SOCIAL CONTEXT IN TRAUMATIC STRESS:

GENDER, ETHNICITY, AND BETRAYAL

by

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A DISSERTATION

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The purpose of the current study was to examine the role of sociocultural factors in posttraumatic stress. The two major aims were to add to current knowledge about why women report higher rates of posttraumatic stress than men and to explore the role of ethnicity in response to trauma. Using an online survey with a college sample (n = 1041) and a community sample (n = 199), the findings confirmed prior research that traumas high in betrayal (e.g., abuse by a close other) are more strongly associated with symptoms of posttraumatic stress than traumas lower in betrayal (e.g., natural disaster or abuse by someone not close to the victim). Women also reported higher rates of depression, anxiety, and reexperiencing symptoms of posttraumatic stress disorder (PTSD) but not avoidance and hyperarousal symptoms. The hypothesis that betrayal trauma would mediate the association between gender and PTSD reexperiencing

symptoms was statistically significant although the effect was not substantial. Gender role socialization may also moderate the relationship between gender and PTSD reexperiencing, whereby men with more egalitarian beliefs had lower scores than men with more conservative beliefs.

This study also investigated the rates of traumatic events among Asian and Pacific Islander (API) populations, and cultural correlates of posttraumatic stress. It included one of the few non-clinical samples of API adults from the community in the U.S. as well as a cohort of API students. Notable differences between the younger and older API participants were found in the reporting of various traumatic events. In particular, young API men reported adult sexual assault with surprising frequency at nearly 20% for both close and not close perpetrators which is several times more than the older API men. The influence of participants' concern with loss of face (LOF) on PTSD symptoms was also examined. The prediction that concern with LOF would moderate the effect of traumatic experiences on posttraumatic stress for APIs was not supported although LOF was directly associated with PTSD symptoms. These results add to the growing body of evidence that interpersonal violence and posttraumatic stress are issues that require attention among API populations.

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CHAPTER I

INTRODUCTION

Traumatic events typically do not occur in isolation. Rather, they are embedded within a broad social context, evoking cultural values, beliefs and behavior both learned and innate. Despite the acknowledged importance of context in trauma, much research on posttraumatic stress continues to be devoted to examining responses to potentially traumatic events on an individual level, without consideration of context or cultural constructs. For example, the consistently higher rates of PTSD diagnosed among women than men has been explained by some as largely a genetic difference or inherent vulnerability of women (Breslau, Chilcoat, Kessler, Peterson, & Lucia, 1999). However, women are more likely to experience sexual abuse than are men, particularly by close others (Goldberg & Freyd, 2006) and the betrayal of a close relationship between the victim and perpetrator has been found to result in increased symptoms of posttraumatic stress disorder (PTSD), depression, anxiety, dissociation, and other psychiatric sequelae (Freyd, 1996; Goldsmith, 2004). This may even be true in the case of natural disasters. During the 2004 tsunami in the Indian Ocean, victims frequently expressed feeling "betrayed" by the ocean upon which they had relied to meet basic needs. Similarly,

victims of Hurricane Katrina expressed feeling betrayed by the government in its slow response to provide aid.

In addition to the betrayal of relationships, adherence to traditional gender role beliefs may affect interpretation of traumatic events, especially in cases of interpersonal trauma. In most cultures, gender role beliefs are typically based upon a patriarchal structure that accords more social power and freedom to men than to women. Given that most perpetrators of abuse and assault are men, it is adaptive for women to be more cognizant of the potential risk for assault by a physically stronger man. Combined with a belief in the validity of a social power differential, some women may perceive themselves as more vulnerable than do men. In contrast, a belief in traditional gender roles may act as a protective factor among men and decrease a sense of vulnerability.

Ethnicity and cultural values may also influence an individual's response to potentially traumatic events. Researchers have postulated that being an ethnic minority can be a risk factor for PTSD due to a lower social status and having less power than the majority group. Ethnic differences regarding posttraumatic stress are much less well documented than gender differences and information on even base rates of trauma is sparse, especially among Asian Pacific Islanders (APIs). However, the extant research is contradictory, with some studies indicating that ethnic minority groups in the U.S. do have higher prevalence rates of PTSD than European Americans (Russell, 1986; Sorenson & Siegal, 1992, Wyatt, 1985) while others have failed to find any differences (Friedman, Schnurr, Sengupta, Holmes, & Ashcraft, 2004).

Asian Pacific Islanders represent a diverse array of ethnic groups in the United States. The term was originally used by the 1990 and 2000 U. S. Census as a category for people of East, Southeast, and South Asian ancestries, as well as those from the Pacific Islands. Although by no means a homogenous group, APIs are characterized by unique demographics and cultural beliefs. Data compiled from the U.S. Census Bureau (2007) indicated that approximately two-thirds of APIs currently living in the U.S. were foreign-born, half of whom immigrated after 1990. APIs are more likely to have a bachelor's degree or more education (48%) than non-Hispanic Whites (30%). It is likely that the large proportion of immigrants results in strong adherence to native cultural norms among API populations, producing distinct differences from mainstream American values and behavior.

Beyond group membership, specific cultural values may also be significant. Hall (2001) suggests that cross-cultural research should move beyond measuring group differences to identifying the particular cultural beliefs that influence behavior and the influence of culture on the emotional experience of a traumatic event is a topic of recent empirical research. Among the many differences in values between Asian and Western cultures, those emphasizing group harmony and preservation of face are especially prominent in many Asian cultures. As a result, social responses to interpersonal trauma may also include a sense of group shame and a tendency to deter seeking outside support (Lee & Law, 2001). The need to "save face," a primary value in many Asian cultures, may have a profound impact upon a survivor's response to the event, the likelihood of

reporting interpersonal traumatic events, and the ability to obtain positive social support from family and friends.

To our knowledge, no study to date has specifically investigated the role of loss of face in posttraumatic stress. It may be possible that loss of face may function as a risk factor for victims of trauma in several ways. First, it may underscore the sense of guilt and shame that many victims of interpersonal traumas already feel. Second, it places the consideration of the family well-being above that of the individual and thus may deter disclosure of abuse or the offering of positive social support by family members who may also assume the burden of shame in a collectivist culture. Finally, loss of face may also represent a greater risk factor for women than men since the honor of the woman is considered a familial commodity in many Asian cultures. As loss of face is a fundamental value to most Asian cultures, it is essential to consider this construct in the study of trauma in API communities.

The purpose of the current study was to examine several of these sociological factors from a systemic perspective to add to our current knowledge about why women report higher rates of posttraumatic stress and to explore the role of culture in response to trauma. The factors selected for investigation regarding gender were the relationship between victim and perpetrator and gender role beliefs. In addition, the project investigated rates of potentially traumatic events reported by APIs as compared to European Americans, as well as the potential role of cultural beliefs in moderating these differences.

Consequences of Trauma: PTSD, Anxiety, and Depression

PTSD is considered the hallmark diagnosis of trauma although it is also frequently accompanied by symptoms of depression, and various forms of anxiety. All three categories entail gender differences with much higher prevalence rates among women than men. Although this study focuses upon these most common consequences of traumatic events, it should be kept in mind that a host of other disorders such as substance abuse, eating disorders, and may also arise in the wake of trauma (Dube et al., 2005).

The first portion of this section discusses the diagnosis of PTSD and potential shortcomings in the context of gender and culture. It also summarizes findings that support the causal relationship between trauma and PTSD, depression, and anxiety. In addition, there is also evidence that these disorders may act as risk factors for traumatic events as well as for each other. Research concerning these complex reciprocal relationships will also be reviewed.

Diagnosing PTSD

The original formulation of PTSD first appeared in the *DSM-III* (APA, 1980) primarily in response to combat experiences of Vietnam veterans, as well as sexual assault, and natural disasters. This definition was expanded in subsequent editions to include events that were witnessed or heard about. The *DSM-IV-TR* (APA, 2000) stipulates two conditions necessary for defining an event as traumatic. The first, Criterion A1, states that the event involved "actual or threatened death or serious injury, or a threat

to the physical integrity of self or others." The subjective nature of experiencing a trauma is captured by Criterion A2 , which states that the event must have been experienced as involving "intense fear, helplessness, or horror." Traumatic sequelae are clustered into three additional criteria: reexperiencing, avoidance of stimuli that remind one of the event and numbing of general responsiveness, and hyperarousal. Reexperiencing includes having flashbacks, nightmares, and intrusive thoughts about the traumatic event. Persistent avoidance and numbing include avoiding people, places and activities that are reminders of the event as well as a diminished capacity to feel emotions in general. The diagnosis of PTSD holds a unique place in the *DSM-IV-TR* in being the only disorder with a clearly defined etiology that is an actual condition for diagnosis. By definition, a potentially traumatic experience must have occurred in order to meet criteria for a diagnosis of PTSD. Although it is theoretically possible that in some cases a person may exhibit PTSD-like symptoms without a PTE, these instances appear to be rare. Boney-McCoy and Finkelhor (1996) conducted a longitudinal prospective study of a national random sample of 10-16 year-olds over the course of 15 months. They found that symptoms of depression and PTSD were significantly associated with victimization even after controlling for the parent-child relationship and for prior levels of symptoms, upholding the causal association between traumatic events and PTSD.

Approximately 90% of the population will experience at least one potentially traumatic event as defined by the *DSM-IV-TR* criteria for PTSD sometime in their lives (Breslau & Kessler, 2001). Despite this almost universal exposure rate, the lifetime prevalence rate of PTSD is about 5-6% in men and 12-14% in women (Breslau, 2001;

Kessler, Sonnega, & Bromet, 1995). One possible explanation for the relatively low rate of PTSD is that the *DSM* definition excludes some events that are commonly considered traumatic. For example, instances of child sexual abuse in which the child is groomed over time may not involve experiences of fear, helplessness, or horror (Veldhuis & Freyd, 1999). Expanding the definition to include rates of CSA would likely raise the overall number of cases of PTSD.

Brown and Freyd (2008) observe that additional traumas involving betrayal such as those perpetrated by healthcare providers, clergy, and others in positions of power also often do not involve a strong fear reaction. Yet research has shown that betrayal traumas can result in traumatic stress that is more severe than events not including betrayal. They argue that it is ethically imperative to consider betrayal traumas when diagnosing PTSD and suggest adding a cognitive appraisal of betrayal of a relationship of trust to Criterion A.

Similarly, others have noted that the current definition of trauma also neglects to include experiences of racism and discrimination. These experiences can cause profound harm but typically do not carry the threat of physical injury or death (Butts, 2002; Sanchez-Hucles, 1998). In addition to having negative physical health consequences such as heart disease, stroke, and hypertension, experiences of discrimination may result in symptoms of reexperiencing, avoidance, and hyperarousal consistent with a diagnosis of PTSD (Butts, 2002). Research on this topic is scarce and currently requires further investigation, but based on the wide prevalence of both CSA and racism, it is possible

that the current definition of PTSD needs to be broadened in order to more fully capture the wide range of potentially traumatic events.

Studies have shown that the *DSM-IV* criteria may discourage reporting of traumas, contributing to a gender difference in prevalence rates. Norris, Foster, & Weisshaar (2002) and Perkonigg, Kessler, Storz, & Wittchen (2000) found that men did report traumas with less frequency with the addition of Criterion A2. It may be true that men do not experience "fear, helplessness, or horror" as often as women. However, it is also possible that men are more reluctant to admit to these emotions in adherence with masculine stereotypes.

In a study of German young adults, when only Criterion A1 (objective trauma as defined by *the DSM-IV*) was considered, males reported significantly higher exposure to trauma (25%) than females (18%). However, the inclusion of A2 narrowed the gap in prevalence rates to 19% for males and 15% for females (Perkonigg, et al., 2000). A study conducted in Mexico by Norris, Murphy, Baker and Perilla (2000) found similar results; whereas 83% of men and 74% of women were exposed to at least one objective lifetime trauma, 60% of men and 61% of women met Criterion A2.

PTSD, Depression, and Anxiety: Causality and Comorbidity

Although PTSD is considered *the* diagnosis for trauma, posttraumatic stress encompasses a wide scope of potential psychiatric sequelae beyond PTSD, including depression, general anxiety, dissociation, eating disorders, substance abuse, and psychosis (Breslau, 2002; Briere & Elliott, 1994; Carter-Snell & Hegadoren, 2003; Read,

Mosher, & Bentall, 2004; Widom, Ireland, & Glynn, 1995). Of these, major depression and dysthymia are the more frequent comorbid disorders with PTSD followed by anxiety disorders (Blanchard, Buckley, Hickling, & Taylor, 1998; Goenjian et al., 2000; O'Donnell, Creamer, & Pattison, 2004). Depression is also the most frequently reported disorder among adults who experienced child sexual abuse (CSA; Brown & Finkelhor, 1986).

The associations among PTSD, depression, and anxiety are complex and can have multiple directions of causality. A pre-existing mood or anxiety disorder can heighten the risk of exposure to a traumatic event as well as to posttraumatic stress. For example, depression has been found to be a strong risk factor for physical abuse and other potentially traumatic events (Breslau, Davis, Peterson, & Schultz, 1997; Chaffin, Kelleher, & Hollenberg, 1995). A prospective study on bullying found that children who reported symptoms of depression and anxiety were at greater risk for being bullied (Fekkes, Pijpers, Fredriks, Vogels, & Verloove-Vanhorick, 2006). In another prospective study of adolescents, PTSD and depression were found to be predictive of victimization experiences in the form of parental assault, sexual abuse, and kidnapping (Boney-McCoy and Finkelhor, 1996).

In addition acting as risk factors for traumatic events, depression, anxiety, and PTSD often occur comorbidly. A review of comorbidity and psychiatric disorders concludes that "comorbidity in PTSD is the rule rather than then exception" (Brady, Killeen, Brewerton, & Lucerini, 2000, p. 22). Approximately one third of those diagnosed with PTSD also meet criteria for comorbid major depression (Keane &

Kaloupek, 1997). The combination of PTSD and major depression appears to result in increased symptom severity than PTSD alone. Comorbid diagnoses are associated with increased reports of suicidality, subjective distress, and occupational disability with a longer period to remission for traumas ranging from motor vehicle accidents to life threat and traumatic loss among war refugees (Blanchard, et al., 1998; Momartin, Silove, Manicavasagar, & Steel, 2004). Therefore, comorbidity of depression with PTSD is of direct clinical significance.

Several studies have attempted to differentiate between PTSD, depression and their comorbid occurrence to determine whether they are three distinct outcomes. Among patients who had suffered a myocardial infarction, those with both PTSD and major depressive disorder experienced significantly more adjustment difficulties than those with only one of the diagnoses (Ginzburg, 2006) suggesting that the combination of PTSD and depression may represent a separate syndrome.

In the case of depression, symptoms appear to develop after PTSD manifests whereas anxiety disorders are more likely to present beforehand (Brady et al., 2000). Anxiety disorders such as panic disorder, social phobia, and agoraphobia are also commonly associated with a diagnosis of PTSD. In a study of Vietnam veterans with PTSD, the vast majority (73%) met criteria for social phobia with a 46% overall prevalence rate for other anxiety disorders. (Orsillo, Heimberg, Juster, & Garrett, 1996). In a random sample of women, 55% with PTSD also had a coexisting anxiety disorder (Breslau et al., 1997). A pre-existing anxiety disorder has been found to be a risk factor

for PTSD and, as in the case of depression, concurrent diagnoses of PTSD and anxiety can increase the chronicity and severity of their course (Keane & Kaloupek, 1997).

Finally, in addition to occurring at the same time, PTSD, anxiety, and depression can be predictive of each other. Among women, pre-existing co-morbid PTSD and anxiety has been found to be predictive of depression (Breslau et al., 1997). Likewise, depression can increase vulnerability to developing PTSD and anxiety (Breslau et al., 1997). Breslau, Davis, Peterson, and Schultz (2000) found that major depression did not typically occur independently of PTSD following trauma exposure. However, meeting criteria for PTSD significantly increased the risk of developing first-onset depression. Similar results were found by O'Donnell et al. (2004) although they did find a separate pathway for post-traumatic major depression.

