Posttraumatic Stress Disorder Among Ethnoracial Minorities in the United States

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Because ethnoracial minorities are a growing part of the U.S. population yet are underrepresented in the psychopathology literature, we reviewed the evidence for differences in prevalence and treatment of posttraumatic stress disorder (PTSD) in African Americans, Latino Americans, Asian and Pacific Islander Americans, and American Indians. With respect to prevalence, Latinos were most consistently found to have higher PTSD rates than their European American counterparts. Other groups also showed differences that were mostly explained by differences in trauma exposure. Many prevalence rates were varied by subgroup within the larger ethnoracial group, thereby limiting broad generalizations about group differences. Regarding service utilization, some studies of veterans found lower utilization among some minority groups, but community-based epidemiological studies following a traumatic event found no differences. Finally, in terms of treatment, the literature contained many recommendations for culturally sensitive interventions but little empirical evidence supporting or refuting such treatments. Taken together, the literature hints at many important sources of ethnoracial variation but raises more questions than it has answered. The article ends with recommendations to advance work in this important area.

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Clinical psychologists have been urged to pay greater attention to ethnoracial[1] variation in psychopathology by their own ethical and professional codes (American Psychological Association, 2002, 2003), the National Institutes of Health (2001), and even the Surgeon General of the United States (U.S. Department of Health and Human Services, 2001). Unfortunately, information on minority mental health is often difficult to find in mainstream psychology journals. In this review, we focus on posttraumatic stress disorder (PTSD) as it occurs in each of the four primary ethnic minority groups in the United States: African (Black) Americans, Latino (Hispanic) Americans, Asian and Pacific Islander Americans, and (Native) American Indians,[2] who together constitute over 30% of the U.S. population. We begin with a sociodemographic sketch of each group to provide a context from which to understand PTSD-related group differences and to show that each group is actually an aggregation of subgroups that may themselves have unique vulnerabilities to PTSD. After briefly reviewing comparative rates of other mental disorders, we will compare PTSD rates in each ethnic minority group to PTSD rates in European (Caucasian/White) American samples. We will do so in both epidemiological and clinical samples recognizing that whereas the former may be informative about the general population, the latter may be informative about clinical settings. We

recognize that comparisons between ethnic minorities and the majority group risk reinforcing deficit or inferiority models of minority groups. But we hope that the benefit of arguing against reliance on European American norms outweighs this risk. In addition, we hope that the reader will integrate the full body of evidence that we will provide, including findings of within ethnic minority group variability and factors contributing to varying PTSD rates, to recognize that group-level findings imply little about individual ethnic minorities and in no way demonstrate their inferiority. We will also discuss treatment considerations for each group and highlight issues pertinent to service utilization, assessment, and psychotherapy. The article ends with a general discussion of emergent themes and areas for future inquiry. We hope that this review will be useful for students interested in ethnoracial variation in psychopathology, clinicians who treat diverse populations, and researchers seeking to fill gaps in the existing knowledge.

PTSD IN AFRICAN AMERICANS

Sociodemographic Profile

While the majority of African Americans come from ancestry that was forcibly brought to the United States and enslaved by European Americans almost 300 years ago, this group also consists of more recent immigrants from Africa and Caribbean territories (e.g., Cuba, the Dominican Republic, Panama, Haiti, and the Virgin Islands; Neighbors & Williams, 2001). African Americans endured generations of racial inequality and legalized racial segregation even after slavery was made illegal. It was not until the 1960s that the group achieved equal civil rights and it took many more years for those rights to be broadly implemented. Nonetheless, some African Americans still report being the victims of regular racial discrimination. These experiences, along with the painful history described above, continue to complicate relations between African Americans and European Americans. Although African Americans have been overrepresented among the undereducated, the poor, the homeless, and the incarcerated (Bureau of Justice Statistics, 1999; Jencks, 1994), in recent years, they have shown gains in terms of education and income level (Thernstrom & Thernstrom, 1997). It is important to remember that there is great diversity within the African American community on geographic, socioeconomic, and generational variables. Despite intragroup differences, African Americans often share a number of cultural characteristics including religious orientation, strong work ethic, reliance on extended family networks, and maintenance of tight kinship bonds, all of which may contribute to the resilience that has been commonly noted in this group (McCollum, 1997; Sampson, Raudenbush, & Earls, 1997). African Americans may also show remarkable unanimity when it comes to matters affecting other African Americans. Consequently, traumatic events affecting African Americans (e.g., Rodney King beating, James Byrd murder, and Hurricane Katrina) are likely to be of concern to many individuals within African American communities. After many decades of being recognized as the largest ethnic minority group in the United States, African Americans have been most recently estimated to comprise 12.3% of the U.S. population, making them America's second largest ethnoracial minority group (U.S. Census Bureau, 2001). Nonetheless, their longstanding majority among minority groups is a likely explanation for their prominence in ethnoracial PTSD research.

Prevalence and Prediction of PTSD in African Americans

Prevalence Comparisons With European Americans. Most epidemiological studies have found that African Americans have lower rates of mood and substance use disorders than European Americans (Kessler et al., 1994, 2005; Zhang & Snowden, 1999), but some have reported higher rates of a few anxiety disorders (e.g., simple phobia and agoraphobia) among African Americans (Robins & Regier, 1991; Zhang & Snowden, 1999). With regard to PTSD, which is also classified as an anxiety disorder, both clinical studies (Frueh, Elhai, Monnier, Hammer, & Knapp, 2004; Frueh, Gold, de Arellano, & Brady, 1997; Frueh, Smith, & Libet, 1996; Monnier, Elhai, Frueh, Sauvageot, & Magruder, 2002; Zoellner, Feeny, Fitzgibbons, & Foa, 1999) and epidemiological studies (e.g., Adams & Boscarino, 2005) have reported that African Americans and European Americans have similar rates of PTSD. However, a few studies have found higher rates of PTSD or PTSD symptoms among African Americans than their European American counterparts. Most prominently, *The National Vietnam Veterans Readjustment Study* (NVVRS), a nationally representative study of 1,173 Vietnam combat veterans, found that 20.6% of African American combat veterans had current

PTSD as compared to 13.7% of European American combat veterans (Kulka et al., 1990). Green, Grace, Lindy, and Leonard (1990) compared 145 European American and 36 African American male Vietnam veterans and found higher rates of lifetime (72% versus 42%) and current PTSD (47% versus 30%) in the African American group. Another study following 120 nonrandomly sampled survivors of the Buffalo Creek dam collapse two decades after the event found that African Americans were more likely than European Americans to show delayed onset of PTSD and less likely to show remission of PTSD symptoms (Green, Lindy, et al., 1990). Finally, Norris (1992) examined PTSD and PTSD symptoms in 497 African American and 494 European American civilians, who were sampled to equally represent both sexes and three age groups (younger, middle-aged, and older adults) but who were not necessarily representative of the general population. Although she found that African American men reported more PTSD symptoms, she found no differences in PTSD diagnosis rates (European American = 7.5%, and African American = 7.1%). Overall, the evidence for elevated PTSD among African Americans is mixed, with most studies finding equal PTSD rates to European Americans but a few studies (especially those examining Vietnam veterans) finding higher PTSD rates among African Americans.

Within-Group Variation in Prevalence of PTSD. There has been very little research attention paid to geographic, generational, ethnic identity, and socioeconomic subgroup differences among African Americans with respect to PTSD prevalence. There is some indication that Caribbean-born African Americans report higher levels of psychological distress than other African Americans (Williams, 2000), but this has not been specifically tied to PTSD. There is also substantial evidence that European Americans typically have higher socioeconomic status (SES) than their African American counterparts (e.g., Norris, 1992), and that differences between these two groups in psychopathology do not always persist once differences in SES are taken into account (e.g., Neighbors & Williams, 2001). Yet surprisingly, SES has not been routinely examined as a moderator of PTSD among African Americans. Thus, there is much to be learned about whether African American subgroups differ in PTSD rates.

Differences in Exposure to Traumatic Stress. Studies that report higher PTSD rates among African Americans have typically but not always (Norris, 1992) found more exposure to the index (i.e., PTSD-triggering) trauma in the African American group (e.g., Green, Grace, et al., 1990; Kulka et al., 1990). For example, African American Vietnam veterans with elevated PTSD rates have reported greater exposure to war atrocities, more friends killed or wounded, higher levels of personal injury requiring hospitalization, and greater general combat exposure (Green, Grace, et al., 1990). Penk et al. (1989) found that only those African American veterans who were exposed to heavy combat had more severe PTSD symptoms than European American veterans. Furthermore, studies that statistically controlled for differences in trauma exposure eliminated or drastically reduced PTSD differences between African Americans and European Americans (Green, Grace, et al., 1990; Kulka et al., 1990). One study that reported more trauma exposure but fewer PTSD symptoms among European Americans noted that African Americans experienced more serious events and had fewer resources to cope with them (Norris, 1992). These results might be explained by Hobfoll's (1989) conservation of resources theory that asserts that greater loss of social and/or material resources contributes to greater distress. The finding by Norris (1992) also draws attention to the importance of distinguishing severity from frequency of trauma exposure in understanding PTSD rates and symptom severity.

