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Adolescents' Internalizing Behaviors After Extreme Violence Exposure: A Comparison of Race and Gender for African American and Asian American Youth

Wan-Yi Chen

ABSTRACT

This study compares African American and Asian American adolescents in their rates of extreme community violence exposure and consequent internalizing behaviors. Using information from a national longitudinal survey, this study found substantial violence exposure rates for both groups. Also, gender differences in exposure rates and adolescent reports of internalizing behaviors after violence exposure were detected. Male African American adolescents had the highest exposure rate, while female Asian American adolescents reported the highest level of internalizing behaviors. These findings suggest further research is needed to better understand the effect of violence exposure on various ethnic minority adolescents. Moreover, social workers and other professionals involved in adolescent services could use these results to improve outreach methods to vulnerable adolescents.

Although a fairly large amount of literature has accumulated on the psychological effects of community violence exposure on youth (for reviews, please see Margolin & Gordis, 2000; Salzinger, Feldman, Stockhammer, & Hood, 2002), there are considerable gaps in this field. Osofsky (1995) and Trickett, Durán, and Horn (2003) have also pointed out that research in community violence exposure is still in its infancy.

Researchers in this area are still facing the challenge of definitional and measurement issues (Guterman, Cameron, & Staller, 2000; Trickett et al., 2003). Various operational definitions and measurement instruments have been adopted to study exposure to such events as personal victimization or witnessing the victimization of others in the community (Buka, Stichick, & Earls, 2001; Cooley, Turner, & Beidel, 1995; Hasting & Kelly, 1997; Hill et al., 1996; Richters & Martinez, 1993; Richters, Martinez, & Villa, 1990; Richters & Saltzman, 1990; Singer et al., 1995; Sheehan et al., 1997). Brant, Ward, Dawes, and Fisher (2005) have suggested investigators refine their conceptualization and enhance transparency in the reporting of research, particularly on the properties of measures in order to achieve compatibility across studies. Another way to bring greater clarity and specificity to the community violence measure is to focus on truly interpersonal violence and remove items that measure emotional traumatic events related to personal victimization in a scale (Brennan, Molnar, & Earls, 2007).

Existing studies have not yet distinguished the relationship between violence exposure and the psychological impact on different age groups of youth (Berton & Stabb, 1996; Durant, Getts, Cadenhead, Emans, & Woods, 1995; Schwab-Stone et al., 1995; Singer et al., 1995; Spano, Rivera, & Bolland, 2006). That is, research in this area has suffered from mixing young children and older adolescents in the studies. In other cases, studies on violence exposure in relation to the mental health of youth have been conducted with young children and

their parents, not adolescents (Sweatt, Harding, Knight-Lynn, Rasheed, & Carter, 2002). As children grow older, they face varying developmental challenges. Moreover, given that some of the internalizing mental health problems, such as depression, anxiety, and somatic complaints, are more prevalent among adolescents (Reynolds, 1992), the relationship between violence exposure and the mental health of adolescents demands further investigation. The current state of knowledge on violence exposure concentrates on impoverished urban neighborhoods, with the primary focus on African American youth. There has been scant research about the potential detrimental effects of violence exposure for youth from different ethnic groups. Such gaps pose limitations in working with adolescents from these other groups.

This study uses a nationally representative sample to examine adolescents' internalizing behaviors after extreme violence exposure and differences in the response by race and gender. Using Achenbach's conceptualization of adolescents internalizing behaviors (Achenbach, 1991) in the categories of depressive symptoms, anxious symptoms, and somatic complaints, this study addresses these research questions: (a) Do rates of violence exposure differ for African American and Asian American youth? (b) Will violence exposure affect adolescents' internalizing behaviors differently by race? (c) Will violence exposure affect adolescents' internalizing behaviors differently by gender? This study used information from the National Longitudinal Study of Adolescent Health (Add Health). It covers more than urban neighborhoods, and provides information on adolescent exposure to extreme violence in the nation.