One of the clinical implications of comorbidity is potential underdiagnosis of PTSD due to overlap in symptoms with other disorders and to an inadequate assessment of trauma history (Brady et al., 2000). Therefore, continued research is necessary to understand how to best treat traumatic sequelae.

Why the Gender Difference?

PTSD and Anxiety

Across socioeconomic status, countries, and cultures, the lifetime prevalence of posttraumatic stress disorder (PTSD) for women is twice that of men. Nationwide studies in the U.S. have found rates of PTSD to range from 5 to 6% in men and 10 to 13% among

women (Breslau et al., 1999; Kessler et al., 1995). The duration of PTSD is also substantially longer among women, approximately 5 years in women as compared to 2 years in men. (Kessler et al., 1995). The difference in prevalence rates of begins to appear around early adolescence when the prevalence of PTSD among females rises more rapidly until by it reaches a rate about twice that of males in adulthood (Perkonigg, et al., 2000).

Despite the higher prevalence of PTSD among women, men consistently report higher overall rates of exposure to traumatic events (Breslau, 2001; Norris et al., 2002), which has led some to suggest an inherent vulnerability among women (Breslau et al., 1997). However, a closer examination of the types of events reveals that men tend to report more instances of accidents, physical assaults, and combat trauma than women whereas women are more likely to experience sexual assault (Norris et al., 2002). Among all traumas, sexual trauma is associated with one of the highest rates of PTSD. Therefore, some have proposed that the type of trauma can at least partially account for the gender difference in rates of PTSD.

A meta-analysis by Tolin and Foa (2006) of studies that reported rates of PTSD by gender for the past 25 years investigated whether type of trauma accounts for gender differences in PTSD diagnoses. They found that within the same types of potentially traumatic events, including natural disasters, accidents, combat, and physical assault, females had higher rates of PTSD and greater severity of PTSD than males. However, child and adult sexual assault were exceptions; no gender differences in rates of PTSD were found for adult sexual assault and males reported slightly greater rates of PTSD than

females for CSA. One of the main shortcomings of this metanalysis is that participants were treated as though they had only experienced one type of trauma a without regard to past history. Given that estimated rates of CSA are about 30% for women and 15% for men, it is certain that many of the women and men in the various samples experienced CSA in addition to other types of trauma such as car accidents, non-sexual assault, etc. Therefore, these results are most likely confounded by experiences of multiple traumas among their participants. Having a history of multiple traumas has been shown to have a more detrimental effect on mental health than single-event traumas. The fact that there was no gender difference in rates of CSA actually supports the theory that type of trauma can account for gender differences in subsequent trauma as well.

Furthermore, Tolin and Foa (2006) did not classify perpetrator type. Betrayal trauma theory and other studies of interpersonal violence involving a close relationship between the perpetrator and victim have demonstrated that these forms of trauma can result in more severe symptoms of posttraumatic stress (DePrince & Freyd, 2002; Goldsmith, 2004). Since women experience betrayal traumas more frequently than men, this type of trauma may be an overlooked but significant factor in accounting for gender differences in posttraumatic stress.

Among non-interpersonal traumas, results appear to be mixed regarding gender differences. Some evidence supports equivalent rates of PTSD while others have found higher rates among women. A prospective study of victims of motor vehicle accidents conducted by Freedman et al. (2002) found no gender difference in prevalence or recovery from PTSD. In addition, men and women who developed PTSD experienced

similar rates of severity. Freedman et al. (2002) propose that "fear, threat, and surprise" elements of trauma do not cause more harm in women than in men. Conversely, Fullerton et al. (2001) found that women did have significantly higher rates of PTSD than men after a motor vehicle accident. However, while the authors controlled for past traumas using multiple regression, they did not ask about molestation or other childhood sexual abuse other than rape. Therefore, their results may be strongly biased toward finding a gender difference that is actually due to past abuse rather than the target trauma.

Most studies appear to find evidence of a gender difference in regards to the experience of natural disasters in which women report higher rates of PTSD (for a review, see Norris et al., 2002). The metanalysis by Tolin and Foa (2006) did find significant gender differences among adult survivors of natural disasters with an odds ratio of 2.09 for women to men although there were no differences among children, suggesting a developmental component to PTSD. A few studies have found no difference in prevalence rates among adults. Stein, Walker, and Forde (2000) found no differences survivors of non-assaultive traumas such as fire or witnessing harm to others although they did find differences among survivors of assaultive traumas. A survey of randomly sampled adults by Breslau et al. (1999) found insignificant gender differences among non-assaultive traumas such as injury or shocking event, learning about trauma to others, and unexpected death of a loved one.

In cases of nonsexual assaultive violence, women have consistently been found to be at increased risk for PTSD (Stein et al., 2000; Tolin & Foa, 2006). Finally, Breslau et al. (1999) also found differences in symptom presentation. Avoidance and numbing was

more prevalent among females than males exposed to assaultive violence. Females also reported higher rates of re-experiencing and hyperarousal in all types of traumas.

A prospective study by Spataro, Mullen, Burgess, Wells, & Moss (2004) examined reported cases of sexual abuse among both boys and girls. Compared to population controls, survivors of CSA exhibited significantly greater rates of anxiety, PTSD, and major affective disorders. Anxiety disorders and PTSD were equally prevalent among male and female survivors; however, they also found that male survivors had a history of more childhood mental disorders than females.

Breslau et al. (1999) examined prevalence rates within four different categories of trauma: assaultive violence, other injuries or shocking events, learning of traumas to others, and the sudden unexpected death of a friend. It should be noted that these events are based upon Criterion A for PTSD in the *DSM-IV* and do not account for traumas not involving intense fear and horror such as some types of child abuse or adult victimization by close others. The study found that the overall gender difference in rates of PTSD was primarily accounted for by exposure to assaultive violence with rates of 35.7% in females as opposed to 6.0% in males. Breslau (2001) found that although the conditional risk for PTSD for all trauma types was twice as high in women (13.0%) than in men (6.2%), this difference was primarily due to a much more elevated conditional risk associated with assaultive violence among women (35.7%) than men (6.0%). However, they did not measure the victim-perpetrator relationship that may have accounted for the higher conditional risk among women who experience more assault by close others.

An exception to finding gender differences can be found in a national survey of 8,000 men and 8,000 women by Pimlott-Kubiak & Cortina (2003), which examined sequelae of aggressive violence, including childhood physical assault, adult physical assault, sexual violence, and stalking. They found no difference between men and women in rates of depression, drug and alcohol use, and physical health after accounting for lifetime exposure to these traumatic events.

Brewin, Andrews, and Valentine (2000) conducted a meta-analysis of risk factors for PTSD among adults and found moderate effect sizes for the type of trauma defined in terms of severity. However, like the Tolin and Foa (2006) findings, gender remained predictive of PTSD even when type of trauma was held constant. Kessler et al. (1995) also found women to be at higher risk for PTSD even when controlling for trauma type.

In cases of assaultive violence Breslau et al. (1999) found that the conditional risk of PTSD, or the probability of PTSD given a potentially traumatic event, rose to 35.7% among women versus 6.0% in men. Gender differences among other types of trauma (injury or shocking event, learning about trauma to others, and unexpected death of a loved one) were insignificant. Furthermore over half the cases of PTSD among women were attributable to assaultive violence, compared to 15% for men. Kessler et al. (1995) and Neria, Bromet, and, Sievers (2002) both found that rape was most highly related to PTSD for women whereas for the greatest predictor for men was combat exposure.

Gender differences in other anxiety disorders appear to begin much earlier than in PTSD and depression, starting around age six when the female:male ratio is already 2:1 (Robinson, 2006). This ratio is consistent across subtypes of anxiety disorders (e.g.,

generalized anxiety disorder, specific phobias, and obsessive compulsive disorder) with the exception of social anxiety disorder in which the lifetime prevalence rate among women is 15.5% among women and 11.1% among men (Robinson, 2006). Childhood physical abuse has been found to be higher among both men and women in a clinical sample compared to a community sample (Stein et al., 2000). Panic disorder in particular has been associated with CSA among women but not among men (Molnar, Buka, & Kessler, 2001).

In addition to trauma type, others have begun to examine contextual factors of the event. Among a sample of CSA survivors, Ullman and Filipas (2004) found that women reported significantly more PTSD symptoms than men. However, gender was not a predictor of PTSD when entered in a multiple regression with extent of disclosure, timing of disclosure, and victim. There was an interaction between gender and timing of disclosure. For women, delayed disclosure led to increased PTSD symptom severity whereas for men timing of disclosure did not matter.

Depression

As with PTSD, gender differences in rates of depression begin to emerge in early adolescence (Hankin, Abramson, Moffitt, Silva, & McGee 1998; Nolen-Hoeksema, 1990). Between the ages of 15-18, rates of depression among girls rapidly rise to become twice that of the prevalence rate for males (approximately 11% vs. 23%). A longitudinal study of a birth cohort by Hankin et al. (1998) concluded that these differences are

entirely due to new cases of depression, rather than the previously hypothesized notion that women experience more recurring cases of depression.

Kendler, Gardner, & Prescott (2002) used structural equation modeling to explore developmental pathways of depression in a cohort of 841 female twin pairs. Based upon a 10-item survey of common traumas, lifetime trauma predicted a history of major depression, and other stressful life events in the last year. CSA in particular predicted conduct disorder and later lifetime trauma. Kendler et al. (2002) found three differing pathways to major depression: internalizing, externalizing, and adversity. The internalizing pathway is the direct result of genetic risk, neuroticism and early-onset anxiety, while the externalizing pathway is anchored by conduct disorder and substance misuse. However, the adversity pathway is more extensive. It begins with a combination of disturbed family environment, CSA, and the trauma of parental loss, either through death or divorce at a young age. These in turn flow through low educational attainment, additional lifetime trauma, and low social support to a number of environmental risk factors such as divorce and stressful life events. The authors also describe this path as one that is instigated by troubled interpersonal relationships.

In summary, type of trauma and gender appear to have direct effects upon risk for development of PTSD, depression, and anxiety. The complexity of the relationships among trauma type, gender, and PTSD obviate a parsimonious explanation. However, it is clear that type of trauma at least partially accounts for some of the variance in the rates of PTSD among men and women.

Betrayal Trauma Theory

A close, interpersonal relationship to the perpetrator is a distinguishing characteristic of traumas more commonly suffered by females than males. Girls are more likely to be abused by a family member and boys by a non-family member (Finkelhor, 1990; Goldberg & Freyd, 2006). Among victims of interpersonal violence, including sexual assault, women are more likely to be attacked by an acquaintance and men by a stranger. In a community survey, Goldberg and Freyd (2006) found that many more women than men reported having experienced mistreatment by someone close to them, whereas more men than women reported mistreatment by someone not close. Women reported overall higher rates of sexual abuse in both childhood and adulthood. As children, men were 5 times more likely to be physically attacked by someone not close, whereas slightly more women were attacked by someone close. In adulthood, women six times more likely than men to be attacked by someone close. Conversely, men were three times more likely to be attacked by someone not close.

Research based upon betrayal trauma theory, which distinguishes between traumas perpetrated by a close acquaintance and those that are not, has begun to provide compelling evidence for the consideration of relational influences. Betrayal trauma theory posits that cognitive dissociation is adaptive when trauma occurs at the hands of a caregiver (Freyd, 1996). In support of this theory, Freyd, DePrince & Zurbriggen (2001) found that close betrayal predicted memory impairment for physical and sexual abuse. Betrayal trauma has also been linked to poorer outcomes in mental health, including depression, anxiety, and PTSD (DePrince & Freyd, 2002; Goldsmith, 2004). A study of

college students by Goldsmith (2004) indicated that gender and betrayal independently predicted anxiety and dissociation scores, supporting the theory that both are important factors to consider.

In addition to childhood abuse, the concept of betrayal may apply to other circumstances as well. In *Achilles in Vietnam*, Jonathan Shay (1994) writes extensively on the subject of betrayal and its impact upon soldiers in combat. He describes betrayal as a violation of a sense of justice, or "what's right." In combat, failure in leadership or unfair distribution of risk can have life-threatening consequences. Shay argues from clinical experience that the effects of betrayal are more pernicious than horror, fear, and grief, leading to a long-lasting "indignant rage" from which it is difficult to recover.

DePrince and Freyd (2002) proposed that the increased frequency with which females experience betrayals accounts in part for the correspondingly higher rates of PTSD and dissociative disorders among women. Thus, it is possible that closeness to the perpetrator acts as a partial mediator of gender differences in prevalence rates (Goldberg & Freyd, 2006). Although studies testing this hypothesis with betrayal trauma have not been conducted, those categorizing trauma in a relational context lend support to its plausibility. Among a sample of female sexual assault survivors, Culbertson and Dehle (2001) found more symptoms of hyperarousal among those who were in an acquaintance, married, or cohabitating relationship with their perpetrator as opposed to those who were dating or sexually intimate with their perpetrator. Women who were acquainted with their perpetrator endorsed more hyperarousal symptoms than those assaulted by a sexually intimate partner whom they were not dating.

Data from the National Comorbidity Study also found that relationship to the perpetrator directly affected outcome in cases of CSA. Sexual assault by step-parents resulted in higher risk of developing PTSD than in cases where the perpetrator was a stranger, even when controlling for chronicity (Molnar et al., 2001). Thus, betrayal trauma may be a particular class of trauma that increases risk of PTSD and other disorders compared to traumas of low in betrayal.

Gender Role Socialization

The findings of Breslau et al. (1999) that females exhibit stronger reactions to assaultive violence than males suggest a difference in the context of assault and its subsequent interpretation. In addition to trauma type, gender role socialization has been proposed to contribute to traumatic stress reactions (DePrince & Freyd, 2002; Tolin & Foa, 2006). In most modern cultures women still have less social power than men, and women who identify with more traditional gender roles may perceive themselves as being more vulnerable. In addition, most perpetrators of abuse and assault are men, and violence against women can be a daily concern for many. For these reasons, the experience of abuse is likely more physically and emotionally threatening for females than for males. Due to this threat, women may be more attentive to betrayal and have a higher risk for interpersonal trauma (DePrince & Freyd, 2002).

In traditional gender roles, aggression is often equated with masculinity and is a socially acceptable way for boys to act out pain of trauma but not girls. In contrast, it is considered more feminine to be passive and compliant, which reinforces a defeat

response (Howell, 2002). In cultures where women have less power than men, one would expect to find that women have higher rates of PTSD than in cultures which are more egalitarian (DePrince & Freyd, 2002; Norris, Perilla, Ibanez, & Murphy 2001). Based on this premise, Norris et al. (2001) compared African Americans, an ethnic group found to be low in traditional gender roles, with Mexican survivors of hurricane disasters. A larger difference was found in symptoms of PTSD among Mexican males and females than among African American males and females. However, this study did not employ a measure of individual beliefs in traditional gender roles and thus could not directly determine whether these differences were indeed due to gendered beliefs or other factors such as socioeconomic status.

A study of survivors of the September 11, 2001 terrorist attacks found that victims with more "feminine" characteristics had significantly higher levels of PTSD symptoms than those with more "androgynous" characteristics regardless of whether they were male or female (Sciancalepore & Motta, 2004). Among adolescents, gender role beliefs have been found to predict symptoms of psychopathology whereby girls reported more internalizing symptoms and boys more externalizing symptoms (Hoffman, Powlishta, & White, 2004). Li, DiGiuseppe, and Froh (2006) investigated the role of gender identity in coping and depression. They found that masculinity was related to problem-focused and distractive coping, which in turn were associated with lower levels of depression. The role of femininity was not examined. Given the limited amount of literature, more evidence is needed to explore the mechanism by which gender role beliefs influence reactions to trauma.