Discrimination as a Contributor to PTSD. In addition to being at greater risk for exposure to traumatic stress, African Americans report greater exposure to racial discrimination (Kessler, Mickelson, & Williams, 1999). It has long been speculated that chronic exposure to discriminatory experiences may make African Americans more vulnerable to psychopathology (e.g., Cannon & Locke, 1977). In the case of PTSD, discriminatory practices can lead to greater exposure to traumatic stress (e.g., assignment to more hazardous combat duties) or may be interwoven into the traumatic event itself (e.g., racial slurs being used during physical assault; Jones, Brazel, Peskind, Morelli, & Raskind, 2000). Studies of African Americans with PTSD symptoms, including military studies, have supported the notion that African Americans report more racial discrimination than

European Americans (e.g., Green, Grace, et al., 1990) and one study found that perceived racial discrimination was associated with more severe PTSD symptoms (Pole, Best, Metzler, & Marmar, 2005). However, because these studies have typically assessed PTSD and perceived discrimination contemporaneously, it is possible that perceptions of discrimination are distorted by PTSD symptoms such as hypervigilance or irritability. Therefore, it will be important to use longitudinal designs to prospectively examine this issue.

Differences in Coping. Several authors have indicated that African Americans may differ from European Americans in their style of coping with trauma. These differences may partially account for ethnic differences in PTSD. For example, spirituality and social support (especially as found in combination in church settings) have been cited as preferred coping strategies in some African American groups (Fowler & Hill, 2004; Taylor & Chatters, 1991). Following the September 11 attacks on the United States, a nationally representative sample of African Americans were found to be more likely than European Americans to cope with prayer, religion, or spirituality (Torabi & Seo, 2004). However, this coping style is not necessarily protective when it comes to PTSD (Maercker & Herrle, 2003). Fowler and Hill (2004) found that spirituality did not moderate the effect of exposure on PTSD symptoms in African American women who had been victims of domestic abuse. Under some circumstances, religion and spirituality may lead people to stay in dangerous situations longer than they might otherwise (e.g., maladaptive forgiveness of perpetrators) or to avoid directly confronting the problem (e.g., waiting for God to intervene). Yet, other evidence shows that African Americans favor directly confronting problems (Broman, 1996). Thus, it would be particularly interesting to clarify the roles of spirituality, social support, and coping style in future studies of African Americans with PTSD.

Differences in Dissociation. A final factor that has been implicated in elevated rates of PTSD among African Americans is dissociation (i.e., disruptions in one or more aspects of consciousness). PTSD has been associated with both greater "peritraumatic" dissociation (i.e., dissociation during a traumatic event) and greater "trait" dissociation (i.e., recurring dissociative episodes that occur during normal daily activities; e.g., Briere, 2006; Shalev, Peri, Canetti, & Schreiber, 1996). The former has been conceptualized as a major risk factor for PTSD (Ozer, Best, Lipsey, & Weiss, 2003) and the latter as a potential associated feature of PTSD (*DSM-IV-TR*; American Psychiatric Association, 2000). Although a few studies have reported no difference between African American and European American respondents in trait dissociation (e.g., Frueh et al., 1997, 2004), other studies have noted more trait dissociation among African Americans (e.g., Frueh, Smith, et al., 1996; Zatzick, Marmar, Weiss, & Metzler, 1994). One of these studies also found more peritraumatic dissociation in the African American group and found that differences in both types of dissociation were explained by greater trauma exposure in the African American group (Zatzick et al., 1994). Future research might explore whether this pattern persists in mixed-gender community samples, because much of the previous research has focused on male combat veterans.

Treatment Considerations for African American PTSD Patients

Service Utilization. In the broader service utilization literature examining large samples, African Americans have typically been found to use fewer mental health services as compared to European Americans (Robins & Reiger, 1991; Swartz et al., 1998; Wang et al., 2005) and to have higher psychotherapy dropout rates (Sue, Zane, & Young, 1994). Some have suggested that African Americans prefer to seek mental health assistance from informal community-based sources such as churches (Mays, Caldwell, & Jackson, 1996) rather than professional therapists. However, studies of combat veterans have found that African Americans with and without PTSD made equivalent use of Veterans Administration (VA) mental health services as European Americans (Frueh et al., 2004; Rosenheck & Fontana, 1994). Similarly, studies of Manhattan and Connecticut residents following the September 11 attacks also found that African Americans were no less likely than European Americans to seek mental health services (Adams, Ford, & Dailey, 2004; Boscarino, Galea, Ahern, Resnick, & Vlahov, 2002; Ford, Adams, & Dailey, 2006). Another study reported no differences between African American and European American clients in dropout rates from

cognitive-behavioral psychotherapy for PTSD, again suggesting that African Americans use services similarly to European Americans (Zoellner et al., 1999). On the other hand, African American veterans were found in other studies to use fewer non-VA mental health services and self-help groups (Rosenheck & Fontana, 1994), to have poorer attendance in VA programs (Rosenheck, Fontana, & Cottrol, 1995), and to leave treatment earlier (Rosenheck & Fontana, 1996a) than European American veterans. Given the findings that African Americans generally underutilize mental health services, it is possible that their equivalent use of services in some trauma-focused studies reflects the following: lower stigma about seeking trauma-related mental health services (see Cooper-Patrick et al., 1997, for a discussion of mental health stigma in African American communities); easier access to services in studies conducted in urban (as opposed to rural) settings (see Holzer, Goldsmith, & Ciarlo, 1998, for a discussion of limitations of mental health services in rural areas); and/or more affordable services than might be typically available in the general community (see Brown et al., 2000, for a discussion of health insurance disparities among African Americans). These possibilities should be examined in future research.

Assessment. There is also evidence in the broader psychopathology literature of ethnic variation in the validity of diagnostic procedures. For example, studies show that African Americans have been overdiagnosed with schizophrenia and underdiagnosed with affective disorders (Neighbors & Williams, 2001). With regard to specific measures of PTSD, several instruments used to assess PTSD, including the *Mississippi Combat-Related PTSD Scale*, the *Keane PTSD Scale*, the *Clinician-Administered PTSD Scale*, and the *PTSD Checklist*, have been found to show similar psychometric properties in African Americans and European Americans (see Keane, Kaloupek, & Weathers, 1996, for a detailed review). However, other authors have cautioned about other factors that could interfere with the PTSD diagnostic process, especially when the clinician is European American. For example, African American patients may be more reluctant to discuss certain types of trauma with clinicians. Wyatt (1992) found that African American women were less willing than European American women to discuss sexual assault. In addition, clinical anecdote suggests that during an initial encounter with an unfamiliar European American therapist, African American patients may appear stoic and reserved, which may be mistaken for the PTSD symptoms of avoidance or numbing, or they may display "healthy paranoia," which may be mistaken for hypervigilance symptoms (Allen, 1996). Although the evidence for systematic misdiagnosis of African Americans is not incontrovertible (Neighbors et al., 1999), there have been reports of its contribution to excessive referrals for medication (White & Faustman, 1989) and underreferrals to psychotherapy (Paradis, Friedman, Lazar, Grubea, & Kesslman, 1992).

Psychotherapy. Much of the literature on treating African Americans with PTSD is addressed to European American clinicians and comes from clinical experience rather than formal studies. Nonetheless, several interesting recommendations have emerged that should be subjected to empirical scrutiny. For example, European American clinicians have been advised that they may have to work harder than usual to garner the trust of their African American clients because of the history outlined in our sociodemographic sketch. Because PTSD patients are hyperaware of danger cues, African American PTSD patients may be especially mistrustful of clinical settings in which other African Americans are absent. Thus, ethnoracial diversity in both clientele and clinic staff may be preferred (Penk & Allen, 1991). Finally, therapists may have to monitor and manage their own emotions when hearing about racial discrimination. Some clinicians may unwittingly respond to such emotions by becoming overly active, interpretive, or didactic in ways that may not be helpful to the client (Allen, 1996). These therapists might benefit their clients more by viewing the disclosure of discriminatory episodes as "tests" (see Pole & Bloomberg-Fretter, 2006) to ascertain the therapist's racial attitudes. All of these notions await formal empirical support.

Among the recommendations based on research is the suggestion to offer African American clients the option of an African American therapist. Rosenheck et al. (1995) found that ethnic matching may lead to somewhat better outcomes for African American PTSD patients, especially with regard to increasing their participation in treatment. On the other hand, African American practitioners may not be widely available. One study found that only

between 2% and 4% of mental health professionals in the United States are African American (Holzer et al., 1998). African American-only therapy groups may be attractive to those African American PTSD patients who feel safer among other African Americans and who want to contextualize their trauma within common African American experiences (Allen, 1996; Jones et al., 2000). Jones et al. (2000) found that one such group for combat-related PTSD had the added benefits of reducing social isolation, lowering inpatient hospitalizations, and increasing participation in mixed-race treatment programs. Notwithstanding potential benefits, ethnic matching may not be welcomed by all African American clients. It is possible that racially homogeneous therapy groups could be viewed by some clients as forced segregation. Thus, such matching should only occur with sensitive attention to the client's wishes.