Violence Exposure Among African American and Asian American Youth

Violence has been identified as one of the major social problems in urban African American communities. Research has reported that

between 50% and 96% of urban African American children have witnessed community violence in their lifetimes (Fitzpatrick & Boldizar, 1993; Gorman-Smith & Tolan, 2003; McCart et al., 2007; Schwab-Stone et al., 1995). Numerous other studies also documented high levels of violence exposure among African American youth (Boney-McCoy & Finkelhor, 1996; Cooley-Quille, Boyd, Frantz, & Walsh, 2001; Foster, Kupermine, & Price, 2004; Gorman-Smith & Tolan, 1998; Rosenthal, 2000; Jenkins & Bell, 1994; Schwab-Stone et al., 1999; Self-Brown et al., 2006; Singer et al., 1995; White, Bruce, Farrell, & Kliewer, 1998). A more recent study on community violence reported continuing high violence exposure rates: 53.8% of the adolescents witnessed more than two violent events within the past year; 46.7% of the adolescents were victimized in the same period of time (Vermeiren, Schwab-Stone, Deboutte, Leckman, & Ruckhin, 2003).

In contrast to the extensive literature on violence and African American youth, very few studies have focused on violence exposure among Asian American youth; nevertheless, similar high rates of violence exposure may be expected. Pannell (1997) examined the prevalence of children's self-reported exposure to community violence and its relationship with post-traumatic stress disorder (PTSD) on 296 sixth and seventh grade—predominantly Asian and Hispanic American—children living in low-income communities in Los Angeles. Results indicated that 83% of the children who were Asian American, Hispanic, and of other ethnic groups reported having been personally victimized. It is important to note that Pannell (1997) did not report the exposure rates separately for each ethnic group in her study. Kiss (1999) conducted a study on the connection between the level of self-reported exposure to community violence and the severity of PTSD in a sample of 145 Asian American youth. She found that 83% ($n = 120$) of the study participants had been personally victimized, 92% ($n = 133$) had witnessed at least one violent event, and 94% ($n = 136$) had heard of a violent event that happened to someone else. In a cross-sectional study, Ozer and McDonald (2006) examined the relationship between violence exposure, self-reported symptoms of depression, and PTSD for 71 Chinese American seventh graders who resided in an urban neighborhood in California for the previous 6 months. Overall, 75% of the participants reported exposure to at least one violent incident, 36% had witnessed somebody they knew being beaten up, 24% had seen somebody they knew being chased or robbed, and 11% had been chased or robbed themselves.

Gender and Youth Violence Exposure

Researchers have studied the significant role of gender in youth violence exposure. For youth, males are more likely to be victimized by or to witness community violence than are females, regardless of their developmental ages and ethnicity (Boyd, Cooley, Lambert, & Ialongo, 2003; Jenkins & Bell, 1994; Kiss, 1999; Kuther & Fisher, 1998; Pannell, 1997; Schwab-Stone et al., 1995; Weist & Acosta, 2001). Reese, Vera, Thompson, and Reyes (2001) employed an ethnographic approach to investigate the perceptions of violence risk factors among low-income African American youths. These authors discovered that there were gender differences in the experience of violence. They concluded future research on violence risk and effects on youth should be studied differently for males and females. Contradictory findings have been reported with regard to gender differences in the emotional impact of community violence. Stein et al. (2001) found female children who reported having been a victim of assault or weapon-related violence were significantly more likely to have a higher level of distress symptoms than children without such exposure. Singer et al. (1995) reported gender was the only significant contributor within the demographic variables on the total trauma

symptoms score. Females reported more depressive symptoms than males after being victimized (Fitzpatrick, 1993; Foster, Kupermine, & Price, 2004). White, Bruce, Farrell, and Kliewer (1998) investigated the link between violence exposure, anxiety, and the degree to which social support moderated this relationship for 385 urban African American children. Cross-sectional analysis showed exposure to community violence significantly correlated with physiological and “concentration anxiety” for girls, whereas this relationship was not significant for boys. Hierarchical regression analysis revealed a significant interaction effect for gender and exposure to violence on concentration anxiety. Girls who reported higher initial violence exposure reported greater increases in subsequent concentration anxiety than boys. In sum, adolescent age, gender, and ethnicity are important factors to consider when studying how they respond to violence in multivariate analysis.