Asian Pacific Islanders and Traumatic Stress

The "Model Minority" Myth

Asian Americans are often characterized as a "model minority," a stereotype that began in the 1960s during the Civil Rights movement and served to pit Asian Americans against other groups of color (Li & Wang, 2008). The myth continues to persist today, emphasizing the achievements of APIs while ignoring social inequalities. APIs are more likely to have a bachelor's degree or more education (48%) than non-Hispanic Whites (30%). However, while the median income for APIs exceeds that of non-Hispanic whites by about $8,000, the poverty rate was also higher among APIs, primarily among Chinese, Koreans, and Filipinos. Numerous scholars have written on the detrimental consequences of the model minority myth, which include provoking resentment among other ethnic minority groups, ignoring racism and discrimination toward APIs, and disregarding health disparities.

The belief that mental health issues among APIs are extremely low to non-existent is a corollary of the model minority myth. Sue, Sue, Sue, & Takeuchi (1995) urged researchers to examine the correlates and course of disorders among APIs in order to address this belief. Data is now emerging though still scarce. A national study by Takeuchi et al. (2007) found that among API women, immigrants had lower rates of disorders such as depression, anxiety than their U.S. born counterparts. The converse was true for Asian men. Rates of disorders were lower for Asian men who could speak English versus those who could not. In addition to establishing evidence of mental health

disorders among Asian Americans, the study results highlight the diversity of API populations and the inaccuracy of viewing them as a homogenous group.

Many API communities have unique demographics and cultural beliefs. Data compiled from the U.S. Census Bureau (2007) indicated that approximately two-thirds of APIs currently living in the U.S. were foreign-born, half who immigrated after 1990. It is likely that the large proportion of immigrants results in strong adherence to native cultural norms among API populations, producing distinct differences from mainstream American values and behavior, such as an emphasis upon interpersonal harmony and loss of face.

Loss of Face

Face in Asian cultures is the social esteem accorded an individual or group, usually in the fulfillment of social norms and expectations. Loss of face is often described as synonymous with shame (Yeh & Hwang, 1999). Indeed, there are many similarities and shame is a direct result of loss of face. However, loss of face is a unique cultural construct that can be differentiated from a Western concept of shame (Zane & Yeh, 2002). The main distinguishing feature of loss of face is based upon the collectivist nature of Asian and Pacific Island cultures. Face is a collective commodity that does not belong only to the individual but rather to a group such as extended family, business, school, sports team, or country. Thus, loss of face results not only in shame for an individual but also for the collective group of which the individual is a member. In addition to shame, another consequence of losing face is the withdrawal of social support

by family and friends (Shon & Ja, 1982). Although the loss of social support can have a detrimental impact on any individual, in a collectivist culture in which identity and self-worth are based upon group membership, this loss can have even more profound implications than in an individualist society.

Among Asian and Pacific Island Americans, concern with loss of face is thought to be a barrier to seeking treatment for mental health concerns (Sue & Morishima, 1982). However, only one study to date has attempted to examine this relationship empirically (Kung, 2004). While this study found that practical barriers such as cost and knowledge of available treatment significantly predicted service use, concern with loss of face did not. However, in this study, loss of face was measured with only one question rather than a standardized questionnaire which has been developed by Zane and Yeh (2002).

The loss of face instrument developed by Zane and Yeh (2002) spurred research on this construct in several contexts. Hall et al. (2005) found evidence that concern with losing face can be a protective factor against perpetration of sexual abuse among Asian men but not for their non-Asian counterparts. Eap et al. (2008) found that personality structures of Asian American men high in concern for LOF differed from established Western norms. In relational conflicts, concern with loss of face has been found to increase the likelihood of relationship deterioration through mediation by shame and avoidance (Kam & Bond, 2008). Although true for both the Hong Kong Chinese and Americans in the study, the effect was more pronounced for the Chinese cohort.

Little is known about the role of loss of face may play in responding to traumatic events. Foynes, Murakami, Hall, and Freyd (2007) found that Asian Americans were

significantly less likely than Whites to say they had disclosed their abuse to anyone else. It is possible that the lower rates of disclosure were due to fear of losing face and the subsequent withdrawal of social support by others. Our study is the first to directly investigate whether a high adherence to loss of face increases distress following a traumatic event among APIs.

Prevalence of CSA in Asian Cultures.

Literature reviews have suggested that rates of CSA among ethnic Asian populations are lower overall than among other ethnic groups (Elliott & Urquiza, 2006; Futa, Hsu, & Hansen, 2001). However, these conclusions were based upon only a few studies, some of which used samples exclusively from clinical populations. Clinical populations are an extremely biased method of judging epidemiology in the case of child abuse since they depend upon disclosure of the abuse to authorities. Multiple studies among both Asian and non-Asian populations have found that only a minority of those abused had previously disclosed their abuse (Futa et al., 2001; U.S. Department of Health and Human Services, National Center on Child Abuse and Neglect, 1999). Furthermore, the reviews compared rates of abuse across studies that defined CSA differently and use different methods of gathering data.

Group comparisons made within the same study avoid these differences and allow for more equitable comparisons. Results of the few studies that have done so are mixed. Meston, Heiman, Trapnell, and Carlin (1999) targeted university students of

Asian and European descent. Back et al. (2003) surveyed women in Singapore, the majority of whom were Chinese and Pacific Islander, and women in the U.S. who were primarily Caucasian, African American and Latina. In both studies, participants of Asian descent reported lower rates of CSA than other ethnic groups. However, another sample of U.S. adolescents by Schoen, Davis, DesRoches, and Shekdar (1998a) found that Asian boys were at highest risk for sexual abuse of all ethnic groups sampled. Therefore, it cannot be concluded that Asians experience lower rates of CSA than other ethnic groups.

Recent studies on prevalence rates of CSA in Asian groups have introduced a vastly increased variability in reported prevalence rates, ranging from as low as 2.1% among males (Singh, Ying, & Nurani, 1996) and 2% among females (Yen et al., 2008) to as high as 23% among males (Chen, Dunne, & Wang, 2003) and 25% among females (Chen, Dunne, & Han, 2006). Within ethnic groups, females generally reported higher prevalence rates than males. Other than gender, rates of abuse appeared to be unrelated to demographic variables such as rural or urban regions of residence, parental education level, and having siblings (Chen, Dunne, and Han, 2004).

Table 1 summarizes the results of all studies regarding prevalence rates of Asian populations found in a literature search of the topic. Although countless studies have investigated rates of child abuse in the United States and among various ethnic groups, research on Asian populations is only beginning to emerge. All have been retrospective, self-report surveys usually with convenience samples save for one conducted by Luo, Parish, and Laumann (2008).

Some plausible explanations for the variability of CSA, particularly the low rates found in some studies, include age of participant, type of abuse included (contact or non-contact CSA), varying definitions of CSA, and the instruments used. Regarding age of the participant, all but one used samples of college students, resulting in relatively young cohorts. Luo et al. (2008) conducted the first probability sample of adults in urban China ranging in age from 20 to 64 years. They found that older participants reported lower rates of CSA than younger cohorts. Therefore, there may a cultural bias against disclosing CSA among older generations in China, or CSA may actually be increasing. Regardless, having an older sample may in part explain why the rates of CSA found by Luo et al. (2008) are among the lowest of all the studies.

Type of abuse measured and definitions of CSA also varied among the studies. Some only included measures of contact CSA such as kissing, fondling, or acts of penetration (Back et al., 2003; Meston et al., 1998). Others included measures of non-contact sexual abuse, for example, witnessing masturbation, exposure to genitalia, and having pornographic pictures taken (Chen et al., 2003; Tang, 2002). In addition, the cutoff age for CSA ranged from 12 to 16 among the studies. Finally, almost all studies required that the perpetrator be older than the victim. This definition omits abuse by siblings and may explain why studies did not find having siblings to be a risk factor (Chen et al., 2004; Chen et al., 2006).

The type of instrument used to probe for sexual abuse also may have affected the results. In a metanalysis of randomized studies, Bolen and Scannapieco (1999) showed that rates of reported abuse are dependent upon the number of questions asked, with a minimum of six questions being necessary to elicit disclosure in many cases. Studies by Luo et al. (2008) and Back et al. (2003) only used one to three questions to probe for sexual abuse resulted in lower reported rates of abuse than those using up to nine items (Chen et al., 2004, 2006; Meston et al., 1998).

In a national survey of victims being served at child-protective service agencies, Asian children had the lowest rate of all ethnic groups at 2.5 per 1,000 children as compared to 10.7 per 1,000 of white children and 19.8 per 1,000 of African American children (U.S. Department of Health and Human Services, National Center on Child Abuse and Neglect, 1999). Futa, Hsu, and Hansen (2001) propose that the lower rates of reported CSA among Asians and Asian Americans may be partly attributed to cultural values such as face, collectivism, and harmony. In this context, the behavior of the individual reflects upon the immediate and extended family. As a result, families of Asian ancestry may be extremely reluctant to disclose CSA and other forms of abuse to friends and authorities. Okamura, Heras, & Wong-Kerberg (1995) also note that Asian children may likely recant allegations of CSA in order to preserve the integrity of the family. Futa et al. (2001) conclude that it is possible that the prevalence of CSA among ethnic Asians is both infrequent as well as underreported.

In summary, while there is some evidence supporting lower prevalence rates of CSA among Asian populations, it is premature to draw firm conclusions. The wide

variation in rates being found, some of which suggest comparable levels of CSA as western studies, strongly suggest more is needed. It is possible that underreporting occurred in some of the other studies for many of the reasons discussed above. Therefore it is difficult to conclude at this time whether Asians truly have lower rates of CSA than other ethnic groups. More research comparing groups are needed in order to determine whether a true difference exists or whether rates are actually comparable between Asian and non-Asian groups as Chen et al. (2006) conclude.

Prevalence of Childhood Physical Abuse, Emotional Abuse, and Neglect

Several studies indicate that Asian men and women report significantly higher rates of childhood physical and emotional abuse than European Americans (Back et al., 2003; Meston et al., 1999; Schoen et al., 1998). However, as in the case of sexual abuse, reported rates vary widely from 21.9% of boys and 22.5% of girls (Yen et al., 2008) to 82% of men and 69% of women (Meston et al., 1999).

Schoen et al. (1998) found that among adolescent boys, Asians reported the highest rate of physical abuse compared to African American, European American, and Hispanic. Meston et al. (1999) also found that Asian men reported more childhood physical abuse than European American men although they found similar rates among Asian women and European American women. Two studies that examined gender differences found that Asian men reported higher rates of CPA than Asian women (Jirapramukpitak, Prince, & Harpham, 2005; Meston et al., 1999). Differing patterns of

physical abuse may emerge when surveys ask about specific types of abuse experienced. Maker, Shah, and Agha (2005) compared types of physical abuse among Asian, Middle Eastern, South Asian, and Latino college women. Asian women reported being hit with an object twice as often as the other ethnic groups (65.9% versus 29.1%) but were half as likely to be slapped or pinched (27.8% versus 62.5%).

Only two studies were found that asked about emotional abuse and neglect in Asians. In a sample of young adults in Thailand, men 34.0% of men and 30.2% of women reported emotional abuse (Jirapramukpitak et al., 2005). Meston et al. (1999) found much higher rates of emotional abuse among Asians at 88% of women and 93% of men. These rates were significantly higher than their European American counterparts. It is also the only study to date to study neglect among Asians, finding that 46% of women and 64% of men reported childhood neglect.

Another concern when studying self-reports of child abuse in any ethnic group is a reluctance to perceive the behavior of a perpetrator as "abuse." Meston et al. (1999) hypothesized that this may be especially true in the case of Asian cultures due to an emphasis upon interpersonal harmony. In their study comparing self-reports of CSA among European and Asian ancestry undergraduates, Meston et al. (1999) investigated subjective perceptions of abuse. They hypothesized that Asian ancestry participants would report lower rates of perceived abuse than European ancestry participants. Contrary to expectations, they found that the Asian ancestry group reported higher levels of perceived physical and emotional abuse. They also found no relationship between self-

Table 1
Retrospective Studies of CSA among Asians

Authors (Year)	N	Sample	Abuse Type	Asian		Non-Asian	
				Male	Female	Male	Female
Back et al. (2003)	153	Female college students in Singapore and U.S.	Contact SA before age 13		4.5%		15.4%
Chen, Dunne, & Wang (2002, 2003)	1,314	High school students in China (75.0% female)	Contact SA before age 18	15.9%		50.8%	
			Contact SA before age 16	15.0%	9.8%		
Chen, Dunne, & Han (2004)	2,300	High school students in China (50.2% female)	Any SA before age 16	23.0%	25.0%		
			Contact SA before age 16	5.0%	8.9%		
Chen, Dunne, & Han (2006)	351	Female middle school students in China	Any SA before age 16	10.5%	16.7%		
			Contact SA before age 16		14.0%		
Jirapramuktipak, Prince, & Harpham (2008)	202	Community residents 16-25 years old in Thailand	Any SA before age 16		21.9%		
			Penetrative SA before age 16	4.9%	6.5%		

Table 1 (continued)
Retrospective Studies of CSA among Asians

Authors (Year)	N	Sample	Abuse Type	Asian		Non-Asian	
				Male	Female	Male	Female
Luo, Parish, & Laumann (2008)	2,994	Probability sample of adults in China (50.7% female)	Contact SA before age 14	5.1%	3.3%		
Meston, Heiman, Trapnell, & Carlin (1998)	1,052	University students in U.S. (43% Asian, 63.6% female)	Contact SA before age 18	11%	25%	11%	40%
Schoen, Davis, DesRoches, & Shekhdar, (1998)	3,162	Adolescent boys in grades 5-12 in U.S.	Any SA	9%		3%-7%	
Singh, Ying, & Nurani (1996)	616	Paramedical students in Malaysia	Contact SA/ Exhibition-ism before age 18	2.1%	8.3%		
Tang (2002)	2,147	University students in Hong Kong	Contact SA before age 17	3.0%	5.8%		
Yen et al. (2008)	1,684	Middle school students (50.9% female)	Any SA before age 17 Contact SA at any age	4.3% 3.0%	7.4% 2.0%		

reports of abuse and social desirability. Thus, it does not appear that subjective perception accounted for differing rates of abuse found in their study.

Summary and Objectives

The current project examines the role of sociocultural context in responses to trauma. Although research provides some evidence that contextual factors do influence traumatic stress response, particularly regarding type of trauma, much remains unexamined. Within trauma types, it is unknown whether having a close relationship to the perpetrator partially accounts for the larger proportion of PTSD among women than among men. Empirical investigations into the role of gender socialization have also been absent from the trauma literature. Finally, measuring specific cultural constructs beyond observing general group differences is an approach that is being newly applied to the study of traumatic stress.

Objective 1

The first objective of the study was to confirm previous findings regarding patterns in traumatic experiences and their associations with symptoms and with gender. In particular, relationships between types of trauma defined by level of betrayal and psychological outcomes were examined.

Hypothesis 1.1

One of the first goals was to replicate findings that high betrayal (HB) experiences will be significantly associated with PTSD, depression, anxiety, and dissociation; these associations will also be stronger than those for medium betrayal (MB) and low betrayal (LB) traumatic experiences (Goldberg & Freyd, 2006; Goldsmith, 2004)

Hypothesis 1.2

It was also hypothesized that women would report significantly higher rates of HB experiences than MB and LB experiences. A gender difference between rates of MB and LB traumas was not hypothesized.

Hypothesis 1.3

Finally, I wanted to establish that women in this sample reported higher rates of depression, anxiety, and PTSD than men, consistent with prior literature using self-report measures.