Studies of psychotherapy outcomes in the broader literature have also identified some differences between African Americans and other groups. For example, African Americans showed less improvement than other ethnoracial groups in a large-scale study of treatments offered by the Los Angeles County mental health system (Sue et al., 1991) and in one study showed less maintenance of relief from panic attacks than European Americans following exposure therapy for agoraphobia (Williams & Chambless, 1994). Several studies have also addressed the question of whether African Americans are less responsive to psychotherapy for PTSD than European Americans. A study by Frueh, Turner, Beidel, Mirabella, and Jones (1996) examined outcome data in four African American and seven European American veterans with chronic combat-related PTSD following a multicomponent therapy, which included psychoeducation, in-session exposure, programmed practice of exposure outside of session, social/emotional skills training, and anger management. They found that both ethnic groups showed statistically significant improvement but European Americans showed improvement on more measures. Another study by Feske (2001) examined a series of five prolonged exposure treatments for PTSD in low-income African American and European American women. The author found that prolonged exposure led to clinically significant and reliable reductions in PTSD symptoms in all patients regardless of ethnicity. However, there was some indication that these low-income clients could have benefited from additional interventions targeting interpersonal problems and affect regulation. A multisite study of almost 5,000 veterans found that after controlling for sociodemographic and clinician characteristics, there were no overall differences on clinical ratings of improvement between African American and European American veterans (Rosenheck et al., 1995). Finally, a particularly well-designed study, in which 60 European American and 35 African American women with PTSD were randomly assigned to either cognitive-behavioral therapy or waitlist control, found no ethnic group differences in overall treatment efficacy (Zoellner et al., 1999). Taken together, the available evidence seems to imply that African Americans and European Americans draw equal benefit from PTSD-focused psychotherapy (Rosenheck & Fontana, 1996b; Zoellner et al., 1999). However, there is some evidence that even with apparently equivalent outcomes, ethnoracial minorities may experience less satisfaction, less commitment to treatment, and less improvement in the early phases of treatment (Fontana, Ford, & Rosenheck, 2003). These results invite a more careful look at the treatment process in African Americans.

PTSD IN LATINO AMERICANS

Sociodemographic Profile

Latinos are a diverse group who now constitute the largest minority group (12.5%) in the United States (U.S. Census Bureau, 2001). Unlike the other groups described in this article, Latinos are considered an "ethnic" rather than a "racial" group (U.S. Office of Management and Budget, 1978). Current estimates are that one out of five Americans will identify as Latino by 2010. Latinos include individuals whose heritage derives from Mexico (7.3%), Central America (4.8%), South America (3.8%), the Dominican Republic (2.2%), Puerto Rico (1.2%), Cuba (.4%), and Spain (.3%). Although most Latinos in the United States were born in the United States, some are recently immigrated or have family members who plan to immigrate. Thus, many Latinos are sensitive to immigration laws and related issues. Although Latinos obviously comprise a diverse group, most are unified by the Spanish language and the Catholic religion (Pole et al., 2005; Ruef, Litz, & Schlenger, 2000). Therefore, legislation pertaining to bilingualism and religious matters may be particularly important to this group (American Psychological

Association, 2003). In addition, a set of core values has been attributed to Latinos, including *familismo* (i.e., prioritizing the needs of the family over the needs of the individual), *simpatia* (i.e., valuing interpersonal harmony), *respeto* (i.e., deference and respect to individuals in authority), *personalismo* (i.e., valuing warm and emotionally involved social relationships; Fraga, Atkinson, & Wampold, 2004), and *fatalismo* (i.e., the belief that outcomes are predetermined and unalterable; Ruef et al., 2000). It is likely, however, that there is significant within-group variability in these values and in other factors, including geographic origin, citizenship or immigration status, circumstances under which the person may have left his or her country of origin (e.g., potential refugee status), generational level, acculturation level, educational background, political affiliation, and socioeconomic status (U.S. Census Bureau, 2001).

Prevalence and Prediction of PTSD in Latinos

Prevalence Comparisons With Non-Latino European Americans. Most large-scale epidemiological studies have reported that Latinos have lower rates of mood, anxiety, and other mental disorders than non-Latino Caucasians (Kessler et al., 2005; Robins & Regier, 1991; Zhang & Snowden, 1999). A few studies have reported higher rates of mood disorder (Kessler et al., 1994) or alcohol use disorders (Zhang & Snowden, 1999) among Latinos. With regard to PTSD, several studies have reported that, compared to non-Latino European Americans, Latinos have higher rates of PTSD or report more severe PTSD symptoms. This has been true in convenience samples of 655 police officers (Pole et al., 2001, 2005) and 5,475 treatment-seeking veterans (Rosenheck & Fontana, 1996a); age- and gender-matched samples of 404 survivors of Hurricane Andrew in Florida (Perilla, Norris, & Lavizzo, 2002) and 200 survivors of Hurricane Paulina in Mexico (Norris, Perilla, & Murphy, 2001); and representative samples of 1,173 Vietnam combat veterans (Kulka et al., 1990) and 988 survivors of the September 11 terrorist attacks in New York City (Galea et al., 2002). For example, Kulka et al. (1990) reported that the rate of current PTSD among Latino combat veterans was 27.9% as compared to 13.7% in their non-Latino European American counterparts. In addition, one study of 1,681 September 11 survivors found that Latinos were more likely to develop delayed-onset PTSD (Adams & Boscarino, 2006). Thus, although not every study has found elevated Latino PTSD rates (e.g., Penk et al., 1989), the bulk of the evidence indicates higher PTSD rates in this group.

Within-Group Variation in Prevalence of PTSD. Two within-group variables that appear to moderate the relationship between Latino ethnicity and PTSD are geographic origin (e.g., Puerto Rican versus Mexican American) and acculturation status (i.e., how closely Latinos adhere to their ancestral traditions and values versus those of the United States). In the realm of geographic origin, Caribbean Latinos may be more affected by PTSD than other Latino groups. Ortega and Rosenheck (2000) found that Puerto Rican (but not Mexican American) Vietnam veterans reported more severe PTSD symptoms than non-Latino European Americans. Wilcox, Briones, and Suess (1991) essentially replicated this result by showing that Puerto Rican veterans had more severe PTSD symptoms than Mexican American veterans. Among civilian survivors of the September 11 attack on New York City, Dominican and Puerto Rican Latinos had more severe PTSD symptoms (Galea et al., 2004) and Puerto Ricans had higher PTSD rates (Adams & Boscarino, 2005) than non-Latino European Americans. Although the reasons for these subgroup differences are unclear, there is evidence that they may be related to higher levels of known risk factors for PTSD (e.g., poor social support) in these subgroups (Galea et al., 2004). It is also possible that culture-bound syndromes may play a role. One such syndrome, ataques de nervios, has been found to be particularly prevalent among Caribbean Latinos, associated with stressful life events, and likely to coincide with higher rates of traditional anxiety disorders such as PTSD (Guarnaccia, Canino, Rubio-Stipec, & Bravo, 1993).

With regard to acculturation, some investigators have found that Latinos who more strongly endorse values and traditions native to their ancestral or personal countries of origin (i.e., those who are less acculturated to the United States) also report more severe PTSD symptoms (Escobar et al., 1983; Perilla et al., 2002). Although one study found no relationship between acculturation and PTSD among Latino Vietnam combat veterans (Ortega & Rosenheck, 2000), the authors noted that there was little opportunity to observe effects of low acculturation

because most of their sample was highly acculturated. If acculturation is an important moderator of PTSD among Latinos, then this could suggest that elements of traditional Latino cultural values may be partially responsible for elevated Latino PTSD rates. Such a conclusion would seem inconsistent with earlier evidence that Mexican Americans born in the United States have higher rates of mental disorder than those born in Mexico (Burnam, Hough, Karno, Escobar, & Telles, 1987), but neither acculturation nor PTSD was directly examined in the Burnam et al. (1987) study.

Differences in Exposure to Traumatic Stress. Unlike elevated rates of PTSD observed among African Americans, Latino PTSD rates have not been easily explained by differences in trauma exposure. Some studies that found elevated PTSD among Latinos also found that Latinos were not exposed to more trauma (Adams & Boscarino, 2005; Pole et al., 2001; Rosenheck & Fontana, 1996a). Even in studies where Latinos were more heavily exposed to trauma (e.g., Galea et al., 2004; Kulka et al., 1990; Perilla et al., 2002), controlling for trauma exposure did not fully account for their elevated PTSD rates. Furthermore, there is a reason to believe that exposure shares the same relationship with PTSD in both Latino and non-Latino groups (Norris et al., 2001). Thus, it is unlikely that Latinos are simply more sensitive to trauma exposure. Nonetheless, it is worth noting that some Latinos may have endured severe trauma in the context of war and other civil unrest prior to being exposed to the trauma to which their PTSD diagnoses were indexed. A study of Latino immigrants in primary-care clinics in California found that 54% of respondents reported political violence experiences and 8% reported torture in their home country (Eisenman, Gelberg, Liu, & Shapiro, 2003). Exposure like this may contribute to elevated PTSD levels and could offer an alternative explanation for the acculturation findings (e.g., Cervantes, Salgado, de Snyder, & Padilla, 1989).

Discrimination as a Contributor to PTSD. Exposure to racism has also been linked to PTSD in Latinos. At least two studies have shown that Latinos report more racial discrimination than non-Latino European Americans but less than non-Latino African Americans (Pole et al., 2005; Ruef et al., 2000). Interestingly, one of these studies found that Latino Vietnam veterans who reported experiencing ethnic discrimination also reported more severe PTSD symptoms than their African American counterparts (Ruef et al., 2000) and the other found that perceived discrimination partially explained higher levels of PTSD symptoms among Hispanic police officers as compared to African American or Caucasian officers (Pole et al., 2005). Thus, the possibility that ethnic discrimination may play a particular role in PTSD symptoms among Latinos should be explored in future research.