Methods

Data from the National Longitudinal Study of Adolescent Health (Add Health) survey are used to study how extreme violence exposures are associated with mental distress among adolescents. Violence exposure is represented through youth self-reports of violence experiences. Mental health consequences are measured via survey items that capture depressive symptoms, anxiety symptoms, and somatic complaints. Comparisons are made between African American and Asian American adolescents, controlling for gender. Youth age, urbanicity, and maternal education (as a proxy for socioeconomic status [SES]) are used as additional controls. The measurement strategy for each is described below.

Study Sample and Data Source

The dataset for this study is the Add Health, a longitudinal, school-based panel study of the health-related behaviors of adolescents in grades 7–12 in the United States. This longitudinal survey was designed to explore the causes of health-related behaviors, emphasizing the effect of social context on adolescents. Wave I was conducted from September 1994 to December 1995. Wave II in-home interviewing was conducted from April to August, 1996. Data collection procedures are specified below. The response rates were 78.9% and 88.2% for Wave I and Wave II, respectively. The sample included adolescents from both rural and urban areas in the United States. More detailed information about the sampling design is provided on the study Web site (www.cpc.unc.edu/addhealth). The public-use dataset includes Wave I and II respondents and comprises 50% of the core sample, chosen at random, and 50% of the over-sample of African American adolescents with at least one parent who has a college degree. The total number of respondents in this public-use dataset is 6,504.

This investigation focuses on a sub-sample of African American and Asian American adolescents enrolled in grades seven through eleven at Wave I in the public-use data. The outcome variable, adolescents internalizing behaviors, is assessed at Wave II by measuring the reported internalizing behavior-related items. Adolescents were selected for the sub-sample if they (a) were equal to or younger than 18 years of age at Wave I; (b) participated in the in-home interviews in both waves; (c) reported a single race/ethnicity identity; and (d) reported no violence exposure experience at Wave II. Since the subgroup sizes for the different ethnic groups of Asian American youths were too small for statistical analysis, this study combined the Asian ethnic groups into a single Asian American adolescent group. The final sample has 763 African American adolescents and 138 Asian American adolescents.

All analyses presented are weighted and control for the complex Add Health survey design, using the method of Taylor-series with Stata[®] 8.0 software.

Measurement of Key Variables

Community violence exposure is operationally defined as overall direct exposure of an individual to extreme interpersonal violence, including witnessing severe violent acts or being victimized in the previous 12 months of data collection. Respondents were asked to respond to five statements: "You saw someone shoot or stab another person", "Someone pulled a knife or gun on you", "Someone shot you", "Someone cut or stabbed you", and "You were jumped". All of these items would be appropriate to measure those events that could cause deliberate physical injury against the individual or individual(s) in the community (Cooley, Turner, & Beidel, 1995, p. 202). Across different cultural contexts, these five items would also be regarded as "violence" (Brant, Ward, Dawes, & Fisher, 2005). The total score of violence exposure is summed from these five items, with the higher scores indicating more exposure. These items have been used as a scale by other researchers who have analyzed these data. Resnick et al. (1997) reported a reliability *alpha* of .62 and .60 for African American and Asian American adolescents, respectively, for this scale. For this study, the reliability coefficient is .68, .56, and .79 for the full sample, African American, and Asian American, respectively. The *alpha* for the violence exposure scale is somewhat below conventionally acceptable levels. Sieving et al. (2001) employed the same data set and suggested that low-base rates for the single item, "Someone shot you", contributed to the marginal estimate of internal consistency for this scale.

Adolescent internalizing behaviors (at Wave 2). Adolescents' internalizing behaviors is used as an indicator of mental distress. It was assessed by summing the scores from three Wave II composite scales: depressive behaviors, anxious behaviors, and somatic complaints. The composite scale ranges from 0 to 15, with higher scores indicating more frequent experience of mental distress. Cross-ethnic metric equivalence has been established for the three composite measures for African American and Asian American adolescents. Similar reliability coefficients and factor loadings were found for these two groups.