Objective 2

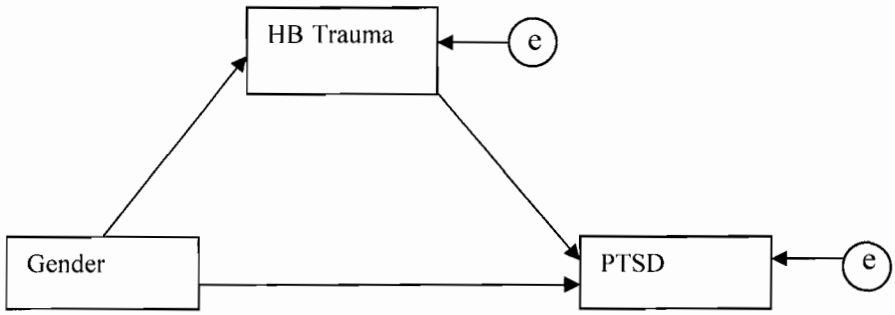
The second objective was to contribute to our knowledge of why women are diagnosed with PTSD at twice the rate of men. Factors such as a close relationship to the perpetrator and belief in traditional gender roles have been found to increase risk for posttraumatic stress. This study extends current research by testing whether these factors influence the relationship between gender and PTSD.

Hypothesis 2.1

It was hypothesized that experiences of HB trauma would mediate the relationship between gender and PTSD symptoms as shown in Figure 1. Following the steps for conducting a mediation analysis as described by Baron and Kenny (1986), in order for this hypothesis to be supported, several conditions are necessary: 1) Gender must be significantly associated with PTSD, depression, and anxiety; 2) Gender must be significantly associated with high betrayal trauma; 3) high betrayal trauma must be significantly associated with PTSD, depression, and anxiety; 4) the addition of high betrayal trauma to the model results in a significant reduction in the effect of gender on PTSD. The effect of HB trauma on PTSD was depicted as causal as the experience of a traumatic event is a prerequisite for a diagnosis of PTSD, establishing chronicity. While our instrument was not used for diagnosis, it asked participants to rate their reactions to a traumatic event they had experienced, if any.

Causal paths from trauma to other potential indicators of posttraumatic stress, depression and anxiety, were not hypothesized due to past findings that indicate that depression and anxiety are not only consequences of trauma but risk factors as well. Therefore, it is possible that childhood depression or anxiety could have preceded traumatic events. As this study was not longitudinal, it was not possible to distinguish the directional nature of each effect and these variables were not included in the model.

Figure 1
Mediation of Gender and PTSD with High-Betrayal Trauma



Hypothesis 2.2

Based upon past theories concerning gender role socialization, gender role socialization was hypothesized to moderate the effect of gender on depression, anxiety, and PTSD. Women high in gender role socialization will report more symptoms of PTSD, depression, and anxiety than women low in gender role socialization. Conversely, men high in gender role socialization will report fewer symptoms than men low in gender role socialization.

This analysis is a moderation model in which the relationship between gender and outcomes of traumatic stress are moderated by gender role socialization. Gender will be treated as a categorical variable and gender role socialization as a continuous variable. The moderation is represented by the following regression equation:

$$Y = aX + bM + cXM + E$$

where Y represents the symptom score (PTSD, depression, or anxiety), X represents gender, M represents gender role socialization, and XM represents the interaction of gender and gender role socialization. The model will be interpreted by calculating the effects of gender at different levels of gender role socialization: the mean and one standard deviation above and below the mean.

Objective 3

The third objective of this study was to investigate the prevalence of traumatic events among Asian and Pacific Islanders and to examine the role of loss of face in response to these events. Data from APIs will be derived from both the university and the community samples. Since the community sample was generally older in age, the groups were separated into two age groups: one under 25 (n = 164) composed of mostly university students, and one 25 and older (n = 111) that composed of mainly community members.

Hypothesis 3.1 & 3.2

Based on previous literature, API men and women were expected to report lower rates of CSA than the non-API group and that API men would report higher rates of child physical abuse than API women and non-APIs.

Hypothesis 3.3

Replicating past studies, API groups should endorse LOF to a higher degree than non-API groups, providing support for the cultural validity of the measure used.

Hypothesis 3.4

Additionally, it was predicted that concern with loss of face would moderate the effects of trauma on symptoms of PTSD for the API groups. High adherence to loss of face was expected to result in increased rates of traumatic stress for APIs. There was no prediction made for the non-API group. A similar moderation model as that of Hypothesis 2 is proposed:

$$Y = aZ + bM + cZM + E$$

where Y represents symptoms, Z represents traumatic experiences, M represents loss of face, and ZM the interaction of traumatic experiences and concern with loss of face. The moderator, LOF, is measured on a continuous scale. As with gender role socialization, the regression model will be interpreted by calculating the effects of traumatic experiences on PTSD symptom scores at the mean score of LOF as well as one standard deviation above and below the mean.

CHAPTER II

METHOD

Participants

Two samples were collected for this project. In Study 1, volunteer students in the Psychology Department Human Subjects Pool (HSP) participated in an online survey conducted at the University of Oregon. A total of 1047 students completed the survey. All were enrolled in introductory psychology or linguistics courses and received course credit for their participation. Six participants were excluded due to apparently invalid responses, namely entering the same response for all items of questionnaires. The remaining 1041 participants included 705 women and 336 men whose ages ranged from 16 to 54 with 87.6% of the sample between the ages of 18 and 21.

In order to obtain an ethnic minority sample of Asians as well as a broader range of ages, a second sample was obtained from the general population which comprised adults from the community as well as universities. A grant from the Center for the Women in Society at the University of Oregon allowed for payment of each participant with a $10 Amazon.com gift certificate. Participants in the community cohort were primarily from Oregon with particular emphasis upon Asians and Asian Americans. They were recruited through listservs of Asian organizations such as the Portland Taiko, the Oregon Vietnamese Community Organization, the Asian Council of Eugene, and the

Asian Pacific American Student Union at the University of Oregon. Additional recruitment efforts in Portland included posting, flyers in community centers, placing a public service bulletin in the *Asian Reporter*, and advertising on the Portland site of www.craigslist.org. Finally, recruitment emails were sent directly to faculty, students, and staff at the University of Oregon, Oregon State University, and the University of Hawaii who appeared to have Asian surnames.

A total of 216 responses were obtained for the community survey. Of these, it was determined that 12 were duplicate entries based upon similar IP addresses as well as similar times at which the survey was begun and completed. In these cases, the first set of responses was retained and the rest deleted. In several other cases, IP addresses were listed in websites that track spam and all of these responses were deleted as invalid. Thus, responses for 199 participants were included in the final analyses. These comprised 70 men and 129 women, ages 18-68, most of who (86.4%) were between the ages of 18 and 40. Table 2 compares some of the demographic information for the HSP and the community samples.

To address the third hypothesis comparing ethnic groups, all participants for the study were divided into three groups. The Asian and Pacific Islanders were separated into an older and a younger cohort in order to help differentiate between ethnic group effects and age or generational effects. The first comprised Asian Pacific Islanders who were under 25 years of age (n = 164, $M = 19.86$, $sd = 1.82$), the majority of whom were obtained through the university sample although some were also were recruited as part of the community sampling effort and were also college students. The older cohort

comprised primarily APIs from the community (n = 111, M = 32.96, sd = 9.42) and the remaining non-APIs (n = 965, M = 20.21, sd = 4.87), predominantly European American, were classified as the third group. While nearly all of the European American cohort were born in the U.S. (96%), the majority of the younger API cohort were born in other countries (55%) as well as about half of the older API cohort (48%).

Materials

The online survey began with a brief demographics questionnaire that included items concerning age, sex, ethnicity, level of education, and, in the case of the community sample, income. Several measures were used to evaluate psychological symptoms of distress as recommended by Horwitz, Widom, McLaughlin, & Raskin (2001) who caution that having only one outcome variable may result in biased estimates of the impact of trauma among different social groups. For example, it is possible that the effects of trauma may differ for males and females and this difference may be more pronounced in symptoms of PTSD versus general anxiety. Therefore, a variety of mental health outcome measures were used.

The order of the measures was planned such that the abuse measure (Brief Betrayal Trauma Survey) was placed toward the end of the survey, after the global symptom measures, since being reminded of the abuse experiences could influence responses to symptom items. The exception was the scale of PTSD because items in the first half query symptoms associated with the experience of a traumatic event.

Table 2

Participant Demographic Characteristics for HSP and Community Samples

	HSP	Community
Total Participants	1041	199
Gender		
Females	705 (67.70%)	129 (64.84%)
Males	336 (32.30%)	70 (35.16%)
Ethnicity		
African American/Black	10 (1.0%)	2 (1.0%)
Arab American	6 (0.6%)	2 (1.0%)
Asian/Asian American	107 (10.3%)	156 (78.4%)
European American/White	821 (78.9%)	29 (14.6%)
Latino	42 (4.0%)	2 (1.0%)
Native American	21 (2.0%)	1 (0.5%)
Pacific Islander	9 (0.9%)	5 (2.5%)
Other	14 (1.3%)	1 (0.5%)
Education		
Less than high school	2 (.2%)	2 (1.0%)
High school	737 (70.8%)	27 (13.6%)
Some college	255 (24.5%)	23 (11.6%)
College (B.A., B.S.)	45 (4.3%)	66 (33.2%)
Graduate school	2 (.2%)	81 (40.7%)
Income	no data	*M* = $25,600

Trauma Symptom Checklist – 40

The Trauma Symptom Checklist-40 (TSC-40; Elliott & Briere, 1992) probes a range of symptoms of posttraumatic stress and comprises six subscales: depression, dissociation, anxiety, sexual abuse trauma, sleep disturbance, and sexual problems. Responses are based on a Likert scale from 0 (never) to 3 (often). The TSC-40 has been demonstrated to have an overall internal consistency of $\alpha = .90$, and the subscales .62 -.77 (Elliott & Briere, 1992). It has been found to be predictive of a wide variety of posttraumatic experiences (Koopman, Gore-Felton, & Spiegel, 1997; Wind & Silvern, 1992; Zlotnick et al., 1996). TSC-40 scores are computed by summing all items corresponding to each subscale. To retain the same scale of measurement, these scores were divided by the number of items per subscale.

Participants from the university sample were inadvertently allowed to skip items on the TSC-40. The vast majority of the missing responses for the university sample, 86.9%, were related to sexual dysfunction and therefore appeared to represent a deliberate pattern in non-responding. Fortunately, among the subscales of interest, depression and anxiety, only depression included one of these items (low sex drive). In addition, the missing responses for the item in question represented less than 2% of all participants in the university sample.

The initial reliability estimate for the depression subscale was .76 and was .75 when the "low sex drive" item was omitted. As these are comparable, the item was omitted. The initial reliability estimate for the anxiety subscale was also .76. Multiple imputation was used to replace the remaining missing items. NORM software (Schafer,

1999) was used to impute missing data and reliability estimates using the imputed dataset yielded alpha coefficients of .76 for both depression and anxiety. The similarity between reliability coefficients with imputed data and those with listwise deletion suggests the absence of a systematic pattern to the missing data and provides confidence that the mean of the original items provides a reasonably reliable measure of depression.

For the community sample, reliability estimates were .71 for both anxiety and depression.

Revised Civilian Mississippi Scale of PTSD

Symptoms of posttraumatic stress disorder were measured by the Revised Civilian Mississippi Scale of PTSD (R-CMS; Norris & Perilla, 1996). The R-CMS was designed to evaluate symptoms of PTSD based upon the experience of a traumatic event. The first half of the measure, items 1 through 18, asks about feelings and behavior related to the event. The second half, items 19 through 30, refers to how the participant is currently feeling. Ideally, participants who did not report experiencing a traumatic event were to skip the first half of the measure. According to Schafer and Graham (2001), planned missingness, as in the case when the data were never intended to be collected based upon responses to a particular variable, can be considered missing at random (MAR). However, it was discovered that in this study a number of participants who reported high levels of traumatic experiences skipped the first half of the R-CMS while at the same time many of those who did not report a trauma did complete it. Therefore, it appeared that the instructions were disregarded in many cases. 43.8% of the HSP sample and 37.2% of the community sample did not complete the first half of the R-CMS. Since a

large proportion of the data were missing, analyses with the R-CMS were run both with and without imputation of missing cases for participants who skipped the first half of the measure.

For those cases where there was at least an attempt to complete the first half of the R-CMS, frequency distributions of missing items were examined. In the university sample, item number 8 comprised 58% of the 56 incomplete responses. The rest of the missing cases appeared to be evenly distributed among the other items and among the participants. Item number 8 queried, "I wonder why I lived when others died." For this young population, it was assumed that many have not experienced a trauma involving the death of others. Therefore, this item was omitted for all participants from our calculation of an average total score. The initial reliability estimate for the university sample was .91. As before, missing data were imputed using NORM with a resulting in the same reliability coefficient of .91. Reliability for the community sample was .83.

Gender Role Beliefs

Gender role beliefs were measured with the Traditional Sex Roles Attitude scale (TSRA; $\alpha = .87$; Phinney, 2002) for the university sample. It consists of four items worded in the direction of gender inequality as follows: "In a family, the father should take most of the responsibility for earning the money"; "Girls should help out with housework more than boys"; "A teen-age boy should be allowed to go out alone at night or to date at an earlier age than a girl"; and "The wife should be mostly responsible for household chores and childcare." In the subsequent community sampling, the TSRA was

replaced with the Attitudes Towards Women Scale (AWS; Spence & Helmreich, 1978). This new scale was deemed to have greater content validity based upon its wider range of items addressing typical gender role beliefs. The AWS has 15 items. Examples include, "swearing and obscenity are more repulsive in the speech of a woman than a man" and "Women earning as much as their dates should bear equally the expense when they go out together." Responses were based upon a Likert scale. The total score is obtained by summing the items and dividing by the total number of items. Cronbach's alpha for the AWS has been found to range from .85-.90 (Spence & Hahn, 1997) and it has been demonstrated to have concurrent and discriminant validity with other measures related to gender role beliefs (Swim & Cohen, 1997). High scores on the TSRA indicated stronger endorsement of traditional gender role values whereas high scores on the AWS indicated less traditional and more egalitarian values. Low score on the AWS indicated more conservative values.

Loss of Face Questionnaire

The Loss of Face Questionnaire (LOFQ; $\alpha = .87$; Zane & Yeh, 2002) was used to measure the cultural construct of face, an intrinsic facet of many East Asian and other non-Western cultures. It consists of 21 items that assess the extent to which one modifies behavior to avoid losing face for oneself or others (e.g., "I do not criticize others because this may embarrass them"). The measure uses a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The LOFQ is positively associated with measures of on other-directedness, self-consciousness, social anxiety, and acculturation.

At the same time, the LOFQ has been found to discriminate between loss of face and social desirability since loss of face involves concerns about social status of interacting individuals that extend beyond behaving in a socially desirable manner (Zane & Yeh, 2002).

Brief Betrayal Trauma Survey

Trauma history was measured using the Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006), a 24 item self-report inventory of low, medium, and high betrayal trauma experiences in childhood and adulthood. Low betrayal (LB) experiences include natural disasters and car accidents. A medium betrayal (MB) item is characterized by high betrayal item is characterized by sexual, emotional, or physical abuse by someone not close. A high betrayal (HB) item refers to the same type of events but perpetrated by someone close. Examples of high betrayal items include "You were emotionally or psychologically mistreated over a significant period of time by someone with whom you were very close (such as a parent or lover)." The BBTS has been used in numerous studies and has been found to be of minimal risk to participants (Binder, Cromer & Freyd, 2004). It also yields good test-retest reliability of 83% for childhood items and 75% for events that occurred during adulthood (Goldberg & Freyd, 2006).