Differences in Coping and Social Support. Some Latinos may incorporate religious or fatalistic beliefs into their coping with traumatic events (Perilla et al., 2002). This could manifest itself as greater engagement in wishful thinking coping (e.g., responding to trauma with belief in miracles, faith, or luck) and/or self-blame coping (e.g., criticizing or lecturing themselves). Indeed, one study found that these coping styles, which were more prevalent among the Latinos in the sample, partially explained differences in PTSD symptom severity between Latino and non-Latino groups (Pole et al., 2005).

Greater social support is strongly associated with lower PTSD symptoms in the broader PTSD literature (Brewin, Andrews, & Valentine, 2000). Social support may be particularly important to some Latinos because of the greater collectivistic values attributed to this group. For example, some Latinos may have greater need for social support than members of individualistic ethnic groups and may be more sensitive to its absence. Ford et al. (2006) found that Latinos in Connecticut following the September 11 attacks were more likely than non-Latino Caucasians to seek peer support. Escobar et al. (1983) reported that their Latino sample preferred larger, denser social networks than their non-Latino European American sample and that Latinos with poor social relationships had more intense PTSD symptoms. Another study reported that Latino veterans in the NVVRS (who had high rates of PTSD) also had less camaraderie and less social support from their fellow soldiers than both non-Latino European American and African American veterans (Ruef et al., 2000). Finally, other investigators have found that differences in social support partially explained elevated PTSD among Latino police officers (Pole et al., 2005) and civilian survivors of terrorism (Galea et al., 2004).

Differences in Peritraumatic Dissociation. Because culture-bound dissociative syndromes have been widely reported in Latin America (Escobar, 1995) and peritraumatic dissociation has been identified as a robust risk factor for PTSD (Ozer et al., 2003), studies have investigated whether elevated peritraumatic dissociation among Latinos accounts for elevated PTSD in this group. One study found that greater adherence to Latino cultural norms was associated with greater peritraumatic dissociation (Marshall & Orlando, 2002). Another study found that elevated peritraumatic dissociation among Latinos was one of the most important variables accounting for PTSD differences between Latino and non-Latino European Americans (Pole et al., 2005). Although another study failed to find differences between Latino and non-Latino European Americans in either trait or peritraumatic dissociation (Zatzick et al., 1994), it appears to have lacked the statistical power to do so (see Pole et al., 2005).

Reporting Style. A commonly proposed alternative explanation for elevated PTSD among Latinos is that Latinos may exaggerate distress as a matter of cultural style. In support of this theory, one study found that Latinos who reported higher levels of PTSD symptoms were not more functionally impaired than their non-Latino European American counterparts. This suggested to the authors that Latinos may be reporting posttraumatic distress at a level that is higher than their actual clinical impairment (Ortega & Rosenheck, 2000). On the other hand, other investigators have found evidence that runs counter to the overreporting theory. Norris et al. (2001) found that after statistically correcting measures of PTSD symptoms for overreporting bias, the group differences between Latinos and non-Latinos remained. Furthermore, Pole et al. (2005) found that Latinos showed a reporting bias in the opposite direction, namely in the direction of underreporting distress due to exaggerated social desirability concerns. This result is also consistent with Latino cultural values of downplaying distress and adopting a stoic stance (Ruef et al., 2000). In addition, an over-reporting bias is inconsistent with epidemiological findings of lower rates of many mental disorders among Latinos. Nonetheless, future studies should closely examine reporting style as a contributor to elevated PTSD rates in Latinos.

Treatment Considerations for Latino PTSD Patients

Service Utilization. In the broader service utilization literature, Latinos have been found to use fewer mental health services than their non-Latino European American counterparts (Hough et al., 1987; Snowden & Cheung, 1990; Vega, Kolody, Aguilar-Gaxiola, & Catalano, 1999; Wang et al., 2005). The literature on service utilization in Latino Americans with PTSD is less well developed than the corresponding African American literature. In general, there is little evidence that Latino trauma survivors use mental health services differently than their European American counterparts. For example, randomized studies of Manhattan and Connecticut residents following the September 11 attacks found that Latinos were no more or less likely than European Americans to seek professional mental health services (Adams et al., 2004; Boscarino et al., 2002; Ford et al., 2006). However, one study found that Mexican American veterans used fewer non-VA mental health services and self-help groups than their non-Latino European American counterparts. No such difference was observed between Puerto Rican veterans and non-Latino European American veterans in that study (Rosenheck & Fontana, 1994). Thus, as was true with African Americans, Latinos in the community may not show many differences in service utilization following large-scale traumatic events, in which stigma for seeking help is minimized. However, more research is needed before definitive conclusions can be drawn.

Assessment. The assessment of PTSD in Latino patients may be complicated by at least four factors. The first is that many Latinos prefer Spanish as their primary language, especially when discussing emotional or personally salient topics (Altarriba, 2003). Thus, it seems important that the clinician and the assessment instruments should be appropriately matched to the client's language preferences and examined for conceptual equivalence (Okazaki & Sue, 1998). Second, and related, some PTSD assessment instruments (e.g., the Civilian Mississippi Scale) may have different psychometric properties with Latino groups (Bourque & Shen, 2005). Third, some Latinos may use somatic complaints as "idioms of distress" rather than directly reporting emotional distress (Ruef et al., 2000), which make diagnosis of the emotional symptoms of PTSD more difficult. Finally,

Latino PTSD patients may present with a symptom that is not commonly seen in PTSD (i.e., auditory hallucinations). A few studies have found that even though auditory hallucinations are rarely reported among PTSD patients, Latinos tend to be overrepresented among those reporting this symptom (Mueser & Butler, 1987; Wilcox et al., 1991). More work is needed to understand these symptoms in terms of PTSD.

Psychotherapy. Although we could find no formal studies of psychotherapy for PTSD with Latinos, we identified some potentially relevant factors that could be examined in future research. First, because Spanish language may be important to Latino clients, the benefit of Spanish-speaking or bilingual therapists should be examined. Even when Latino clients speak English fluently, empirical evidence suggests that those who speak Spanish may recall more details (Javier, Barroso, & Muqoz, 1993) and tap into deeper emotions (Altarriba, 2003) when they speak in Spanish. Second, to the extent that familismo is important to particular Latino clients, family therapy may have special significance and should be tested for its differential efficacy in this group. Similarly, investigators could determine whether Latino clients who endorse respeto may be more compliant with their therapists' requests, which could lead to faster response rates in this group. Finally, researchers could examine whether Latinos who endorse personalismo prefer therapy relationships characterized by greater emotional warmth than is offered within typical professional boundaries (Fraga et al., 2004).

PTSD IN ASIAN AND PACIFIC ISLANDER AMERICANS

Sociodemographic Profile

Asian and Pacific Islander Americans (APIA) constitute 4.4% of the total population (approximately 12.5 million persons) in the United States and are one of the fastest growing racial groups in America (U.S. Census Bureau, 2001). APIAs have the dubious honor of carrying the reputation of being a "model minority" group (Sue, Sue, Sue, & Takeuchi, 1995), in that many assume that APIAs do not have the problems commonly found in other minority groups (e.g., poverty, feelings of alienation, experiences of racial discrimination, and disproportionate exposure to stress). However, the truth is much more complicated. More than 40 subgroups constitute this heterogeneous population, including Asian Indians, Cambodians, Chinese, Filipinos, Japanese, Koreans, Vietnamese, and Pacific Islanders. Their dissimilar cultural and ethnic backgrounds, native languages, and circumstances for migrating to the United States (for those who were not born in the United States) greatly limit the generalizations that can be made about them (Lee, Lei, & Sue, 2001). However, like Latinos, APIA cultures may be more collectivistic than their European American counterparts. As such, they may define their identity in terms of a larger social unit, value maintaining harmony and interdependence with others, show greater adherence to social norms, and subordinate individual desires to the will of the group (Fiske, Kitayama, Markus, & Nisbett, 1998). Also like Latinos, APIAs may not speak English as their primary language. APIAs may also adopt APIA spiritual and religious traditions, such as those found in Hinduism and Buddhism, which tend to promote endurance in the face of suffering and acceptance of one's fate (Sue & Sue, 1987).

Prevalence and Prediction of PTSD in Asian and Pacific Islander Americans

Prevalence Comparisons With European Americans. Because of their relatively low presence in many regions of the country, APIAs often appear in insufficient numbers in nationally representative samples to permit stable estimates of their psychopathology rates (e.g., Kessler et al., 1994, 2005). Most studies that have been able to estimate psychopathology rates among APIAs conclude that this group shows lower rates of most mental disorders than their European American counterparts (Makimoto, 1998; Sue et al., 1995; Takeuchi et al., 1998; Zhang & Snowden, 1999). With regard to PTSD, the literature comparing APIAs with European Americans is limited. We found only one study that has directly compared these two groups. The Hawaii Vietnam Veterans Project (HVVP) examined 100 Native Hawaiians and 102 Japanese Americans, who were a clinical subsample of a random sample of male veterans, in comparison with their counterparts from the NVVRS. The authors found that Japanese American veterans had significantly lower rates of current PTSD (1.9% versus 11.8%) and lifetime PTSD (8.8% versus 22.4%) than European American veterans in the NVVRS. Native Hawaiian veterans showed equivalent current PTSD rates to their European

American counterparts (11.8% versus 11.8%), a non-significant trend for higher lifetime PTSD rates (38.7% versus 22.4%), and reported significantly more severe PTSD symptoms (Friedman, Schnurr, Sengupta, Holmes, & Ashcraft, 2004).