Depressive symptoms. This was a five-item composite scale derived from the Center for Epidemiologic Studies Depression Scale (CES-D), (Harris, Deeb-Sossa, Perreira, & Bollen, 2003). Adolescents were asked to respond to the following statements on a 4-point scale representing *never or rarely to most of the time or all of the time* regarding how they felt emotionally in the week prior to the interview: (a) "You felt that you could not shake off the blues, even with help from your family and your friends"; (b) "You felt depressed"; (c) "You felt sad"; or (d) "You felt life was not worth living"; and one positive mood item, (e) "You were happy." The last item has been reverse-coded so that a higher score represents a less frequent occurrence of positive mood. The internal consistency coefficients were .72 and .82 for African American and Asian American adolescents, respectively. Significant correlations were found between most of the item scores and the total score. Factor analysis of these five items indicated a single factor solution for the full sample, as well as for the African American and Asian American subgroups, respectively.

Anxiety symptoms. Two items were derived from the general health scale to measure adolescent anxious symptoms: (a) trouble falling asleep or staying asleep and (b) trouble relaxing. Adolescents were asked to indicate their conditions over the previous 12 months about these two statements on a 0-to-4 point scale, in which higher

scores reflect higher frequencies in feelings. The Pearson correlation coefficients for these two items are .55 and .42 for African American and Asian American adolescents, respectively. Evidence of construct validity has been demonstrated in studies by Resnick et al. (1997) and Guterman, Hahm, and Cameron (2002).

Somatic complaints. This was a four-item scale from the general health scale. Participants were interviewed and asked to report the frequencies of their feelings about their physical conditions in the previous 12 months. Items such as *felt physically weak for no reason, felt very tired for no reason, felt really sick, and been dizzy* were included in the scale. This is coded according to a 5-point scale in which 0 indicates *never* and 4 indicates *everyday*. Cronbach's alpha is .65 for African American adolescents and .71 for Asian American adolescents.

Demographic control variables. Race/ethnicity, gender, urbanicity, and maternal education are used as control variables. Race/ethnicity was measured by the question: "What is your race?" Five response categories were provided: *White, Black or African American, Asian or Indian or Native American, Asian or Pacific Islander, and Other*. Respondents were able to give more than one answer for this question. Two mutually exclusive dummy race variables for African American and Asian American adolescents were constructed. If the respondent answered "yes" to the African American race category for this question that respondent was given a race designation of "African American," coded as "1". Responses for any other race category were coded as "0". A similar procedure was applied to create an Asian American race variable. Gender was dichotomously coded. This investigation examined whether gender would be a significant factor for adolescents internalizing behaviors after violence exposure across these two racial groups. Age was measured in whole years at the time of the Wave I home interview. Maternal education attainment was used as a proxy for SES because the survey had limited information regarding family income level and parental occupational status (Guterman, Hahm, & Cameron, 2002). It is included as a control variable because Richters and Martinez (1993) observed that level of maternal education was negatively associated with children's exposure to community violence. Maternal education attainment was coded using a six-point ordinal scale, ranging from "eighth grade or less" to "further study beyond a college degree". Urbanicity was coded in the Add Health survey as "completely urban" and "not completely urban." The urbanicity information was obtained by linking the Wave I home locations and the U.S. Census block group data. This measure is different from the Census "urban" designation that also includes places outside urbanized areas with populations between 2,500 and 8,000. Most of the research in violence exposure has focused on its prevalence in low-income urban communities. Campbell and Schwarz (1996) discovered significant differences in violence exposure rates between urban and suburban middle school students.

Data Analysis

A weighted analysis was conducted to adjust for the effect of sampling design. Stata[®] 8.0 was the statistical package used to conduct necessary secondary data analyses. Descriptive statistics are used to generate a profile of the adolescents under study. To examine the group comparability between African American and Asian American youth, an ANOVA test was conducted for continuous variables and a *chi-square* test was adopted for categorical variables.

The African American and Asian American youth groups were found to be comparable across all socio-demographic variables except maternal education attainment level, which serves as the proxy for family SES in this study. Table 1 presents the weighted descriptive analyses of

TABLE 1. Socio-Demographic Characteristics of African American and Asian American Adolescents (Weighted Estimation)