In the university survey, participants were deliberately given the option not to respond to items of the BBTS in the event that they may not wish to disclose such information. Nonetheless, only 16 of the 1041 university participants skipped items; the number of missing responses for each item ranged from 6 to 15. Six of these participants

were under the age of 18 and therefore did not complete items asking about traumas in adulthood. These values were defaulted to 0. The remaining missing values were not imputed since many factors may determine whether or not someone chooses to report trauma and it could not be assumed that the values were missing at random. Since most people were able to response to the BBTS, the community sample was required to complete the entire BBTS.

Security and Confidentiality

Security and confidentiality were primary concerns in the construction and administration of the survey. To this end, the survey was created using a software program called Limesurvey, a php application that was hosted by the server at the psychology department of the University of Oregon. Use of a local server rather than a commercial survey website allowed for complete control of data and security. Access to the administrative interface of the web application as well as the database was controlled by HTTP authentication, requiring a username and password to gain access. All communication with the survey application, both by administrators and by potential respondents, was encrypted via the SSL protocol and certified with a registered SSL certificate. At the end of the survey, data were deleted from the server. This is a feature that most commercial survey companies do not allow.

CHAPTER III

RESULTS

Objective 1

Hypothesis 1.1

Zero-order correlations among gender, betrayal trauma, and outcome measures are presented in Table 3 for the entire sample of university and community participants. Due varying sample sizes among the measures, pairwise deletion was utilized with all available data. The hypothesis that high betrayal trauma would be significantly associated with outcomes of depression, anxiety, and PTSD was supported. Low and medium betrayal trauma were also significantly but less strongly associated with symptom outcomes. To determine whether there was a significant difference among the strengths of these associations, Steiger's Z test was chosen as a more conservative estimate than Hotelling's t statistic, especially as multiple comparisons were conducted (Steiger, 1980). In all cases the difference was significant (see Table 4) and the full hypothesis that high betrayal trauma would have the strongest association with measures of depression, anxiety, and PTSD was supported. Also as expected, there were significant associations between gender and measures of PTSD, depression, and anxiety.

Table 3
Correlations among Gender, Betrayal Trauma, and Symptom Outcome Measures

	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Gender (n = 1240)	-.02	-.01	-.05	.06*	.20**	.19**	.14**	.01	.05
2. Age (n = 1240)		.10**	.10**	.16**	.01	-.08**	-.10**	-.02	-.01
3. Low BT (n = 1226)			.35**	.36**	.19**	.21**	.18**	.18**	.21**
4. Med BT (n = 1226)				.54**	.19**	.18**	.22**	.22**	.17**
5. High BT (n = 1224)					.33**	.30**	.27**	.29**	.24**
6. Depression (n = 1240)						.76**	.43**	.46**	.58**
7. Anxiety (n = 1240)							.42**	.43**	.47**
8. PTSD Reexperiencing (n=746)							.87**	.90**	.79**
9. PTSD Avoidance (n=742)								.87**	.66**
10. PTSD Arousal (n =748)									.64**

* p < .05; ** p < .01

Table 4
Comparisons of Correlations of HB, MB, and LB Traumas Using Steiger's Z Statistic

	HB and MB Trauma	HB and LB Trauma
Depression (n = 1240)	5.06**	4.54**
Anxiety (n = 1240)	4.35**	2.93**
PTSD (n = 741)	2.89**	2.58**

** p < .01

Hypothesis 1.2

Table 5 presents the means of BBTS subscale scores by gender for low, medium, and high levels of betrayal for the entire sample, and Figure 2 depicts overall rates of reporting. BBTS scores were calculated by summing the number of items endorsed. The maximum number of scores for HB trauma was six, for MB trauma was four and for LB trauma was also four. While men and women experienced comparable rates of LB and MB experiences, 39% of women versus 32% of men reported at least one HB trauma. A directional (one-tailed) Mann-Whitney U test was used to determine whether this difference was significant due to the skewed responses on the BBTS. The Mann-Whitney U is a nonparametric test that does not assume normality and is more conservative than the t-test. Approximately one-third of the respondents reported not experiencing any HB trauma. The U statistic was converted into *z* scores in order to evaluate significance. The gender difference was found to be a significant effect, supporting the hypothesis, although the effect size was very small. Effect sizes were calculated using Cohen's *d*.

Figure 3 presents the frequencies with which men and women in the entire sample reported each type of trauma. Women reported approximately 45% more sexual abuse by someone close and about a third more sexual abuse by someone not close. Women also experienced about a third more emotional abuse than men. Conversely, men experienced two-and-a-half times more physical assault by not close others and witnessed one-third more attacks.

Table 5
Mean BBTS scores by Gender

	LB Trauma (n = 1226)		MB Trauma (n = 1226)		HB Trauma (n = 1224)	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Males	.43	.83	.36	.82	.66	1.23
Females	.41	.74	.28	.63	.81	1.29
Mann-Whitney U	168,639		167,881		176,566	
Z score	0.51		0.35		1.92	
One-tailed *p*	0.31		0.36		.03	
Cohen's *d*	.02		.10		.12	

Figure 2:
Rates of Trauma Types Reported by Gender

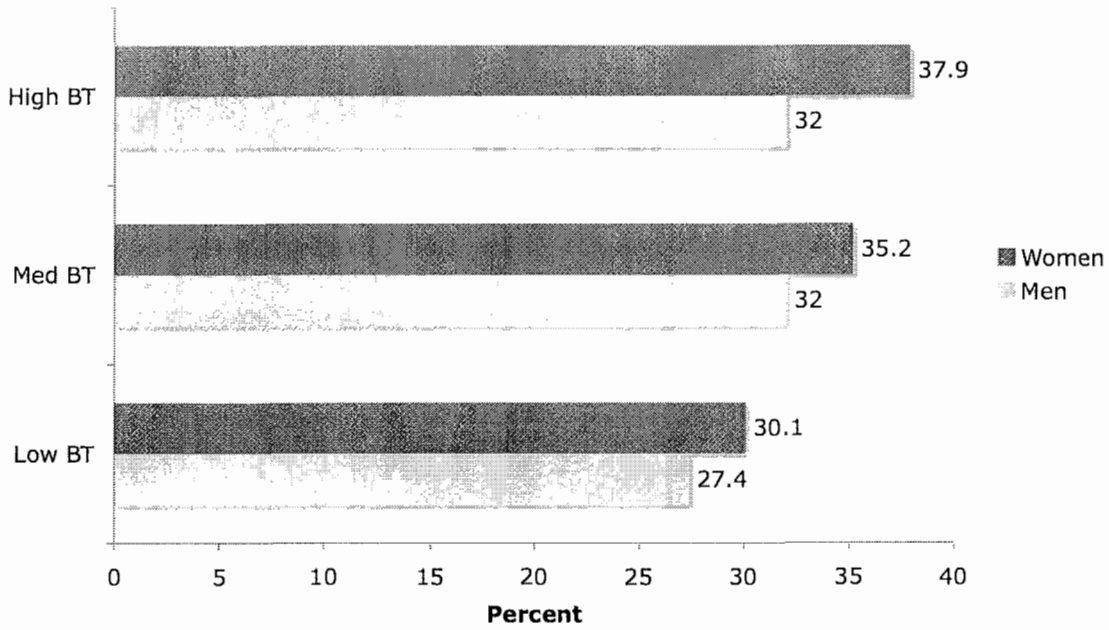
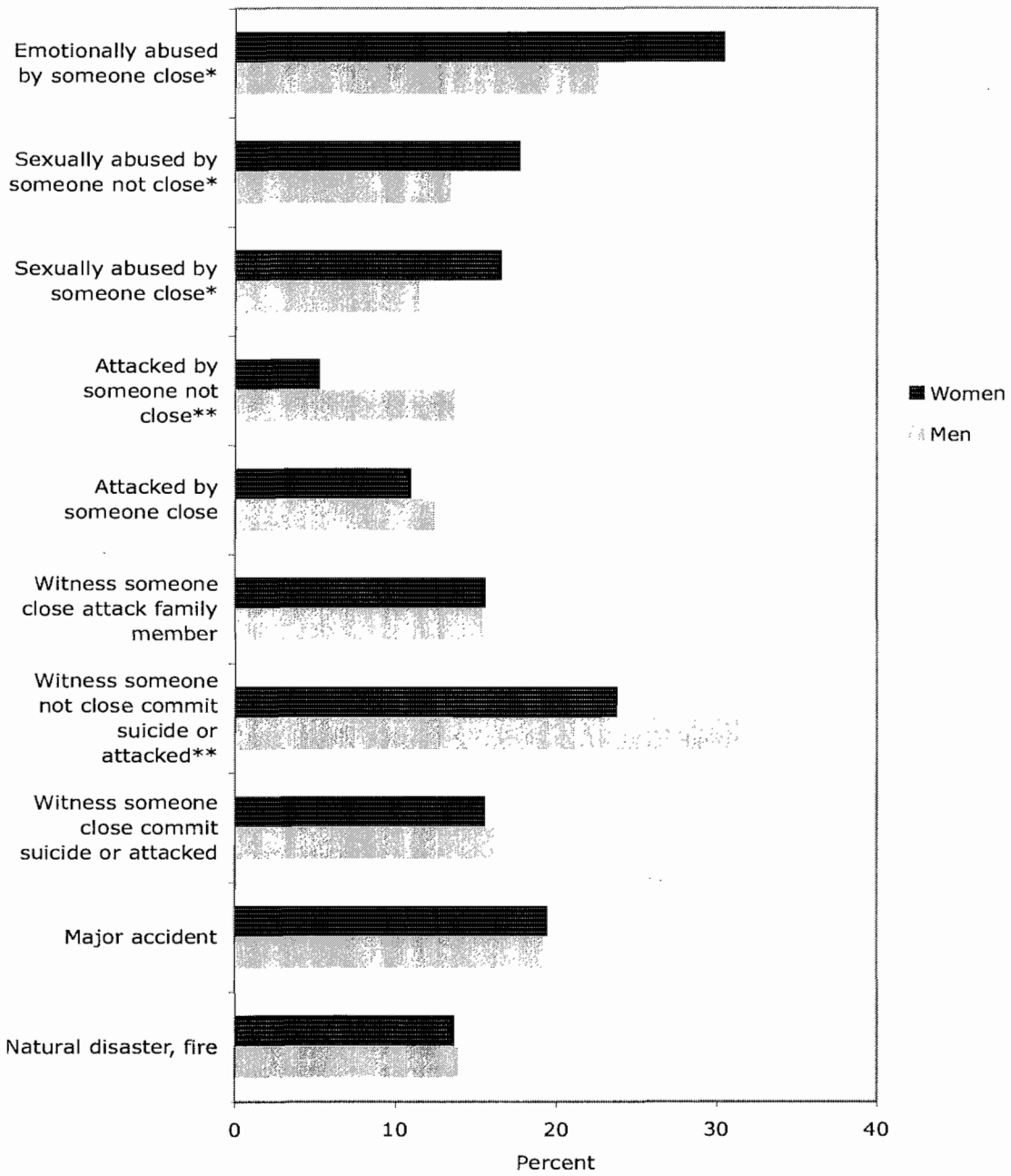


Figure 3:
Rates of Reported Traumas by Gender for Combined Samples



Hypothesis 1.3

Multiple analyses of covariance (MANCOVA) were conducted to compare symptom scores by gender. Data from all participants were used in these analyses. One analysis was run for depression and anxiety, and a separate one for the PTSD subscales as the CMS was not completed by all participants. Age was included as a covariate in both analyses as it was previously found to have some small but significant correlations with anxiety and reexperiencing. Descriptive statistics of the symptom scores as well as comparisons of means by gender are reported in Tables 6 and 7 below. Results of the MANCOVAs showed that women reported significantly higher rates of depression, $F(1, 1237) = 48.66, p < .001$, and anxiety, $F(1, 1237) = 44.56, p < .001$ than men, Wilks' Lambda = .96. Age was a significant covariate only for anxiety, Wilks' Lambda = .98, $F(1, 1237) = 6.92, p < .01$. Among the PTSD subscales, women reported higher levels of reexperiencing symptoms than men (.97, $F(1, 736) = 12.00, p = .001$), but rates of avoidance and arousal symptoms were similar. The effect size of reexperiencing estimated using partial η^2 was very small. In this analysis, age was a significant covariate only for reexperiencing, .99, $F(1, 736) = 7.42, p < .01$.

Table 6
Comparisons by Gender for the Revised Civilian Mississippi Scale

	Male (n = 230)		Female (n = 507)				
	Mean	*SD*	*Mean*	*SD*	*F*	*p*	*Partial* η^2
Revised Civilian Mississippi Scale							
Reexperiencing	1.82	.67	2.04	.76	12.00	<.01	.02
Avoidance	1.92	.59	1.94	.62	.07	.60	<.01
Arousal	2.28	.60	2.35	.63	1.39	.24	<.01

Table 7
Comparisons by Gender for Depression and Anxiety Subscales of the TSC-40

	Male (n = 404)		Female (n = 818)				
	Mean	*SD*	*Mean*	*SD*	*F*	*p*	*Partial* η^2
Trauma Symptom Checklist-40 subscales:							
Depression	.61	.43	.81	.47	44.56	<.01	.04
Anxiety	.66	.46	.87	.53	48.66	<.01	.04

Objective 2

Hypothesis 2.1

HB trauma was predicted to mediate the association between gender and PTSD. As the only gender difference in PTSD scores occurred for the reexperiencing subscale, this subscale was used in the proposed model in lieu of the total PTSD score. All available data for the university and community samples were used. In order to address missing data, the analysis was run using an expectation maximization (EM) algorithm, which provides maximum likelihood estimates based upon a probabilistic distribution of the data. The analysis also utilized a bootstrap method of random sampling with replacement, in this case with 5000 iterations. The main advantage of the bootstrap method is that it does not assume a normal distribution of data, which is useful as the BBTS data were extremely skewed. Significance of the indirect effect of gender on PTSD reexperiencing scores was determined by examining confidence intervals. Those that did not include zero were considered significant. The use of confidence intervals is recommended by McKinnon (2008) as they provide estimations of the degree of accuracy of an effect in addition to its statistical significance.

Following the steps for mediation by Baron and Kenny (1986), reexperiencing scores were regressed on gender and the relationship was found to be significant. The regression of HB trauma on gender was also significant. Finally, the indirect effect of gender on reexperiencing via HB trauma was estimated along with the resulting change in association between gender and reexperiencing. Unstandardized parameter estimates are presented in Figure 4, and both standardized and unstandardized estimates in Table 8.

The analysis resulted in a significant effect, as indicated by the confidence intervals shown in Table 9, although the change in strength of association between gender and reexperiencing from before the mediation (.21) to after the mediation (.20) was extremely small. Therefore, it cannot be concluded that HB trauma mediated the relationship.