Within-Group Variation. The findings of the HVVP indicate that understanding PTSD among APIAs requires a consideration of geographic subgroups. For example, the basic finding of the HVVP was anticipated by an earlier study of 44 Asian Pacific Islander Vietnam veterans, which reported the following prevalence rates of PTSD among APIA subgroups: Japanese Americans (0%), Chinese Americans (13%), Native Hawaiians (29%), and Other (Koreans, Filipinos, and Samoans combined, 40%; Matsuoka & Hamada, 1991/1992). Another Asian subgroup that has gained the attention of trauma researchers is Southeast Asian refugees, whose trauma histories commonly include war, torture, murder of family members, political persecution, loss of personal possessions, separation from family, and incarceration (Hsu, Davies, & Hansen, 2004). In convenience samples of 322 and 400 Southeast Asian refugees drawn from psychiatric and community-based clinics, respectively, Cambodian and Hmong refugees had some of the highest PTSD rates, Laotian refugees had somewhat less, and Vietnamese refugees showed the lowest PTSD rates (Kinzie et al., 1990; Kroll et al., 1989). Future research will have to address itself to whether acculturation, education, income, and other factors moderate risk for PTSD in this heterogeneous group.

Differences in Exposure to Traumatic Stress. Differences in trauma exposure seem to be important in understanding both differences between Asian groups and European American groups, as well as differences within APIA subgroups. In a study of 52 patients in a Southeast Asian refugee psychiatric clinic, Cambodian refugees, who had the highest PTSD rates, typically experienced more refugee-related trauma than other Southeast Asian groups (e.g., Vietnamese and Laotian; Mollica, Wyshak, & Lavelle, 1987). Among Vietnam veterans, Japanese American veterans not only had the lowest PTSD rate but also had the lowest exposure to combat of all ethnic groups. Native Hawaiian veterans, on the other hand, who had a much higher PTSD rate, served the longest in Vietnam (Friedman et al., 2004). Interestingly, statistical adjustment for wartime exposure did not fully explain the lower rates of PTSD among Japanese American veterans (Friedman et al., 2004), suggesting that other factors may be at play. One possibility is that Japanese individuals could be less exposed to childhood trauma. Mizuta et al. (2005) examined the prevalence of traumatic events in a convenience sample of 833 college-aged Japanese women and found, after excluding exposure to the 1995 Kobe earthquake and other natural disasters, the rates of trauma exposure were comparable to those found in Western samples except that the Japanese subjects reported significantly less childhood trauma. Because childhood trauma may confer special vulnerability for adulthood PTSD (Brewin et al., 2000; Otte et al., 2005; Pole et al., 2007), lower childhood exposure could result in lower PTSD rates among Japanese adults.

Acculturative Stress. Many APIA subgroups with elevated PTSD rates have also been exposed to disproportionately high acculturative stress. Families, the primary social unit of Asian cultures, are greatly impacted by changes that accompany immigration to the United States (e.g., changes in gender roles, role reversals between children and parents, differential rates of acculturation of different generations, and separations from immediate and/or extended family members who once provided important social support; Hsu et al., 2004). These can all influence background stress levels and theoretically increase vulnerability to PTSD symptoms (Carr, Lewin, Kenardy, & Webster, 1997). Financial strain and poverty may, in some cases, also contribute to traumatic stress symptoms, as was suggested by the elevations of PTSD symptoms in several APIA samples, including Native Hawaiian veterans in the HVVP (Friedman et al., 2004), a convenience sample of 77 displaced Chinese immigrant workers in New York City after the World Trade Center attacks (de Bocanegra & Brickman, 2004), and a psychiatric clinic sample of 322 Southeast Asian refugees (Kinzie et al., 1990).

Discrimination as a Contributor to PTSD. Although APIAs are often overlooked in discussions of racial discrimination, there is evidence that Asian American Vietnam veterans reported considerable racism (verbal and physical assaults) and race-related military stress (e.g., being mistaken for

Vietnamese, marginalization within their military units, or identification with the Vietnamese "enemy"; (Matsuoka & Hamada, 1991/1992). One study found that after controlling for combat exposure, reported exposure to race-related stressors accounted for an additional 20% of the variance in PTSD symptoms in 300 Asian American veterans (Loo et al., 2001). Future research should investigate whether racial discrimination plays a role in PTSD rates among civilian APIAs as well.

Reporting Style. Finally, differences in reporting style have also been implicated in explaining disparities in PTSD rates between Asians and other groups. Research has repeatedly documented that APIA populations may be more reluctant than European Americans to publicly disclose mental health distress and traumatic events, even among family and friends (e.g., Zhang, Snowden, & Sue, 1998). Asian cultures may discourage public displays of strong or negative emotions, encourage moderate expression of emotion (Matsumoto, 1992), and view emotional control as a sign of strength (Friedman et al., 2004). Religious traditions common to many APIA cultures may further discourage complaining about distress, which could also contribute to underreporting (Sue & Sue, 1987). Japanese culture, which has historically viewed mental disorder with shame and stigma (Friedman et al., 2004), also reports particularly low rates of mental disorder. Thus, the finding of lower PTSD among Japanese American veterans may be an artifact of culture-related reporting. On the other hand, these findings may reflect true differences in the experiencing of distressing emotions. If so, APIA cultures may have important lessons to teach about resilience to PTSD.

Treatment Considerations for Asian PTSD Patients

Service Utilization. Compared to the literature on African Americans and Latinos, there are even fewer studies examining service utilization among APIAs at risk for PTSD. One important exception is a study of Manhattan residents (described above), which found that Asian Americans were no more or less likely than European Americans to seek post–September 11 mental health services (Boscarino et al., 2002). Although this study found no differences in service utilization, research on general mental health service utilization and help-seeking behavior among Asians paints a different picture. Such studies suggest that APIAs underutilize mental health services and are more likely to prematurely terminate psychotherapy than European Americans (Leong, 1994; Matsuoka, Breaux, & Ryujin, 1997; Snowden & Cheung, 1990; Zhang et al., 1998). These studies imply that APIAs may use mental health services as a last resort after attempts to help themselves (Sue & Sue, 1987) or to seek help from family, friends, and community leaders (e.g., spiritual leaders, elders, or traditional healers) have been exhausted. When they seek professional help, APIAs are thought to be more likely to do so for "somatic" distress than "mental" distress (Zhang et al., 1998) and to exhibit more severe distress than their European American counterparts (Durvasula & Sue, 1996). These findings are consistent with the cultural stigma regarding mental health problems as discussed above, the collectivist nature of many APIA cultures (Sue & Andronico, 1996), and the common view in some APIA groups that psychological difficulties are biologically based. However, it is important to remember that these findings may not apply to particular APIA individuals or subgroups. Furthermore, because these findings are inconsistent with Boscarino and colleagues' (2002) results, it is possible that the findings do not apply to help seeking following a large-scale traumatic event, which may be less stigmatizing. This possibility should be pursued in future research.

Assessment. The assessment of PTSD in APIAs could be influenced by several of the factors described above, including their great within-group diversity, language barriers, and potential cultural prohibitions against public displays of distress. Studies should investigate whether knowledge of apparent differences in base rates of PTSD improves diagnostic accuracy. For example, does knowing that PTSD appears to be more common among Southeast Asian refugees than Japanese American Vietnam veterans contribute to more valid diagnoses? In addition, can sensitivity to cultural differences in disclosure (e.g., knowing that discussing private matters outside the family can be taboo and considered disrespectful to one's family; Kokai, Fujii, Shinfuku, & Edwards, 2004; Pangamala & Plummer, 1998) lead to more accurate assessment of trauma history? Similarly, how can knowledge of cultural styles of symptom reporting, for example, somatization (Friedman et al., 2004) or neurasthenia

(Lee et al., 2001), be incorporated into the assessment process? Finally, how can clinicians guard against underdiagnosing psychopathology because of assumptions that APIAs are a problem-free, "model minority" group (Sue et al., 1995)?

Psychotherapy. The broader treatment outcome literature indicates, as compared to European Americans, that APIA clients may receive similar or less benefit from psychotherapy (Sue et al., 1991). We could find no studies bearing directly on the question of how psychotherapies should be modified to meet the needs of APIA PTSD clients or on the question of whether conventional therapies work for APIA PTSD patients. However, the following issues seem important to examine in future research. First, given the supposed salience of the family and the community in the mental health experience of APIAs (Sue & Sue, 1987), it would be interesting to know whether interventions aimed at the collectivistic level (e.g., family or group therapy) would be more effective than interventions aimed at the individualistic level (e.g., traditional individual psychotherapy)? Although one might expect that collectivistic therapy would be preferred, it is possible that discussing trauma or mental distress in a group setting would bring more shame and stigma than using an individualistic approach. Second, because some studies have found ethnic and linguistic match to reduce premature dropouts in Asian clients (Sue et al., 1991), one might examine the role of such matching in treatment for PTSD and whether feelings of stigma moderate the efficacy of matching. Third, some have suggested collaboration with community and spiritual leaders to develop culturally sensitive interventions (de Bocanegra & Brickman, 2004). Such interventions might incorporate religious (e.g., Buddhist) principles and other APIA philosophies into treatment to the extent that these principles are welcomed by the individual client and include awareness of acculturative stress. Research already demonstrates that treatment programs specifically designed with sensitivity to these issues have been associated with fewer premature treatment terminations than mainstream mental health services (Hu et al., 1991; Takeuchi, Sue, & Yeh, 1995). It remains to be seen whether such effects would be observed for PTSD patients and whether these culture-sensitive treatments would result in superior outcomes.