Characteristics	AFRICAN AMERICAN (n = 763)		ASIAN AMERICAN (n = 138)	
	n (sample frequency)	% (weighted-estimation)	n (sample frequency)	% (weighted-estimation)
Age	15.11 (M)	.19 (SD)	15.01 (M)	.24 (SD)
Gender				
Male	314	40.46	65	47.49
Female	449	59.54	73	52.51
Immigration status				
Born in the U.S.	763	100	80	54.59
Not born in the U.S.	0	0	58	45.41
Urbanicity				
Completely urban	438	56.57	87	73.07
Not completely urban	317	43.43	49	26.93
Maternal education*				
8th grade or less	37	6.29	21	21.99
Less than high school	61	11.39	5	3.10
High school/GED	219	41.31	21	13.46
Less than college	127	18.37	17	10.93
Graduated from college	188	15.74	50	35.64
Beyond college	88	6.90	18	14.88

Note. According to the sampling design, population weights are applied to estimate the proportion in the population. $\chi^2(5) = 114.49, p < .0001$.

the socio-demographic data according to adolescent race/ethnicity. The *chi-square* test indicates there is a statistically significant difference in maternal education attainment between African American and Asian American youth groups ($\chi^2 [5] = 114.49, p < .0001$). More than 50% of Asian American youth were from families in which the maternal education attainment was at least a college degree, whereas 22.6% African American youth were from families in which maternal educational level was college and beyond. Although the Add Health survey over sampled African American adolescents from high education background families, analysis results showed that Asian American youth had significantly higher maternal education attainment levels, suggesting Asian American adolescents were from families with higher SES. Immigrant status for the Asian American youth (also in Table 1) shows that just over 50% were born in the United States. Because comparable data do not exist for the African American youth, this variable is not used in the subsequent comparative analysis.

Results

The data analysis found both groups of adolescents had noticeable exposure to violence, both as victims and as observers. Adolescents exposed to violence also reported mental distress, as evidenced by the summary scores and the composite indices. There were, however, noticeable differences both by race/ethnicity and by gender.

By and large, African American adolescents were more likely to witness extreme violence. Their report of overall exposure to violence was significantly higher as compared to their Asian American counterparts. As Table 2 shows, more than one quarter of African American adolescents in this national survey reported having experienced someone pointing a gun or knife at them in the previous year. Whereas incidences such as these were less common for the Asian American group, their extreme violence exposure rate was close to 13% in the previous year.

TABLE 2. Prevalence of Violence Exposure of African American and Asian American Adolescents

EXPOSURE EVENT	AFRICAN AMERICAN (n = 763)		ASIAN AMERICAN (n = 138)		χ^2
	n (sample frequency)	% (weighted-estimation)	n (sample frequency)	% (weighted-estimation)	
Overall exposure to violence	181	26.82	18	12.43	25.06*
You saw someone shoot or stab another person	106	16.56	9	6.69	11.04*
Someone pulled a knife or gun on you	71	10.27	7	4.62	5.50
Someone shot you	6	0.80	1	0.97	1.17
Someone cut or stabbed you	24	2.93	6	3.12	0.09
You were jumped	56	7.87	9	6.13	0.82

* $p < .05$.

This study also confirmed that males were at higher risk of being exposed to violence. In all cases, male adolescents were not only witnessing more violent events, but were also more likely to be victimized by these types of extreme community violence when compared to female adolescents. This phenomenon is identical for both African and Asian American adolescents. Approximately 30% of African American males reported exposure to community violence whereas approximately 23% of African American females did so. After adjusting for population sampling weight, Asian American males reported an exposure rate near 18%, which was slightly more than twice the 8% report rate of females.

The violence exposure items report on direct victimization and observation of violence directed at others. A breakdown of the figures of the victimization rates revealed some alarming results: About one in four (23%) of African American male adolescents were victimized by violence whereas their female counterparts reported being victimized at about half that rate at 12%. Victimization rates were approximately 12% for male and 6.4% for female Asian American adolescents.