Figure 4
Mediation of Gender and PTSD Reexperiencing Symptoms by HB Trauma Using EM

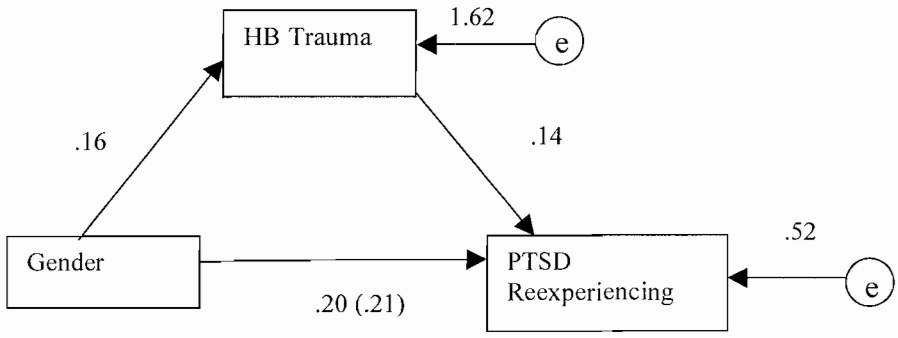


Table 8
Mediation Model Estimates

	B	*SE B*	*β*
Reexperiencing on			
HB Trauma	.14	.02	.24
Gender	.20	.06	.12
HB Trauma on Gender	.16	.08	.06

Table 9
Confidence Intervals of Total Indirect Effects

Indirect Effect of Reexperiencing on Gender	S.E.	*p*	95% Confidence Interval
.023	.011	.04	.003 to .05

Hypothesis 2.2

It was predicted that gender role beliefs would moderate the association between gender and PTSD symptoms. Means for the two measures of gender role socialization, the TSRA and AWS, based upon all respondents are presented in Table 10. Respondents of the TSRA were comprised of college students whereas 80% of the AWS sample were comprised of API community members. The scale for the TSRA ranged from 1 (strongly disagree) to 5 (strongly agree). Total scores were derived by taking the average of the individual item responses. The AWS scale ranged from 0 (agree strongly) to 3 (disagree strongly). As with the TSRA, the AWS total scores were also derived using the average of the sum of the item responses. However, high scores on the TSRA indicated stronger endorsement of traditional gender role values whereas high scores on the AWS indicated less traditional and more egalitarian values. Low score on the AWS indicated more conservative values. Men scored significantly higher than women on the TSRA, indicating that men endorsed stronger traditional gender role beliefs. There was a nonsignificant trend for women to score significantly higher on the AWS than men, indicating that women held stronger egalitarian gender role beliefs.

Regression analyses were conducted to test the moderation effect of gender role socialization on the relationships between gender and psychological outcomes of depression, anxiety, and reexperiencing symptoms. It was predicted that women who endorsed a high degree of traditional gender role beliefs would report more symptoms of PTSD, depression, and anxiety than women low in these beliefs. Conversely, men with strong beliefs in traditional gender role socialization would report fewer symptoms than men with more egalitarian beliefs. Regression equations that included the direct effects of gender, gender role socialization, and their interaction were calculated.

Analyses were conducted for each measure of gender role socialization and results are presented in Tables 11 and 12. For models with the TSRA scale, only the main effect of gender was significant. Neither the main effect of TSRA nor the interaction between gender and TSRA accounted for a statistically significant amount of variance. There was also no significant effect of AWS on depression or anxiety. Although there was also no significant direct effect of AWS on reexperiencing, the interaction of AWS and gender was significant. The interaction effect was examined further to determine the conditional effect of gender given various levels of gender role beliefs was conducted following the procedure outlined by Holmbeck (2002).

Table 10
Comparisons of Means for Gender Role Socialization

	Male		Female				
	Mean	*SD*	*Mean*	*SD*	*t*	*p*	*d*
AWS (n = 209)	2.17	.64	2.35	.69	-1.92	.06	0.27
TSRA (n = 794)	2.60	.83	2.09	.80	8.37	<.01	0.63

Table 11
Summary of Hierarchical Regression Analyses for Gender, Traditional Sex Role Attitudes, and Psychological Outcomes

Steps	*B*	*SE B*	β	ΔR^2
Regression Analysis A: Depression (n = 793)				
Step 1 – main effect				
A1. Gender	.21**	.07	.21	.04**
Step 2 - moderator				
A2. Gender	.20**	.04	.18	
TSRA	-.02	.02	-.03	.001
Step 3 - interaction				
A3. Gender	.19**	.04	.17	
TSRA	-.12	.08	-.20	
Gender by TSRA	.06	.05	.17	.002
Regression Analysis B: Anxiety (n = 793)				
B1. Gender	.21**	.04	.19	.04**
B2. Gender	.20**	.04	.18	
TSRA	-.02	.02	-.03	<.01
B3. Gender	.19**	.04	.17	
TSRA	-.12	.08	-.20	
Gender by TSRA	.06	.05	.17	<.01
Regression Analysis C: PTSD Reexperiencing (n = 615)				
C1. Gender	.23**	.07	.14	.02**
C2. Gender	.21**	.07	.13	
TSRA	-.03	.04	-.03	<.01
C3. Gender	.24**	.07	.15	
TSRA	.14	.14	.16	
Gender by TSRA	-.10	.08	-.19	<.01

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

Table 12
Summary of Hierarchical Regression Analyses for Gender, Attitudes Toward Women, and Psychological Outcomes

Steps	*B*	*SE B*	β	ΔR^2
Regression Analysis A: Depression (n = 208)				
Step 1 – main effect				
A1. Gender	.21**	.07	.21	.05
Step 2 - moderator				
A2. Gender	.21**	.07	.21	
AWS	.01	.05	.01	<.01
Step 3 - interaction				
A3. Gender	.21	.07	.21	
AWS	-.06	.18	-.09	
Gender by AWS	.04	.10	.10	<.01
Regression Analysis B: Anxiety (n = 208)				
B1. Gender	.14*	.06	.15	.02*
B2. Gender	.16*	.07	.17	
AWS	-.08	.05	-.13	.02
B3. Gender	.16*	.07	.17	
AWS	-.14	.17	-.21	
Gender by AWS	.04	.10	.09	<.01
Regression Analysis C: PTSD Reexperiencing (n = 134)				
C1. Gender	.08	.12	.06	.003
C2. Gender	.11	.12	.08	
AWS	-.14	.10	-.13	.02
C3. Gender	.12	.12	.09	
AWS	-.82*	.36	-.75	
Gender by AWS	.40*	.21	.64	.03*

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

In order to assist with interpretation of the regression coefficients, AWS scores were centered around zero by subtracting the overall mean (2.29) from each individual score. The levels chosen were one standard deviation above the mean and one standard deviation below the mean. To represent these levels, two new variables, highAWS and loAWS were created by adding and subtracting the standard deviations from the AWS score. New interaction terms were also calculated for gender by highAWS and gender by loAWS. Two obtain the regression equations, the variables were entered simultaneously. The following equations with unstandardized coefficients were obtained for the high level of AWS:

Reexperiencing = .39 gender - .82 highAWS + .40 gender*highAWS + .92

and for low AWS:

Reexperiencing = -.15 gender - .82 lowAWS + .40 gender*lowAWS + 2.02

Substituting the value of 0 for the conditional AWS variable in each of the equations resulted in the following regression equations:

For high AWS:

Reexperiencing = .39 gender + .92 $t(131) = 2.10, p < .01$

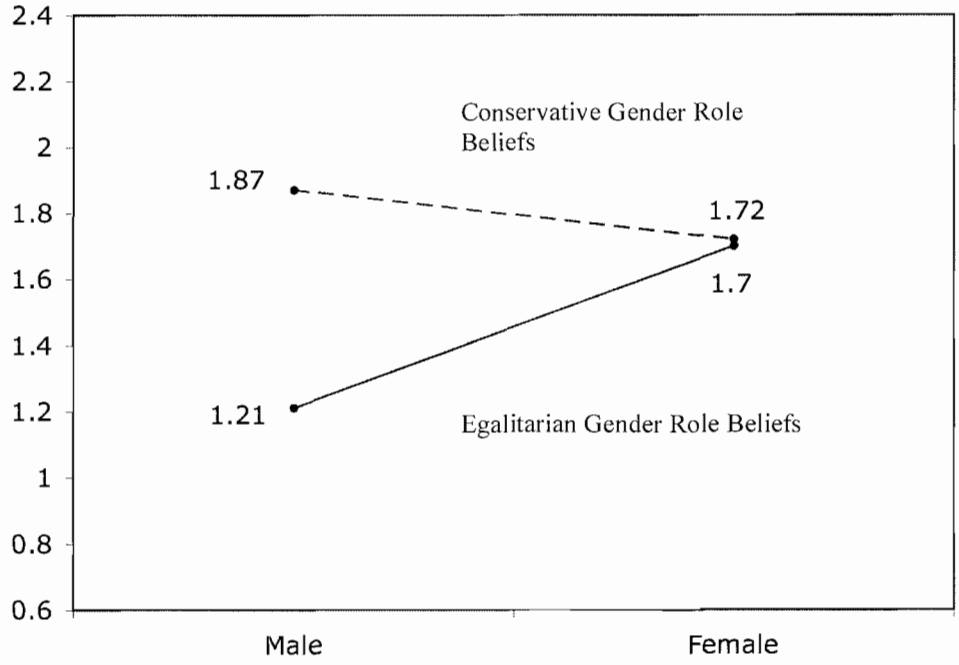
For low AWS:

Reexperiencing = -.15 gender + 2.02 $t(131) = -.83, p > .05$

These results clarify the previously found moderation effect, indicating that there is a significant relationship between gender and reexperiencing at high levels but not for low or medium levels of AWS. The reexperiencing scores of women did not appear to be

affected by level of gender role socialization whereas men who scored high on the AWS, i.e., had more egalitarian gender role beliefs, had lower scores of reexperiencing than men endorsing more conservative beliefs. These findings contradict the prediction that more traditional gender role beliefs would be associated with lower levels of symptoms for men and higher levels for women. Figure 6 depicts the slopes of the regression lines between gender and reexperiencing for the different levels of AWS.

Figure 5
Moderation of Relationship between Gender and Reexperiencing Symptoms by Strength of Gender Role Beliefs



Objective 3

Hypotheses 3.1 & 3.2

API men and women were predicted to report lower rates of CSA than the non-API group and that API men would report higher rates of child physical abuse than API women and non-APIs. Rates of reported potentially traumatic events are reported in Tables 13 and 14. Chi-squared comparisons were made across ethnic groups for each event and the analyses were conducted separately for each gender. For those comparisons that were significant, post-hoc comparisons were conducted in order to determine which cells contributed to the significant finding. This was accomplished by examining the standardized residuals for each cell and comparing it to a critical z value of 2.17. The critical value was arrived at by adjusting the alpha level to .03 using a modified Bonferroni correction (Keppel, 1991).

The hypothesis regarding CSA was partially supported in that older API men reported the least amount of CSA both by someone close (0%) and not close (5%) although the χ^2 tests did not reach significance across groups. However, younger API and non-API men both reported higher rates of close CSA (12.5% and 7.8%, respectively) and not CSA (7.8% and 9.7%, respectively). Among women, results were also mixed. Rates among the three groups for CSA by someone close were comparable. However, young API women did report the lowest amount of CSA by someone not close (5.2%) compared to older API and non-API women (11.3% and 14.6% respectively, $z = 2.20$, $p = .014$).

API men were also hypothesized to report the highest rates of physical abuse. There was a non-significant trend for young API men to report more childhood physical abuse by someone close (15%) than older API men (9%) and non-API men (11%). Older API women reported a rate of 10% child physical abuse by someone close, which approached significance ($z = 2.10, p = .02$) when compared to only 1% of younger API women and 5% of non-API women.

One would expect the older API group to report more experiences of overall traumas due to age. However, the reverse was true in many cases. Twice as many young API men than older API men reported witnessing someone close either being attacked or committing suicide. The most striking difference was that over 20% of API men in the younger cohort reported sexual abuse by someone close and 19% by someone not close ($z = 2.70, p < .01$; $z = 2.50, p < .01$). This is several times higher than the older API and non-API groups. Despite the differences described, it is also important to note that among many other types of traumatic events, rates of reporting were comparable for the three cohorts. This was especially true in the cases of natural disasters, major accidents, and witnessing others being attacked. Rates of trauma grouped by level of betrayal are depicted in Figures 8 and 9 for men and women.

Table 13
Percent of Young API, Older API, and non-API Men Reporting Potentially Traumatic Events

	Men			
	API < 25 n = 64	API ≥ 25 n = 40	Non-API n = 298	χ^2 (*df* = 2)
Natural disaster, fire	10.9	10	15	1.28
Major accident	25	20	17.8	1.79
Witnessed suicide or attack of someone close	23.4	12.5	15.1	3.17
Witnessed suicide or attack of someone not close	34.4	27.5	31.1	.56
Witnessed someone close attack family member	15.6	12.5	15.7	.28
Attacked by someone close as a child	15.0	9.4	11	.81
Attacked by someone not close as a child	9.4	10.0	12.0	.46
Attacked by someone close as an adult	5.0	7.8	5.0	.82
Attacked by someone not close as an adult	9.4	2.5	7.7	1.79
Child sexual abuse by someone close	12.5	0.0	8.7	5.08
Child sexual abuse by someone not close	7.8	5.0	9.7	1.08
Adult sexual abuse by someone close	18.8	2.5	7.4	10.77**
Adult sexual abuse by someone not close	17.2	7.5	6.4	8.26*
Emotional abuse by someone close	15.6	25	23.7	2.14

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

Table 14
Percent of Young API, Older API, and non-API Women Reporting Potentially Traumatic Events

	Women			
	API < 25 n = 95	API ≥ 25 n = 71	Non-API n = 650	χ^2 *(df =2)*
Natural disaster, fire	11.2	8.5	14.7	2.69
Major accident	17.5	22.5	19.5	.66
Witnessed suicide or attack of someone close	15.5	15.5	15.7	<.01
Witnessed suicide or attack of someone not close	22.9	18.3	24.5	1.40
Witnessed someone close attack family member	16.5	15.5	15.5	.06
Attacked by someone close as a child	9.9	6.1	9.8	1.41
Attacked by someone not close as a child	2.0	2.8	4.2	1.34
Attacked by someone close as an adult	9.9	1.0	4.6	7.35*
Attacked by someone not close as an adult	2.0	2.8	3.0	.34
Child sexual abuse by someone close	10.3	11.3	13.5	.97
Child sexual abuse by someone not close	5.2	11.3	14.6	6.80*
Adult sexual abuse by someone close	9.0	12.7	9.1	.97
Adult sexual abuse by someone not close	4.0	12.7	8.1	4.30
Emotional abuse by someone close	32	25.4	30.9	1.03