PTSD IN AMERICAN INDIANS

Sociodemographic Profile

American Indians are the contemporary descendents of some 5 million aboriginal inhabitants of what is now the coterminous United States (Thornton, 1987). Currently, American Indians are the only ethnocultural group in the country afforded the sovereign powers of nationhood as derived from the Commerce and Treaty clauses of the U.S. Constitution (Pevar, 2004). During the most recent U.S. Census (U.S. Census Bureau, 2001), about 1.5% of the population identified as American Indian or Alaskan Native, including 4.1 million Americans who identified as solely or partly Indian by ancestry. Only a fraction of these (1.4 million) are citizens of the more than 560 federally recognized Tribal Nations (U.S. Department of the Interior, 2002). Today, almost two-thirds reside off reservation lands, many in urban and suburban areas of the country. With scores of tribal languages and religious traditions still practiced today, the cultural diversity of North American Indians rivals that of Europe. Following centuries of European American colonial incursion, American Indians have survived innumerable dangers to their individual and communal well-being, including centuries of forced relocation and genocide that has yielded disproportionately high poverty, homelessness, and infant mortality rates, and lower-than-average life expectancies (Indian Health Service, 1998–99). Thus, attention to trauma and its effects would seem especially important for this group. However, given the relative rarity, cultural diversity, and geographic dispersion of this population, American Indians are difficult to study (for more general overviews, see Gone, 2003, 2004b, 2006b).

Prevalence and Prediction of PTSD in American Indians

Prevalence Comparisons With European Americans. Like APIAs, American Indians are usually present in such small numbers in nationally representative epidemiological studies that stable psychopathology rates for this group are impractical to calculate (e.g., Kessler et al., 1994, 2005). Nonetheless, there is evidence that American Indians have higher levels of alcohol abuse and dependence, higher suicide rates (Alcàntara & Gone, 2007), and more "mental distress" (Centers for Disease Control and Prevention, 1998) than the general population. The literature comparing PTSD rates in American Indians with European Americans is sparse. One of the few

cross-ethnic epidemiological studies in the literature, the American Indian Vietnam Veterans Project, compared a stratified random sample of 621 reservation-based Northern Plains and Southwest American Indian veterans with their European American NVVRS counterparts (Beals et al., 2002). This study found that the lifetime prevalence of PTSD among the two Native veteran groups (57% and 45%, respectively) was nearly double that of European American veterans—in fact, Indian veterans experienced the highest rates of PTSD among any NVVRS ethnic group. More direct comparative work is needed to establish the generalizability of these findings.

Within-Group Variation. Beals et al. (2005) were among the few to compare PTSD rates among subgroups of American Indians. Even though American Indians from Northern Plains and Southwest reservation communities are quite different in many cultural and historical respects, the researchers found that lifetime prevalence rates of PTSD did not differ significantly between them. In a sample of 3,084 American Indian respondents, the Northern Plains and Southwest population rates were 14.2% and 16.1%, respectively, which was about twice the national average (7.8%), as reported in the National Comorbidity Survey (Kessler et al., 1994). Other studies in the literature report PTSD prevalence rates in particular American Indian samples without making any comparisons. Some of these rates are surprisingly high for nontreatment-seeking samples. For example, Robin, Chester, Rasmussen, Jaranson, and Goldman (1997) reported a 21.9% lifetime prevalence of PTSD in a sample of 247 respondents drawn from three large Southwestern American Indian families. Another study assessed 109 American Indian adolescents from a single Northern Plains reservation and found that only 3% met criteria for diagnosable PTSD (Jones, Dauphinais, Sack, & Somervell, 1997). These discrepancies suggest that there may be important subgroup differences among American Indians in PTSD rates that warrant further research.

Differences in Exposure to Traumatic Stress. Like African American, Latino, and Native Hawaiian Vietnam veterans, American Indian Vietnam veterans reported more exposure to combat, violence, atrocities, and deprivation than their European American counterparts. In the American Indian Vietnam Veterans Project described above, statistically controlling for exposure variables fully explained the higher American Indian PTSD rates (Beals et al., 2002). There is also a reason to believe that higher exposure could explain higher PTSD rates observed among civilian American Indians. National data suggest that American Indians may be more exposed to violence than many other ethnoracial groups (Bureau of Justice Statistics, 1999). Approximately two-thirds of the Northern Plains and Southwest reservation populations reported lifetime exposure to traumatic experiences exceeding the rate of lifetime exposure in the general U.S. population (Manson, Beals, Klein, Croy, & the AI-SUPERPFP Team, 2005) as estimated in the National Comorbidity Survey (Kessler et al., 1995). Although this difference in lifetime trauma exposure was not substantial, it is worth remembering that American Indians also have a notable multigenerational trauma history that may impact their risk for PTSD in ways that have yet to be studied. The assessment of multigenerational trauma poses many challenges to the field, but some investigators have made a promising start toward this end (e.g., Whitbeck, Adams, Hoyt, & Chen, 2004).

Reporting Style. Results of epidemiological findings for American Indians may well be distorted by cultural variations in the experience and expression of trauma-related distress (Manson et al., 1985). For example, in the most recent study of prevalence rates for psychiatric disorders in Northern Plains and Southwest Indian reservation communities (Beals et al., 2005), diagnostic outcomes from the two major assessment instruments used in the study diverged substantially for some disorders, including PTSD. Gone (2001) concluded that cultural styles of communication in the respective interview contexts might help to explain otherwise irreconcilable results.

Treatment Considerations for American Indian PTSD Patients

Service Utilization. The most definitive contemporary study of Native American service utilization (Beals et al., 2005) revealed that two-thirds of reservation community members who suffered from a lifetime depressive or anxiety disorder had sought help for their problems. Those experiencing a depressive or an anxiety disorder and a

comorbid substance use disorder were even more likely to seek assistance. Furthermore, in one of these reservation contexts, tribal members were more likely to seek help from traditional healers than from either mental health or other medical professionals, respectively. Similarly, another study reported that relative to European Americans with PTSD, American Indians with PTSD encounter more barriers to VA mental health services and underutilized these services in favor of other professional and nonprofessional therapies, especially traditional or alternative treatments (Westermeyer, Canive, Thuras, Chesness, & Thompson, 2002). The preference for traditional healers may be due to understandable mistrust of European American institutions (Gone, 2007), lack of available services in the rural settings in which some American Indians live (Rodenhauser, 1994), and/or the relative lack of health insurance in this group (Brown et al., 2000).

Assessment. In addition to the possible reporting style differences described above, the assessment of PTSD in American Indians may be influenced by different conceptualizations and presentations of psychiatric disorders in Native communities (e.g., Nelson & Manson, 2000). For instance, a few studies have found a different factor structure of depression in American Indian samples (Chapleski, Lamphere, Kaczynski, Lichtenberg, & Dwyer, 1997) implying less distinction between emotional and somatic symptoms in this group (Somervell et al., 1993). Future studies should examine whether such differences also occur in the conceptualization of PTSD. Furthermore, the diagnosis of PTSD may be complicated by the effects of generations of marginalization, discrimination, and genocide. For example, given that many American Indians consider themselves survivors of a European American colonial holocaust (Duran, Duran, Yellow Horse Brave Heart, & Yellow Horse-Davis, 1998; Yellow Horse Brave Heart & DeBruyn, 1998), they might be expected to experience a sense of foreshortened future. Yet, an uninformed clinician might view this complaint as only a cognitive distortion caused by PTSD. Another complication in the assessment of PTSD in some of these communities is accounting for the high prevalence of alcohol abuse and dependence (Walker, Howard, Anderson, & Lambert, 1994), which may be comorbid with PTSD (Howard, Walker, Suchinsky, & Anderson, 1996), increase vulnerability for PTSD (Westermeyer, 2001), or make PTSD harder to detect. These issues may make differential diagnosis particularly difficult in this population. Beyond this, there has been little formal comparative investigation of the ways that assessment and diagnosis of PTSD may differ for American Indians, but such studies should be undertaken in the future.