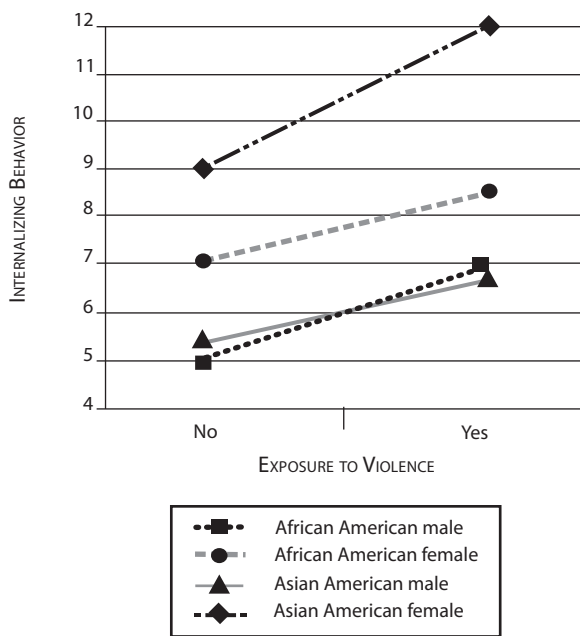
Independent ANOVA analyses on gender, violence exposure, and subsequent internalizing behaviors indicated a significant difference between adolescents who had been exposed versus those who were not exposed to violence. Variance was observed for race and gender ($F = 10.35, p < .0001$). Overall, Asian American adolescents reported more internalizing behaviors than the African American group (see Figure 1). Female adolescents reported more internalizing behaviors than males. Furthermore, Asian American females who did not report exposure to violence were found to report higher scores on those internalizing behavior scales as compared to their African American female counterparts who had been exposed to violence in the one-year time frame. Those Asian American females who had been exposed to violence reported the most increase and also had the most internalizing behaviors.

To take advantage of the information available in Add Health, the significance of geographic residency as it related to youth violence exposure was examined. This study found no significant difference in the exposure rates between adolescents residing in urban neighborhoods and non-urban areas.

Discussion

The findings reported here indicate that this sample of African American and Asian American adolescents had personally experienced or eye-witnessed a considerable amount of violence within a one-year

FIGURE 1. Mean score differences in levels of internalizing behaviors after violence exposure among adolescents by race and gender. (Higher scores indicate more frequent experience of mental distress.)



time. To be more specific in the discussion of community violence exposure, the current study adopted a restricted operational definition of violence exposure: severe violent events over a one-year time span in an adolescent's life that might result in serious injury or death. In spite of this specific definition, almost 3 out of 10 African American youth and at least 1 out of 10 Asian American youth had been exposed to at least one type of severe violence over the study year. These rates may look lower than the 50% to 96% violence exposure rates in the previous published studies (Gorman-Smith & Tolan, 2003; McCart et al., 2007; Schwab-Stone et al., 1995; Self-Brown et al., 2006). It is important to note, however, that the violence exposure rates in this study reflect the personal experiences of these adolescents in a limited one-year time frame as compared to other studies that focused on lifetime violence exposure experience among poor, urban African American communities. About 16.6% of the African American participants in this study had seen someone shot or stabbed in the previous year. This is similar to the 15.8% exposure rate among African American male adolescents in Gorman-Smith and Tolan's (1998) study. Furthermore, the African American youth in this study comprised over-sampling of youth from families with at least one parent with college education. The prevalence of violence exposure among youth appears to be noteworthy across socio-economic status.

This study notably is the first empirical investigation of the relationship between extreme violence exposure and internalizing behaviors by Asian American adolescents using nationally representative data. This study found that within one year, close to 7% of them reported witnessing someone shot or stabbed, and more than 9% of them reported being assaulted, cut, or stabbed. This national prevalence rate was close to the exposure rate of urban Chinese American youths in the study by Ozer and McDonald (2006), which reported about 9% of the respondents witnessed a shooting, stabbing, or killing, and 11% of them reported they had been chased or robbed in the previous six months.

Gender Differences in Violence Exposure

This study confirms that males are at higher risk of being exposed to violence. In all cases, male adolescents were not only witnessing more violent events, but were also more likely to be victimized by community violence compared to female adolescents. This phenomenon is identical for both these African and Asian American adolescents. Approximately 32% of African American males reported exposure to community violence whereas approximately 23% of females did so. Interestingly, community violence exposure showed a larger difference between genders for the Asian American adolescent sample. After adjusting for population sampling weight, Asian American males reported an exposure rate near 17%, which was slightly more than twice the 8% report rate of females.