** $p < .05$

Figure 8
Percent of Men Reporting Sexual Abuse by Ethnic Group

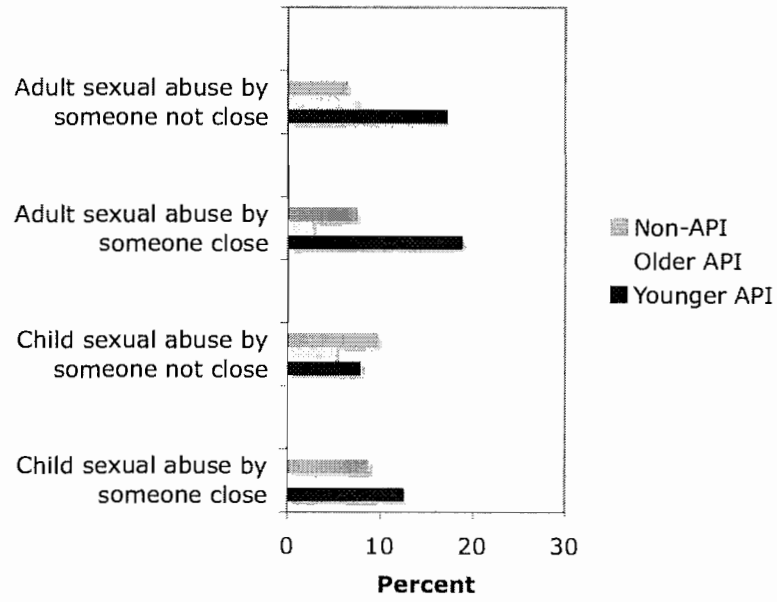


Figure 9
Percent of Women Reporting Sexual Abuse by Ethnic Group

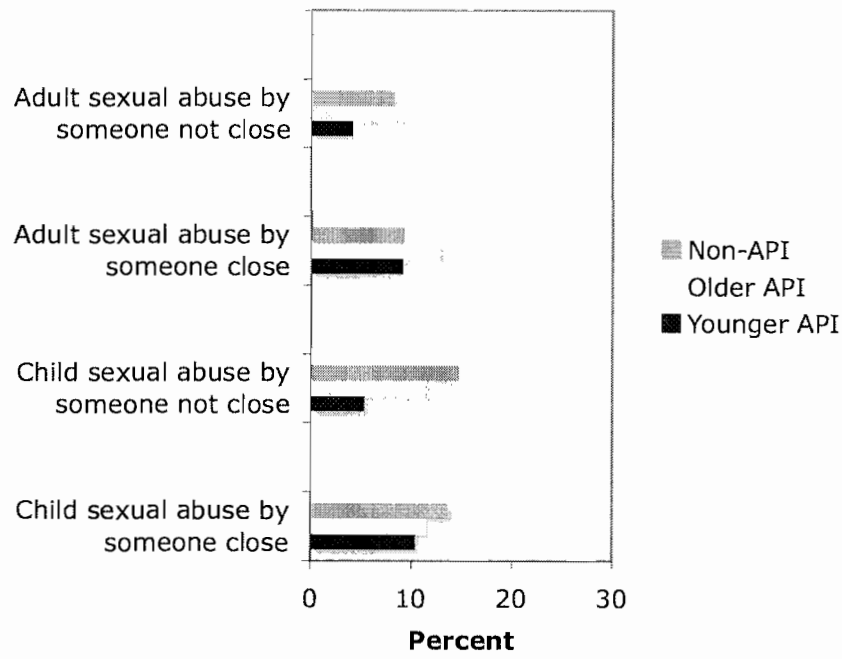


Figure 8
Rates of Reporting Trauma Types by Ethnic Cohort, Male

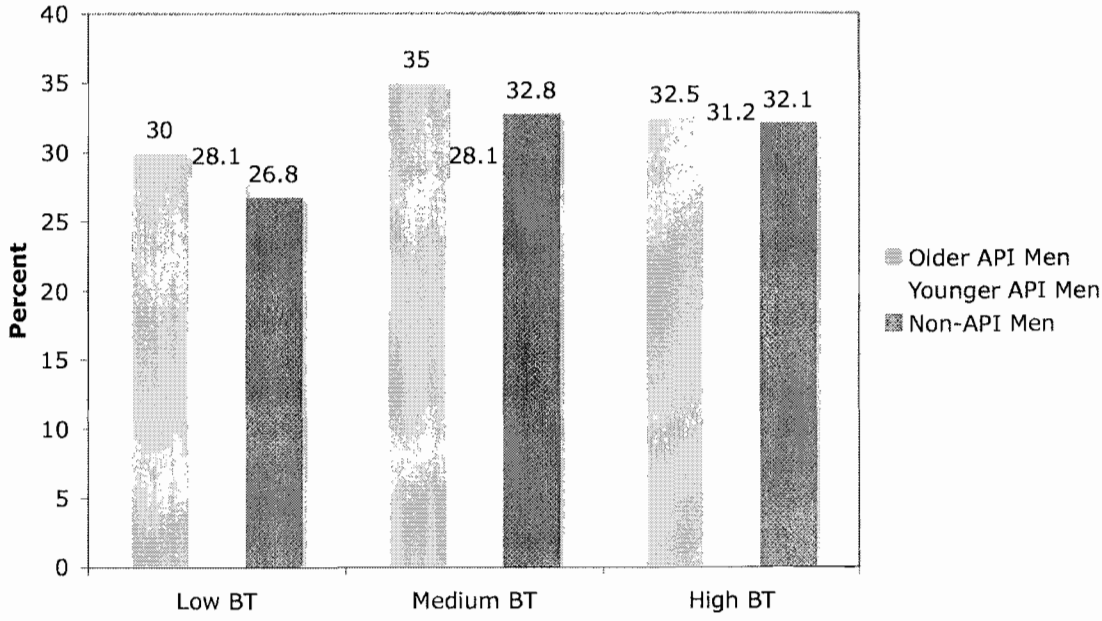
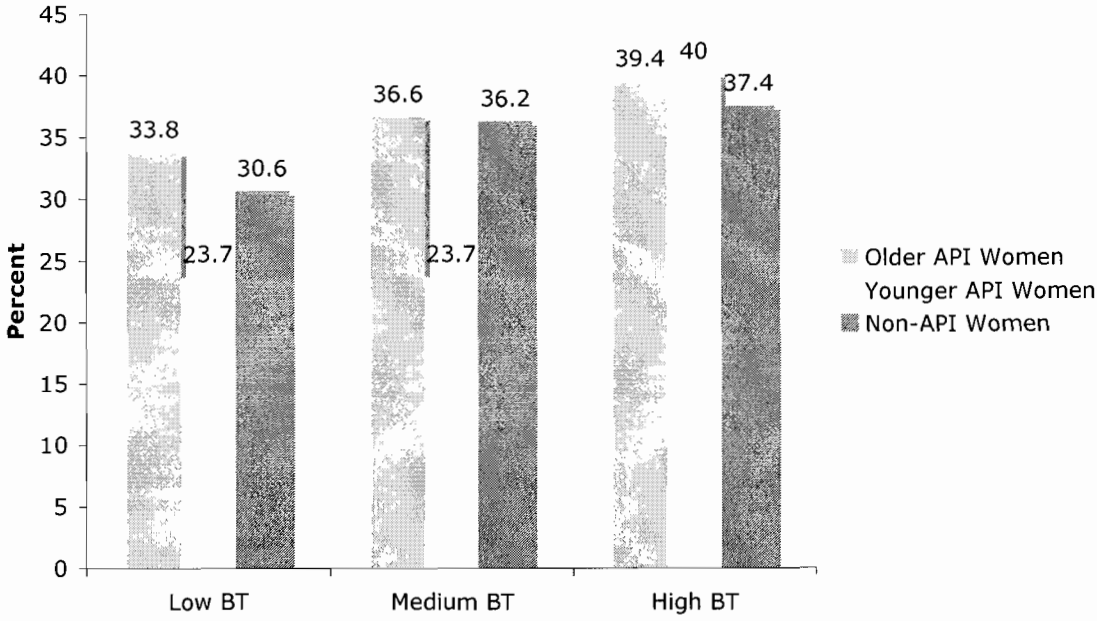


Figure 9
Rates of Reporting Trauma Types by Ethnic Cohort, Female



Hypothesis 3.3

Descriptive statistics for LOF and symptom measures of anxiety, depression, and PTSD are presented in Tables 15 and 16. An ANOVA with Helmert contrasts, which compared the mean of the non-API group with the mean of the two API groups combined, supported the hypothesis that APIs overall would score higher on loss of face than non-APIs, $F(2, 1238) = 21.64$, $p < .001$ although the effect size was small, partial $\eta^2 = .03$. In addition, younger APIs scored significantly lower than older APIs.

The means for the symptom measures appeared to vary by group. Therefore, additional multivariate analyses were conducted with age as a covariate. Results of MANCOVAs are shown in Tables 17 and 18. Due to differing sample sizes for the measures, one set of analyses was conducted with depression and anxiety as dependent

variables and another with PTSD as the dependent measure. In the former case, age was a significant covariate for depression but not anxiety. The Wilks' Lambda multivariate test of overall differences among groups was statistically significant (.97, $F(4, 2422) = 9.87$, $p < .01$). Helmert contrasts were chosen to compare the aggregate of both API groups with the non-API group. They revealed that for both depression and anxiety non-APIs had the highest scores followed by young APIs and then older APIs. For the MANCOVA of PTSD subscales, the Wilks' Lambda multivariate test was statistically significant (.97, $F(6, 1462) = 2.99$, $p < .01$). Age was not a significant covariate. The only significant group difference was for reexperiencing symptoms. Helmert contrasts indicated that non-APIs scored higher than both API groups, but there was no difference between the two API groups.

Table 15
Descriptive statistics for LOF, Depression, and Anxiety by Ethnic Group

	API < 25 (n = 164)		API ≥ 25 (n = 111)		Non-API (n = 965)	
Measure	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Loss of Face	4.17	.92	4.50	.72	3.94	.93
Trauma Symptom Checklist-40 subscales:						
Depression	.68	.51	.63	.43	.86	.51
Anxiety	.71	.49	.55	.46	.85	.52

Table 16
Descriptive Statistics for PTSD Symptoms by Ethnic Group

	API < 25 (n = 100)		API ≥ 25 (n = 60)		Non-API (n = 582)	
Measure	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*
Revised Civilian Mississippi Scale	1.84	.72	1.86	.45	2.02	.57
Reexperiencing	1.95	.57	1.75	.74	2.01	.62
Avoidance & Numbing	2.26	.61	1.88	.52	1.93	.63
Arousal	1.96	.55	2.25	.55	2.34	.57

Table 17
MANCOVA for Group Differences in Depression and Anxiety

Source	SS	df	*F*	*p*	*Partial* η^2
Intercept					
Depression	13.82	1	53.97	<.01	.04
Anxiety	22.12	1	84.10	<.01	.07
Age					
Depression	2.19	1	8.56	<.01	.01
Anxiety	.06	1	.22	.64	<.01
Ethnic Group					
Depression	9.53	2	18.60	<.01	.03
Anxiety	8.24	2	15.66	<.01	.03
Error					
Depression	310.40	1236			
Anxiety	318.76	1236			
Total					
Depression	1127.04				
Anxiety	1107.30				

Table 18
MANCOVA for Group Differences in PTSD Symptoms

Source	SS	df	*F*	*p*	*Partial* η^2
Intercept					
Reexperiencing	153.11	1	284.19	<.01	.42
Avoidance	135.72	1	367.26	<.01	.42
Arousal	144.20	1	466.81	<.01	.42
Age					
Reexperiencing	1.69	1	3.13	.08	.01
Avoidance	.02	1	.06	.81	.01
Arousal	.10	1	.33	.57	.01
Ethnic Group					
Reexperiencing	3.58	2	1.79	.04	.01
Avoidance	.06	2	.03	.92	<.01
Arousal	1.13	2	.57	.16	<.01
Error					
Reexperiencing	94.92	733	.54		
Avoidance	70.88	733	.37		
Arousal	26.42	733	.31		
Total					
Reexperiencing	3243.23	737			
Avoidance	3018.19	737			
Arousal	3195.59	737			

Hypothesis 3.4

Moderation analyses were first conducted for each of the three cohorts separately in order to determine the presence of a moderation effect. Results of the stepwise regression analyses are shown in Table 19. Total trauma history scores were positively associated with PTSD scores for all three cohorts. Although LOF was also significantly associated with PTSD scores for non-APIs and APIs under 25, contrary to the hypothesis there was not an interaction effect for any of the groups. Therefore, LOF did not act as a moderator for the effect of trauma on PTSD.

Table 19
Summary of Hierarchical Regression Analyses for Total BBTS Scores, LOF, and PTSD Symptoms

Steps	*B*	*SE B*	β	ΔR^2
Regression Analysis A: non-APIs (n = 575)				
Step 1 – main effect				
A1. BBTS	.06**	.01	.35	.12**
Step 2 – moderator				
A2. BBTS	.06**	.01	.33	
LOF	.16**	.02	.27	.07**
Step 3 – interaction				
A3. BBTS	.05**	.01	.32	
LOF	.16	.02	.26	
BBTS by LOF	.01	.01	.07	<.01
Regression Analysis B: API < 25 (n = 96)				
B1. BBTS	.04**	.01	.30	.09**
B2. BBTS	.05**	.01	.32	
LOF	.14*	.06	.22	.05*
B3. BBTS	.05**	.02	.10	
LOF	.13*	.06	.22	
BBTS by LOF	.02	.02	.10	.01
Regression Analysis C: API ≥ 25 (n = 63)				
C1. BBTS	.02	.02	.10	.01
C2. BBTS	.02	.02	.10	
LOF	-.01	.08	-.02	.01
C3. BBTS	.02	.02	.10	
LOF	-.01	.09	-.02	
BBTS by LOF	<.01	.03	-.01	.01

*$p \leq .05$, **$p < .01$

CHAPTER IV

DISCUSSION

Lifetime Trauma Reports and Gender

The first objective of the study was to confirm previous findings regarding patterns of association among types of traumatic experiences, psychological sequelae, and gender. As predicted, traumatic events involving a high degree of betrayal were found to be more strongly associated with symptoms of PTSD, depression, and anxiety than were MB and LB events. These findings provide additional support for betrayal trauma theory, confirming the increased psychological cost of traumas perpetrated by close others versus those perpetrated by not close others, or non-interpersonal traumas.

Also consistent with the literature, women reported significantly higher rates of HB trauma than men, particularly sexual assault and emotional abuse. Although the overall effect size was small (Cohen's $d = .12$), women reported approximately 45% more sexual abuse by someone close than men. There was no gender difference for MB and LB traumas although men experienced two-and-a-half times more physical assault by not close others and witnessed one-third more attacks. Women reported one-third more sexual abuse by someone not close.

In addition to HB trauma, there was a very small but significant effect of women reporting higher rates of anxiety and depression than men (partial $\eta^2 = .02$). However, contrary to expectations, men and women reported nearly equal rates of overall PTSD symptoms. Women reported higher rates of reexperiencing symptoms but not avoidance and arousal symptoms, and the effect size for reexperiencing was quite small (partial $\eta^2 = .02$). The small effect sizes indicate that the large number of participants contributed to the statistical significance of the findings. In addition, it is difficult to determine whether a larger gender difference in reexperiencing symptoms is typical since few studies of gender differences of PTSD report differences by symptom cluster. One study that examined differences the diagnosis of clinical PTSD was a large national sample conducted in Australia of over 10,000 participants (Peters, Issakidis, Slade, & Andrew, 2006). They found no difference in the prevalence of the diagnosis of PTSD by DSM-IV standards but did find that women were more likely to meet both Criterion A (exposure to the traumatic event and strong emotional reaction) and Criterion B of reexperiencing the event but that they were equally likely to meet the other criteria of avoidance and arousal.

A study of psychiatric inpatients also found higher rates of reexperiencing symptoms among women than men but not other types of symptoms (Zlotnick et al., 2001). In contrast, other studies suggest that women tend to have more symptoms of arousal and avoidance than men. In a study of motor vehicle accident victims, Fullerton et al. (2001) found no difference in meeting the overall reexperiencing criterion for a diagnosis of PTSD but did find that women had a higher incidence of reporting specific reexperiencing symptoms such as being triggered by situation similar to the accident and

having distressing memories of the accident as well as increased symptoms of arousal and avoidance among women.

The type of trauma that occurred may also help explain gender differences among symptoms of PTSD. Breslau et al. (1999) found that assaultive violence was associated with greater gender differences in avoidance and numbing symptoms. Perpetrator type may also influence the impact of sexual assault as found in a study by Culbertson and Dehle (2001) where closer relationships with the perpetrator were associated with higher levels of hyperarousal symptoms. Additional research is needed in order to understand the potential roles of types of trauma and relationship to the perpetrator may influence PTSD symptom presentation.

Gender Differences in Symptoms of PTSD

The second objective of the study was to investigate why women are diagnosed with PTSD at twice the rate of men despite reporting fewer overall traumatic events. It was predicted that betrayal trauma would mediate the relationship between gender and PTSD. However, since the only gender difference found was in reexperiencing symptoms, the scores for this subscale were substituted for the scores of the entire PTSD scale. In addition, since a large portion of participants (40%) had not completed the PTSD scale, analyses were run using an EM algorithm that estimated the covariances between variables. Steps for mediation recommended by Baron and Kenny (1986) were followed, which resulted in a significant mediation effect although the size of the effect was not substantial. The unstandardized coefficient of reexperiencing on gender changed

from .21 prior to mediation to .20. Given the statistical significance but small effect size further investigation is warranted.