Psychotherapy. Although we could identify no studies focused specifically on culture-sensitive therapies or outcomes of mainstream therapies for American Indians with PTSD, the literature makes frequent reference to recommendations from experienced clinicians and American Indian community members that should be formally investigated in research (Gone, in press; Gone & Alcàntara, 2007). For example, many recommend incorporating traditional Native American healing practices into mainstream treatment interventions (Scurfield, 1995; Silver & Wilson, 1988) and many tribal communities have done so, especially in the realm of substance abuse treatment wherein trauma is frequently posited as an etiology of addiction (Gone, in press). Clinicians have been encouraged to consult with spiritual leaders and participate in traditional ceremonies involving members of the community who serve an important role in facilitating recovery and restoration to wellness (Gone, 2004a). For example, in an anthropological study, O'Nell (1999) described the "coming home" of Northern Plains Vietnam veterans, in which therapeutic transformations in the meaning of combat experience is facilitated through ritualized talk about war experiences during solemn community gatherings. Such talk occurred in the public assumption of age-related obligations to family and tribe usually assumed only later in life. When these kinds of traditional practices are examined in research, it would also seem important to assess the compatibility of these approaches with the individual client's values and ethnic identity as a potential moderator of efficacy (Gone, 2006a).

GENERAL DISCUSSION OF PTSD IN ETHNORACIAL MINORITIES

Our review revealed some evidence of higher PTSD rates or more severe PTSD symptoms among African Americans (e.g., Kulka et al., 1990), Latino Americans (e.g., Pole et al., 2001), Pacific Islander Americans (e.g., Friedman et al., 2004), and American Indians (e.g., Beals

et al., 2002) as compared to their European American counterparts. This finding was particularly well replicated for Latino Americans. We also found that within ethnic minority groups, PTSD diagnoses and symptom severity varied by subgroup membership, implicating subgroup considerations in future PTSD research with ethnic minority groups. For example, Caribbean Latinos often had higher PTSD rates than Mexican Latinos (e.g., Galea et al., 2004) and unlike other APIA groups, Japanese Americans had lower PTSD rates than European Americans (Friedman et al., 2004). The fact that ethnic differences in PTSD were not more consistently found and reported may be related to the small effect size associated with ethnic minority status and PTSD. Brewin and colleagues' (2000) meta-analysis estimated the average population effect size of ethnic minority status at $r = .05$ (although individual effect sizes ranged from $r = -.27$ to $r = .39$). A small effect size requires a large sample size to detect significant group differences. Thus, we might only realistically expect to find some ethnic group differences in studies involving hundreds of participants (or more). Unfortunately, most studies that meet this criterion employ statistical controls before reporting ethnic group differences in PTSD (e.g., Breslau et al., 1998; Kessler et al., 1995). We recommend that group differences should be reported both before and after statistical adjustments.

In our review, we saw examples of *pretrauma variables*, *index trauma variables*, and *posttrauma variables* that may distinguish minorities from European Americans and influence the path to and the rate of recovery from PTSD (see Table 1). Because PTSD is diagnosed with respect to an index trauma, pretrauma variables may include those that occur prior to the index trauma such as level of acculturation and prior exposure to traumatic (e.g., refugee experiences) and nontraumatic (e.g., racial discrimination) stressors. Index trauma variables include those that influence the likelihood or magnitude of exposure to the index trauma (e.g., assignment to the most dangerous combat duties) or quality of response during the index trauma (e.g., elevated peritraumatic dissociation among Latinos). Posttrauma variables include all those that occur in the days, weeks, and years following the index trauma and influence the trajectory of trauma recovery. To illustrate, we observed ethnic minority differences in coping (e.g., religion in African Americans), expressing distress (e.g., somatization in Latino and Asian Americans), utilizing professional services (e.g., American Indians seeking traditional rather than professional therapies), and participating in psychotherapy (e.g., African Americans seeking ethnic match). Any or all of these pretrauma, index trauma, and posttrauma differences could contribute to elevated or reduced PTSD rates.

Regardless of what accounts for the higher rates of PTSD sometimes observed among minority groups, from a public health perspective, elevated risk raises questions about the efficacy of the existing assessment

Table 1. Potential contributors to ethnoracial variation in PTSD prevalence, service utilization, assessment, and treatment

Pretrauma variables	Index trauma variables	Posttrauma variables
Ethnoracial group[ac]	Differential risk of trauma	Reliability and validity of assessment[ac]
Geographic subgroup[ac]	Exposure[ac]	Coping style[ac]
Ethnic identity	Peritraumatic dissociation[abc]	Posttrauma life stress[b]
Acculturation[a]	Peritraumatic distress[b]	Disclosure of trauma[c]
Prior trauma exposure[c]	Cultural meaning of trauma[c]	Expression of emotions and/or distress[c]
Multigenerational trauma exposure	Trauma severity[bc]	Stigma about mental illness[c]
Prior ethnoracial discrimination[a]	Perceived life threat[b]	Social support[ac]
Acculturative stress		Service utilization[c]
Socioeconomic status/poverty		Comorbid psychopathology[ac]
Cultural values/beliefs/practices		Culture-specific symptoms or syndromes[c]
Reporting style/response set[ac]		Culture-sensitive therapy[c]
Age[b]		Therapy participation[c]
Gender[b]		Therapy efficacy
Education[b]		
Childhood trauma[bc]		
Family history of psychopathology[b]		
Psychiatric history[b]		

[a]This variable has been associated with PTSD by one or more studies in this review. [b]This variable has been associated with PTSD in other reviews cited in this article. [c]One or more ethnoracial groups showed differences on this variable in studies described in this review.

and treatment services for these populations. In the event of a large-scale disaster in the United States, ethnic minorities may be disproportionately afflicted with PTSD and consequently more in need of services. Although our review yielded empirical evidence that some ethnic minorities may be less inclined to use such services (e.g., Westermeyer et al., 2002), it is encouraging that studies focused on service utilization after a major disaster typically found no differences between minorities and their European American counterparts (e.g., Boscarino et al., 2002). Unfortunately, there is woefully little hard evidence on the question of whether assessment and treatment should proceed with ethnic minorities, as it does with European Americans or whether "culturally sensitive" modifications (e.g., Penk & Allen, 1991) should be applied. Nonetheless, until clear research findings are available, it seems reasonable to consider the recommendations of clinicians who are experienced in working with these populations, such as offering the option of including other ethnic minorities in the treatment; modifying the usual professional stance to one of greater warmth and personal involvement if requested by certain clients; increasing the therapist's awareness of his or her own prejudices, discomforts, and stereotypic notions (American Psychological Association, 2003); providing ethnic and linguistic match when appropriate; and collaborating with traditional healers (e.g., medicine men) and religious institutions when indicated. All of these recommendations should proceed with sensitivity to the client's level of ethnic identity development and/or acculturation. However, it is possible that following these recommendations will make no difference or lead to worse outcomes. We simply will not know without more research.

RECOMMENDATIONS FOR FUTURE RESEARCH

Perhaps the most important lesson to emerge from our review is that more focused research is needed to answer basic questions regarding PTSD in ethnoracial minorities. We think that it is useful to organize the areas for future inquiry within the framework of pretrauma, index trauma, and posttrauma variables. Whenever relevant, these variables should be examined within the same study to systematically elucidate their relative importance to ethnoracial variation in PTSD. In addition, associated features of PTSD such as depression, other anxiety disorders, and substance abuse should also be assessed as potential outcomes.

Pretrauma Variables

The most basic relevant pretrauma variable is ethnic or racial group membership. Investigators should prioritize studying groups that have been relatively understudied. For example, APIAs are among the fastest growing groups in the United States, but they are very underrepresented in the PTSD literature. Second, studies that lump together different ethnic minority groups into a single category (e.g., Breslau et al., 1998; Sutker, Davis, Uddo, & Ditta, 1995) should wherever possible also categorize the participants into one of the four categories presented in this article, which would be consistent with other large-scale national efforts (e.g., U.S. Department of Health and Human Services, 2001) and therefore facilitate comparisons across studies and expedite the accumulation of knowledge. When feasible, authors should also consider presenting their data in terms of the subgroups that have emerged as important in this review (e.g., Caribbean Latinos and Japanese Americans) and subgroups that may be important in the future because of their unique trauma histories (e.g., recent trauma-exposed refugees from Africa and Asia; Pham, Weinstein, & Longman, 2004). These groups should be sampled in sufficient numbers to permit statistical comparisons and with an effort to ensure that they adequately represent minorities in the nation. The latter goal differs from ensuring that minorities are represented in equal proportion to their population statistics. In randomized epidemiological studies, this will likely mean "oversampling" minority groups in stratified designs that target key variables that characterize these groups according to the best Census estimates (e.g., geographic distribution, education, income). Such studies should also take care to sample both household members and individuals who may be homeless, residing in institutions (e.g., jails or shelters), or living in remote rural areas (e.g., without telephones) because minorities may be "overrepresented" in contexts outside of the household (U.S. Department of Health and Human Services, 2001). In smaller-scale convenience samples, investigators may have to employ techniques such as snowball sampling (an approach in which underrepresented participants are asked to recruit others like themselves) or collaborating with investigators in other geographic regions to increase the participation of otherwise difficult-to-reach individuals (Okazaki & Sue, 1998). Studies of convenience samples should also measure

and report relevant demographic variables (e.g., religiosity, socioeconomic status, ethnic identity, acculturation), so that others can judge the representativeness of the achieved samples. We recognize that following these recommendations will be further complicated by the fact that many people identify as bicultural or multicultural. We recommend allowing research participants to endorse multiple ethnocultural categories and to subsequently determine whether those who endorse multiple ethnicities differ from those who endorse one. If not, it may make sense to recode multiethnic responders into one or more of their four "parent" categories.