The wide difference in victimization between gender groups could be attributed to the fact that male adolescents are physically more aggressive and more likely to threaten someone with a weapon, and, as a consequence, are more likely to experience injuries when they are involved in confrontations (Scarpa, 2001; Valois, McKeown, Garrison, & Vincent, 1995). The negative effects could be exacerbated by other contributing factors including a higher rate of gang involvement among boys and the ease of accessing weapons such as baseball bats, knives, and handguns (Henry, Tolan, & Gorman-Smith, 2001). In their study of adolescents in South Carolina, Valois and colleagues (1995) found that about 9 out of 500 African American male adolescents carried a gun with them and only about 1 out of 500 females of their respective group did so.

Gender and Ethnic Differences in Internalizing Behaviors

Using African American adolescents as the reference group, this study also revealed the elevated level of adolescent reports of internalizing behaviors after violence exposure among Asian Americans. This finding is important to our understanding of the negative effect of violence exposure on Asian American adolescents and can increase our knowledge for use when working with them. Across both ethnic groups, female adolescents reported more internalizing behaviors than male adolescents, irrespective of violence exposure. This observation was consistent with the literature in adolescent mental health. The Asian American female sample reported the largest difference in internalizing behaviors between those exposed to violence and those not exposed, despite the fact that, on average, they had the lowest violence exposure rate. One possible explanation for this difference is that Asian American female adolescents also reported the highest rate of internalizing behaviors at Wave I, a significant predictor of the subsequent internalizing behaviors upon violence exposure. O'Keefe (1997) argues that in addition to undergoing significant psychological, emotional, and physiological changes, Asian American female adolescents may face issues of identity exploration, transitional crisis, and acculturation, and may be under tremendous family and social pressure to excel academically. Thus, they may have a greater tendency to report internalizing behaviors. These possible dynamics merit further study to clarify how such adverse life experiences affect minority adolescent mental health across gender groups.

The findings reported here are not based upon exposure to sexual violence, another type of violence exposure that affects females. Female adolescents are at higher risks of sexual victimization as compared to males. Such traumatic life experiences have been known to pose significant challenges to the mental health of adolescents. Thus, in an effort to understand the impact of adolescent victimization, it is essential to take into consideration the nature of the violence under discussion, the role of race and ethnicity, and how gender interacts with these factors.

Another noteworthy finding of the study was that contrary to general belief, this study did not find a significant association between adolescent violence exposure rates and their location of residence. This result suggests the empirical data did not fully support a difference of adolescent extreme violence exposure between urban and non-urban residence. Three possible explanations may be applied to this result. First, adolescents in this study from both urban and non-urban neighborhoods were exposed to high rates of violence. Other studies that have compared urban and suburban youth also have found similar rates across these residential settings (O'Keefe, 1997; Campbell & Schwarz, 1996). Second, the globally dichotomized way in which urbanicity/non-urbanicity was operationalized may have affected the findings. A more precise metric might find greater differentiation. The third explanation for the current findings concerns whether the traditional geographic distinction of urban versus suburban neighborhood matters in terms of the risks of exposure to violence in the community. Using the same dataset as this study (Add Health), Cleveland (2003) found that urbanicity per se was not significantly associated with adolescent aggressive behaviors. Rather, living in disadvantaged neighborhoods had a significant association with these behaviors.

Limitations, Strength of the Study, and Recommendations for Future Research

Despite the strong measures that investigate the causes of adolescent health-related behaviors in the Add Health data, there are other indices that are not provided that would have added to the analyses presented here. A wide range of psychological impacts from violence exposure has been documented in the field; however, the Add Health data did not collect all of these related measurements to explore potential negative effects on adolescents. For example, the literature has shown the immigration experience and assimilation process of youths have a direct impact on youth mental health; the Add Health data do not provide information regarding immigrant adolescent assimilation processes or their exposure to violence prior to their arrival in the United States. Thus, the impact of much earlier exposure on the indices of mental distress is not known. The data also do not provide information about the victimization encounter, such as location, relationship to perpetrators, or relationship between the victim and youth who reported witnessing the violent act. Likewise, information about sexual victimization was not included in this data set although female adolescents are at higher risks than males. And for respondents born in the United States, the Add Health data do not provide information on cumulative violence exposure prior to the start of the study. Thus, one cannot control for the duration of violence exposure and its association with adolescents' internalizing behaviors.

