25$, $p = .02$, was negatively associated with the likelihood of seeking help of any kind, in that participants who believed that the symptoms would go away on their own were less likely to report seeking help of any kind. No other parental beliefs uniquely predicted the likelihood of seeking help of any kind.

APPENDIX D
HOLLINGSHEAD FOUR-FACTOR INDEX SCORES FOR EACH ETHNIC GROUP
WITH AND WITHOUT MISSING/MISINTERPRETED EDUCATION SCORES

Table 29. Mean and Standard Deviation of Hollingshead Four-Factor Index with and without Missing/Misinterpreted Education Scores

	# Missing/Misinterpreted Education Scores	SES Cases Excluded Mean (SD)	SES Cases Included Mean (SD)
Euro-American	2	46.81 (13.58)	46.05 (13.68)
Puerto Rican	4	27.89 (12.65)	27.95 (12.53)
Indian-American	0	56.10 (9.46)	56.10 (9.46)

Note. SES = Hollingshead Four-Factor Index; SD = Standard deviation.