We also recommend that investigators should routinely gather and report information on variables such as immigration status and immigration stress, acculturation, ethnic identity, discrimination experiences, and socioeconomic status, and determine whether these variables moderate ethnic group effects on PTSD. We would consider this approach more informative than statistically controlling for these variables. At the very least, it will provide much-needed information about important subgroup differences, which will augment the clinical utility of the research. Investigators should also gather and examine information on potential mediator variables such as cultural values, beliefs, or practices, which may be the more proximal cause of ethnic variation in PTSD symptoms and/or treatment outcomes (Betancourt & Lopez, 1993). These variables can also be useful in determining whether and to what extent the minorities included in research are representative of minorities in the community or clinical settings. Finally, investigators should assess and examine the influence of other pretrauma variables that have been found in the broader literature to be related to PTSD, such as age, gender, education, childhood trauma, family history of psychopathology, and psychiatric history of the respondent (Brewin et al., 2000; Ozer et al., 2003). Whenever possible, these variables should be considered along with the other variables outlined above to clarify the relative contribution of all relevant factors.

Index Trauma Variables

Ethnoracial differences in trauma exposure emerged as one of the most important contributors to ethnoracial differences in PTSD. We recommend that future research should study the processes by which minorities may come to be more highly exposed to trauma, including the possible role played by racial discrimination and socioeconomic disadvantage. Such knowledge could be important for prevention efforts. However, investigators should also carefully consider potential retrospective reporting biases when assessing either exposure or discrimination. Individuals with PTSD have been known to exhibit negative memory biases for trauma (e.g., Southwick, Morgan, Nicolaou, & Charney, 1997), which may or may not alter their memories of discrimination. Another trauma variable that warrants attention is the question of whether there are cultural differences in the *meaning* ascribed to particular types of traumatic events. Walker and Chestnut (2003) found that following the September 11 attacks on the United States, "non-Whites" (mostly African Americans) were more likely than their European American counterparts to attribute the attacks to The Devil or to the fact that U.S. citizens had lost their connection with God. We suggest that these kinds of *emic* trauma assessments should be routinely presented with standardized (*etic*) trauma assessment instruments and used to determine whether different groups are more sensitive or vulnerable to different types of trauma. Finally, we recommend incorporating other trauma variables that have been shown to be important predictors of PTSD in the broader literature: variables such as trauma severity, perceived life threat, and peritraumatic distress (i.e., intensity of emotions occurring during the traumatic event; Brewin et al., 2000; Ozer et al., 2003).

Posttrauma Variables

In our view, the bulk of the future research needs to address posttrauma variables, particularly assessment and treatment of PTSD in ethnoracial minorities. In the assessment domain, we think establishing accurate base rates of PTSD within each ethnic minority group should be a priority. This effort will be complicated by a number of issues including the fact that PTSD rates are expected to be dependent on rates of exposure to traumatic stress, which can vary across regions and across time. It is also complicated by inconsistencies in the measurement of PTSD. Many of the findings reported in our review came from an admixture of nonrepresentative clinical or community samples, various symptom checklists, and formal diagnostic interviews. On occasion, items from standardized instruments were omitted (e.g., items

pertaining to sexual assault) or rewritten to make them more palatable to the sensibilities of the respondents (e.g., Lai, Chang, Connor, Lee, & Davidson, 2004) but at the expense of being able to compare results across studies. Establishing standardized diagnostic instruments of known reliability and validity with these ethnoracial groups is recommended.

As noted earlier, ethnoracial differences in response set (e.g., social desirability, acquiescent reporting, and exaggerated distress reporting) could influence reporting of PTSD symptoms. These response styles should be assessed directly using measures like the *Minnesota Multiphasic Personality Inventory* (MMPI-2; Butcher et al., 2001), which have demonstrated validity with minority populations (Hall et al., 1999). The presence of response sets might also be clarified using psychophysiological measures, which have been shown in previous studies to distinguish groups with and without PTSD with moderate sensitivity and specificity (for reviews, see Orr, Metzger, Miller, & Kaloupek, 2004; Pole, 2007). However, very little work has addressed the question of whether ethnic minorities with PTSD differ from European Americans with PTSD in their psychophysiological responses. One of the few studies to address this question did so in a sample of over 1,000 combat veterans and found that psychophysiological measures were less useful for diagnosing PTSD in ethnic minority than European American veterans (Keane et al., 1998). The reasons for this difference were unexplained by the authors but would be a fascinating topic for future research.

It is also possible that base rates of PTSD will vary according to whether PTSD was diagnosed using the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* (*DSM-III-R*; American Psychiatric Association, 1987) or *DSM-IV* (American Psychiatric Association, 2000). *DSM-IV* changed the definition of trauma from one that was objective (i.e., experiencing, witnessing, or learning about an event involving serious injury, threat to physical integrity, and/or death) to one that was both objective and subjective (i.e., requiring intense fear, helplessness, horror at the time of trauma). Because cultural factors may affect reporting, experience, and expression of emotion (Levenson, Soto, & Pole, 2007; Matsumoto, 1993; Mesquita & Frijda, 1992), it is conceivable that the new criteria may systematically alter the diagnosis of PTSD in some cultures. Thus, comparisons between new findings and those based on earlier diagnostic criteria should be made with caution.

It is important to note, however, that privileging structured diagnostic interviews and *DSM* criteria as a means of assessing PTSD may systematically exclude or devalue data on culture-specific presentations of the disorder (Neighbors & Williams, 2001). An important assumption of cross-cultural research is that symptom expression may vary across cultures (Kleinman, 1996). Psychopathologists would be remiss if we forget that the contemporary coherence in our conceptualization of posttraumatic pathology is purchased at the expense of wide historical variety in such responses, even within the largely familiar context of Western modernity. For every nightmare, flashback, amnesia, and exaggerated startle response currently assessed in traumatized patients, the avolition, weakness, headache, nausea, giddiness, photophobia, palpitations, paresthesias, paralyses, double vision, altered posture, unsteady gait, feeble pulse, pressured speech, loss of appetite, and shortness of breath that characterized nineteenth-century responses to trauma (Kinzie & Goetz, 1996) have fallen by the wayside. For example, in our review, we noted that Latinos with PTSD report auditory hallucinations with greater frequency than other ethnic groups. Studies need to be designed that take these potential expressions of traumatic distress into account. One way to do so would be to include measures that capture culture-bound expressions of distress (Terheggen, Stroebe, & Kleber, 2001) along with the standard PTSD measures. It would seem especially important to assess somatization, because it is commonly cited as a cultural difference but rarely formally assessed. When this is done efforts should be undertaken to disambiguate bona fide physical ailments from misreported physical complaints.

More research is also needed in virtually all aspects of the interaction between ethnic minority status and psychosocial treatment for PTSD. Findings reported earlier in this review could be interpreted to suggest that some ethnoracial groups may be more likely to utilize community-based rather than institutionally based mental health services. More research is needed to determine whether this occurs because of mistrust, differences in access, differences in the way minorities are treated, or other factors. A major question in this domain is whether ethnoracial group status interacts

with type of treatment (e.g., culturally sensitive treatment, exposure therapy, group therapy) in predicting treatment compliance or treatment outcome. These issues should also be considered in pharmacological interventions for PTSD as well, because there are known cultural differences in the decision to seek medication, compliance with medication regimen, and even in the metabolism of medications (Ursano et al., 2004). Finally, and arguably most importantly, more research is needed to advise clinicians when it is (and is not) appropriate to override conventional diagnostic, assessment, or treatment decisions with a culture-based decision (Neighbors & Williams, 2001).

CONCLUSION

This review suggests that ethnoracial variables may be important to consider in the assessment and treatment of posttraumatic stress disorder. However, the small effect size associated with the relationship between minority status and PTSD combined with the paucity of research on assessment and treatment issues argues against using minority status alone to make clinical decisions regarding PTSD. Instead, we recommend that the issues raised in this article be combined to enrich normal clinical decision making and, most importantly, to stimulate new research. These issues will become increasingly salient as minority populations grow, outnumber European Americans, and face traumatic stressors in the future.

NOTES

1. We use the term "ethnoracial minority" to encompass three federally recognized "racial minority" groups (African Americans, Asian and Pacific Islander Americans, and American Indians) and one federally recognized "ethnic minority" group (Latino Americans; U.S. Department of Health and Human Services, 2001; U.S. Office of Management and Budget, 1978). There is still a lack of consensus about some of the terminology that we use in this article. For example, some prefer the term "people of color" rather than either ethnic or racial minority. Similarly, some prefer "White" or "Caucasian" to the term "European American" (which we use in this article) or "Hispanic" to the term "Latino" (which we use in this article). For the most part, our terminology is consistent with current American Psychological Association Guidelines on multicultural education training, research, practice and organizational change (American Psychological Association, 2003), and with the literature that we review herein.

2. Although a discussion of findings in groups outside the United States (e.g., Africans, Chinese) could be relevant to our discussion, given space considerations, we have mostly limited our focus to studies within the United States. Furthermore, whereas it might have been preferable to conduct this review at the level of the psychological mechanisms (e.g., values or beliefs) that presumably underlie ethnoracial group differences in PTSD (Betancourt & Lopez, 1993), unfortunately, the literature is not yet at a place where such a review is tenable. For similar reasons, an examination of the influence of biracial or multiracial status is not possible at this time. Instead, the organization of this review very much reflects the state and focus of the existing literature.

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