It is possible that an unusually large proportion of men reporting HB trauma in this survey resulted in a weaker association between gender and betrayal trauma and thus a smaller mediation effect. Although a bootstrap technique was used to address the skewed distribution of the BBTS, it is also possible the strength of the association between gender and betrayal trauma was weakened by the high proportion of those who did not report experiencing any traumas (35%). In addition, while the difference between gender and PTSD reexperiencing symptoms was significant, the effect size was quite small. Finally, the instrument used to measure PTSD, the R-CMS, may have not have been the ideal choice as one study of its psychometric properties indicated that it was more strongly associated with measures of depression and anxiety than other measures of PTSD (Lauterbach, Vrana, King, & King, 2006).

The methodology of the study may also affect the amount of variance explained in the relationship between gender and PTSD symptoms. Tolin and Foa (2006) found that the method of data collection affected findings of gender differences in traumatic experiences. Studies using surveys, such as the current project were less likely to find differences than those conducted with structured interviews. This may occur due to under-measuring of traumatic events. A meta-analysis by Bolen and Scanapieco (1999) concluded that estimates of abuse are likely to underestimate the true prevalence, especially when based upon a single report. In addition, Tolin and Foa suggest that samples of college students may under-represent victims of childhood sexual abuse, the

majority of whom are women, as CSA is associated with higher school dropout rates. Further research is needed to replicate the statistical significance of the mediation findings, replicate the effect size, and evaluate whether that small effect size is an artifact of an aspect of this study or actually represents a small effect in the real world. Given the limitations of university samples and survey methodology, it would be ideal to gather data using a randomized sample of community participants with structured interviews.

Another factor that may account for unexplained variance in the mediation model are experiences of assaultive violence that were not categorized as high in betrayal. Although there was no overall gender difference in medium betrayal experiences, women reported significantly more sexual assault by not close others than men. Breslau et al. (1999) found that assaultive violence accounted for much of the gender difference in diagnoses of PTSD in a community sample, possibly because assaultive violence can be more threatening to women. In the current study, the questionnaires did not link symptoms to a specific trauma event. Therefore, adding sexual assault by not close others as a mediator may help explain more of the association between gender and PTSD symptoms.

Another contextual factor, gender role socialization was investigated as a possible moderator of the relationships between gender and psychological outcomes of depression, anxiety, and the reexperiencing cluster of symptoms of PTSD. Women high in gender role socialization were expected to report more symptoms of PTSD, depression, and anxiety than women low in gender role socialization. Conversely, men higher in

gender role socialization were predicted to report fewer symptoms than men lower in gender role socialization.

Two measures of gender role socialization were used in this study, the TSRA and the AWS. Respondents of the TSRA were university students while most of the respondents on the AWS were from the community sample. Men scored significantly higher than women on the TSRA, indicating that men endorsed stronger traditional gender role beliefs. There was a nonsignificant trend for women to score significantly higher on the AWS than men, indicating that women held stronger egalitarian gender role beliefs. In addition, using the AWS, a significant interaction between gender and gender role socialization was found for reexperiencing symptoms of PTSD.

However, examination of the interaction found using the AWS in part contradicted the hypothesis that strong beliefs in traditional gender roles would be detrimental toward women and protective toward men. The reexperiencing scores of women did not appear to be affected by level of gender role socialization, but men who endorsed more egalitarian gender roles had lower scores of reexperiencing than men who endorsed more conservative gender roles. As both gender role measures had a high degree of face validity, it is possible that social desirability influenced this self-report measure and men who endorsed egalitarian beliefs in gender roles also were reluctant to admit to symptoms of PTSD. However, the fact that men overall endorsed more conservative beliefs than women lends support to the validity of responses.

These results appear to differ from the findings of Sciancalepore & Motta (2004) that victims with more "feminine" characteristics had significantly higher levels of PTSD

symptoms than those with more "androgynous" characteristics regardless of whether they were male or female. In addition, Li, DiGiuseppe, and Froh (2006) found that masculinity was related to problem-focused and distractive coping, which in turn were associated with lower levels of depression. It is possible that masculinity and femininity as measured in these studies are different constructs than cognitive beliefs in gender roles. That is, someone high in masculinity could still endorse egalitarian beliefs in gender roles.

There are a number of possible explanations for these findings. Since the data are cross-sectional, it is important to consider both directional possibilities for causality, that is, that pre-existing gender role beliefs affect interpretation and response to traumatic experiences or that experiencing traumatic events leads to having more conservative gender role beliefs. Childhood abuse was associated with more conservative voting patterns in adulthood. To further investigate potential differences between men with conservative and egalitarian beliefs, the sample was divided respectively into those who scored one-half standard deviation below the mean for men (n = 18) and one-half standard deviation above the mean for men (n = 24). There was a non-significant trend for men with conservative gender role beliefs to experience more childhood physical and sexual abuse (M = .94, SD = 1.39) than men with more egalitarian beliefs (M = .54, SD = .78; Mann-Whitney U = 195, z = .57, p = .57). However, the largest differences, though not significant, were reported for adulthood. Men with conservative gender role beliefs experienced more close physical attacks and sexual assault as adults (M = .94, SD = 1.47) than men with egalitarian beliefs (M = .33, SD = .76; Mann-Whitney U = 166, z = 1.26, p = .21). It is likely that a larger sample size would result in significant findings. These

results suggest that greater amounts of childhood and adulthood abuse may lead to more conservative gender role beliefs although this can only be determined with a longitudinal design.

It is also possible that established gender role beliefs will affect the interpretation of traumatic events and predict whether and to what degree symptoms develop. A study by Simonson and Subich (1999) found that participants who read scenarios of rape were less likely to blame the victim if they endorsed less traditional gender role stereotypes. Egalitarian gender role beliefs may reflect a greater degree of cognitive flexibility that can facilitate the ability to integrate traumatic experiences into pre-existing schemas in a healthy manner. Cognitive inflexibility in the form of self-blame, negative appraisal of emotions, and perceptions of the world as extremely dangerous have been found to be associated with higher rates of psychopathology (Frazier & Schauben, 1994, Foa & Rothenbaum, 1998). Conversely, adaptive cognitive functioning has been found to prevent trauma victims from negative consequences (Tolin & Foa, 2002). Therefore, it may be true that interpersonal trauma can cause changes in gender role beliefs as well as the reverse. The two possibilities are not mutually exclusive and the association may be bidirectional. A longitudinal design is necessary in order to determine causality in the association between gender role beliefs and posttraumatic stress.

While both gender role socialization measures are comparable in reliability, the AWS has additionally been demonstrated to have concurrent and discriminant validity with other measures related to gender role beliefs (Swim & Cohen, 1997). It is also likely that the 15-item AWS had greater content validity based upon its wider range of items

addressing typical gender role beliefs versus the four-item TSRA. Finally, the larger sample size of the TSRA provided more power and thus a greater potential for attaining significant results but did not. Therefore, results based upon the AWS that gender role socialization is a significant moderator of the effect of gender on PTSD reexperiencing symptoms may be more valid. However, it is also possible that beyond the differing properties of the two measures, differences in demographic factors between the two groups that took each measure such as age and ethnicity may account for the discrepancy in these results. The community sample tended to be older, and 80% of this cohort was of API descent. Therefore, they cannot yet be generalized outside the population of API adults on which they were tested.

Asian Pacific Islanders and Traumatic Experiences

This study was one of the few to investigate rates of traumatic experiences among APIs in the United States. It also examined whether the cultural construct of loss of face would affect psychological responses to these events. The study included a cohort of APIs from the general community as well as a younger sample of API and non-API university students. Our prediction that the lowest rates of CSA would be reported by API men and women was only partially correct. Results indicated that rates varied depending upon type of trauma (close and not close) and cohort. Young API men reported adult sexual assault with surprising frequency at nearly 20% for both close and not close perpetrators. The high rate of SA reported by young API men was largely due to those born outside the U.S. Of the 30 younger APIs men not born in the U.S., seven

(23%) reported adult sexual assault by someone not close and nine (30%) reported adult sexual assault by someone close. Five of the men endorsed both close and not close sexual assault. In contrast, four (11.8%) and three (8.8%) and of the U.S. born young API men reported adult sexual assault by someone not close and close, respectively.

We do not know of any other studies of adult sexual trauma among API men, but this rate is at the high end of the range of CSA rates found by prior studies. It is possible that it may be due to a stronger sense of LOF and a reluctance to report CSA by the older men. Due to the small sample size, it is possible that these results are due to chance and represent an unusual sample. Therefore, it is necessary to conduct the survey with a large sample of APIs in order to determine whether these findings can be replicated.

Loss of Face and PTSD

On a measure of concern with LOF, APIs scored higher than non-APIs. This concurs with past studies and with our prediction. In addition, we found a generational trend in LOF beliefs, with older APIs scoring higher than younger APIs. This trend does not appear to be better explained by whether participants were immigrants as about half of the participants in both groups were born outside the U.S.

Although there were significant direct associations between concern with LOF and PTSD symptom scores for the two API groups, contrary to our hypothesis concern with LOF did not act as a moderator for the effect of trauma on symptoms of PTSD. Thus, the strength of the association between total trauma scores and PTSD symptoms did not change with degree of LOF beliefs. However, there was a significant direct effect

of concern with LOF after the effect of trauma was accounted for. This result can be interpreted in several ways. The most parsimonious would be to view concern with LOF as causing PTSD symptoms, but this interpretation does not have theoretical merit as LOF in itself is not generally defined as a traumatic event. Another, more plausible, explanation is that for non-APIs, having a higher degree of concern with LOF may be an outcome rather than a predictor. Some of the items of the LOF questionnaire can overlap with the Western constructs of shame and social anxiety, which are common outcomes of trauma. Therefore, for the non-APIs and young APIs, LOF scores may reflect a state characteristic whereas for older APIs, who also endorsed the most concern with LOF, it may reflect a trait that does not change with time or circumstance. A third interpretation is based upon a potential reluctance of participants high in LOF concern to report traumatic events as well as symptoms may have also contributed to the findings. Foynes et al. (2007) found that APIs are less likely than Whites to report child sexual abuse. This may account for a direct effect of concern with LOF upon PTSD symptoms but a lack of interaction with the number of traumatic experiences reported.

Limitations and Future Research

One of the main limitations of the study was the cross-sectional design. As a result, we could not evaluate the causal direction regarding the relationships between traumatic events, depression, and anxiety. Use of a longitudinal design would provide for a more comprehensive model, including analysis of revictimization patterns and the degree to which PTSD, depression, and anxiety serve as risk factors for traumatic events.

Another concern is the cross-cultural validity of the symptom measures used. Cross-cultural psychologists and medical anthropologists have noted that while there are many commonalities between Western syndromes and those of other cultures, there is also variation. Little is known about how post-traumatic distress may vary across cultures, whether it follows the formula defined in the *DSM-IV* or takes another form altogether. Furthermore, the *DSM-IV* is concerned primarily with reliability, in other words, how well clinicians can agree upon a diagnosis when presented with a particular set of symptoms. Culture, on the other hand, forces us to examine the validity of such diagnoses as well (Castillo, 1997).

While some symptoms are found across cultures, others, such as guilt and loss of self-esteem, almost definitive depressive symptoms in the West, are rarer in non-Western societies. One aspect of depression that is conspicuously absent in most societies other than the Judeo-Christian West is that of overwhelming guilt and feelings of sinfulness (Kleinman & Good, 1985). Spirituality appears to play a role in the interpretation of guilt. Among Cambodian and other Asian refugees, Buddhism may serve as a defense for individuals dealing with survivor guilt in that bad karma is the result of deeds performed in a past life (Boehnlein, 1987; Shrestha et al., 1998). An emphasis on somatization has also been widely observed among non-Western societies. While both emotional disturbance and somatization symptoms occur in both Western and non-Western societies, researchers have found that non-Westerners will tend to downplay emotive symptoms in favor of somatic symptoms (Beiser, 1985; Lin, 1986)

Symptoms of PTSD may also vary by culture. One study of Southeast Asians suggests some modification may be necessary. Smith Fawzi et al. (1997) found that while the three dimensions of arousal, avoidance, and reexperiencing in PTSD was generally supported, symptoms of depression comprised a separate factor within avoidance. Although beyond the scope of the current study, more information concerning the cultural validity of disorders is needed, particularly among API populations.

Another limitation regarding culture was in grouping together a rather diverse API sample, which included those born in the U.S. and not born in the U.S. as well as members of various ethnic groups. As noted in the literature review, there is also diversity in socioeconomic status with higher rates of poverty among Chinese, Koreans, and Filipinos than other API groups. However, many of our participants were students, and it was difficult to gauge their socioeconomic status during a phase when their earnings do not necessarily reflect their economic history or future earnings potential. It is possible that conducting analyses for more specific ethnic groups considering these factors would reveal differing results. In order to answer this question, larger sample sizes of APIs are needed in future studies.

Summary and Conclusions

The purpose of the current study was to examine the role of sociocultural factors in posttraumatic stress. It had two major aims: the first to add to our current knowledge about why women report higher rates of posttraumatic stress than men and the second to explore the role of ethnicity in response to trauma. Our study confirmed prior research

findings that traumas high in betrayal as more highly associated with symptoms of posttraumatic stress than traumas lower in betrayal. In addition, the study suggests that betrayal trauma may be a mediating factor in the relationship between gender and PTSD and that gender role socialization may moderate this relationship. These results establish that further investigation of these social contextual factors is warranted in deepening our understanding of the causes of gender differences in posttraumatic stress.

Although social context has been postulated to explain some of the variance in gender differences in posttraumatic stress, the current study is the first to test these hypotheses empirically. Previous research has examined type of trauma as a variable that accounts for varying rates of posttraumatic stress such as sexual assault versus non-sexual assault (for a metanalysis see Tolin and Foa, 2006). These studies in general have concluded that type of trauma partially accounts for gender differences in sequelae, but they still ignored contextual variables such as relationship to the perpetrator and socialized gender role beliefs. These contextual factors focus attention upon the meaning of the traumatic event for the victim and expand the definition of trauma.

The findings have important clinical implications for diagnosing PTSD and other trauma-related disorders. They support the argument of Freyd and Brown (2009) that Criterion A, which defines the characteristics of a traumatic event, should be expanded to include betrayal in addition to traditional conceptualization of fear and horror. Doing so would allow non-violently exploited individuals to qualify for a diagnosis of PTSD who would otherwise be excluded even if they met the symptom criteria.

Understanding the etiology of posttraumatic stress disorders can also help improve treatment selection and efficacy. For example, someone who experienced abuse by someone close may require therapy focusing upon repairing interpersonal skills using relational therapy more so than someone who experienced a lower betrayal trauma such as an automobile accident. In addition, if it is true that having more egalitarian gender role beliefs can improve outcomes among men, then perhaps these can be encouraged in a clinical setting as well.

This study also investigated the rates of traumatic events reported among API populations, and correlates of posttraumatic stress. It provided one of the few non-clinical samples of API adults from the general community in the U. S. and allowed for comparisons with a cohort of API students. As a result, notable differences between the community and student groups were found in the reporting of various traumatic events, particularly sexual abuse. It is important to continue investigating rates of traumatic events in order to determine whether these results can be replicated and generalized to API communities in the U.S. These results add to the growing body of evidence that interpersonal violence and posttraumatic stress are issues that exist among API groups and require attention, contrary to the myth of the model minority. They also contradict conclusions that CSA is more rare among APIs than other ethnic groups (Elliott & Urquiza, 2006; Futa, Hsu, & Hansen, 2001). These reviews of the literature were primarily based upon clinical samples of patients who sought treatment as opposed to a broader community sample. The current study indicates that rates of CSA are at least as great or, in the case of the young API men, as non-APIs.

Although we did not find a moderation effect of LOF on posttraumatic stress, LOF did have a direct effect upon PTSD symptoms beyond the experience of traumatic events. Additional studies are needed in order to learn more about this relationship. It is vital to continue to conduct research with API populations as they rapidly grow in the U.S. and present with needs for services that may be overlooked due to cultural differences.

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