The small size of the Asian American sample did not allow analysis by specific Asian ethnicity or national origin, even though there are cultural differences across Asian ethnic/national groups that could also affect violence exposure and its impact. The small size of the aggregated Asian American sample, combined with the prevalence of community violence exposure produced small raw cell sizes that placed limitations on the analysis. For example, the limited sample size precluded the analysis of immigrant and non-immigrant Asian American adolescents, even though it would be useful to account for and understand how the developmental processes of immigrant youth affect their exposure and response to violence. A substantial percentage (42%) of Asian American adolescents in the sample was not born in the United States. The acculturation research indicates migration is a stressful life event and could influence an individual's mental health (Berry, Kim, Minde,

& Mok, 1987). This is often referred to as *acculturative stress*, and it occurs when the individual tries to adapt to the new culture.

Despite the limitations outlined above, this study has contributed to our understanding of adolescent exposure to extreme violence in several ways: (a) this study has revealed high community violence exposure rates for African American and Asian American adolescents across the nation; (b) the prospective research design in this study provides the ability to examine links between violence exposure and adolescents internalizing behaviors; (c) it provides additional insights about violence exposure and internalizing behaviors for an understudied population, Asian American adolescents; and (d) it indicates that adolescent extreme violence exposure rates do not necessarily vary by geographic location of residency.

These findings also suggest fruitful areas for future inquiry. The findings support the importance of utilizing longitudinal research design and data to understand the adverse impact of violence exposure on the psychological functioning of adolescents, specifically, how such undesirable life experiences influence their development into healthy adults. They also indicate that additional emphasis should be placed on examining the gender differences of risks for victimization and violence involvement (Foster, Kupermine, & Price, 2004; Reese et al., 2001). Violence exposure is not an issue that only challenges urban African American adolescents; it happens to other adolescents and children as well. Culturally sensitive measures in research design that enable us to understand the impact of such life experiences are crucial, and need to be a part of the research convention on this issue. Even though Asian Americans are usually referred to as "model minorities" (Sue, Sue, & Sue, 1995; Ying, Lee, & Tsai, 2001), this study also found they are not immune to the issue of violence exposure. In studies concerning the issue of violence exposure, social and economic situations of the community may be better predictors of the risks of violence exposure than urbanicity per se.

Implications for Practice

Using information from a national survey this study found a prevalence rate of 13% in direct community violence exposure for Asian American adolescents in one year. This is alarming given the traumatic and violent nature of the questions used in this study. Social workers should be aware of the widespread victimization experience and its potential impact on adolescents. For those counselors and social workers without relevant cultural background knowledge, working with minority adolescents, especially Asian Americans, will pose a tremendous challenge. For instance, Lin and Cheung (1999) report Asian Americans, regardless of age, are more inclined to express emotional distress through various somatic symptoms. Many of them are unwilling to directly report emotional problems verbally or in writing and their conditions could become worse as a result of their reluctance to seek professional mental health services. Therefore, to provide culturally sensitive practice it is essential for practitioners to understand how this ethnic group communicates emotional suffering through various indirect ways.

Additionally, it is important for social workers to recognize individual differences within the Asian American population. Contrary to the minority myth, not all Asian American adolescents are from the idealized model minority families who have achieved their American dream. As presented in the demographic information of this study, one quarter of the Asian American adolescents were from families in which mothers had completed less than a high school education. Since parental education has been widely adopted as a proxy to estimate family

SES (Guterman, Hahm, & Cameron, 2002; Richters & Martinez, 1993), this finding highlights the presence of economically disadvantaged adolescents among the Asian American population who may face an elevated risk of violence exposure. This risk may be under-estimated by social workers.

As was described earlier, female adolescents, in contrast with males, reported higher rates of internalizing behaviors after exposure to violence. On the other hand, results showed male African American adolescents reported higher rates of direct exposure to violence, a result identical to other studies (Eitle & Turner, 2002; Howard, Feigelman, Li, Cross, & Rachuba, 2002; Jaycox et al., 2002; McCart et al., 2007). Hence, there is a need for further research to understand how gender moderates the effect of adolescent exposure to violence so that interventions might be better delivered with differential responses being taken into consideration. Additionally, counselors should be aware male adolescents are more likely to associate mental health counseling with negative, pathological connotations (Smith, 2004), although they are at a higher risk of violence exposure. A more proactive approach would assist adolescents to develop positive associations with mental health counseling services.

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