Psychological Trauma: Theory, Research, Practice, and Policy

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The Toll of Traumatic Loss in African Americans Bereaved by Homicide

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We investigated the psychological impact of homicide bereavement in a sample of 54 African Americans (88.9% female) who had experienced the murder of a loved one within the past 5 years. Participants were recruited from a victims' services agency. The majority of participants (n = 34, 63%) were parents of the deceased. Using a cutoff of 50 on the PTSD Checklist (Weathers, Litz, Herman, Huska, & Keane, 1993), 10 participants (18.5%) screened positive for PTSD. On the Beck Depression Inventory—II, 54% of the sample (n = 29) had scores suggesting at least mild depression. On the Inventory of Complicated Grief (Prigerson & Jacobs, 2001), 24 (54.5%) of those for whom the homicide occurred 6 months or more prior to assessment screened positive for complicated grief. There was a high degree of overlap across these categories, with nearly all of the PTSD-positive cases screening positive for complicated grief and depression. Participants who were within 2 years of a homicide loss showed significantly higher levels of PTSD and anxiety severities than those who were 2 or more years beyond the loss. In contrast, levels of complicated grief and depression did not differ significantly between those early and late in bereavement. In regression analyses, time since the homicide was a significant predictor for anxiety and approached significance in predicting PTSD. However, time since homicide was not significantly associated with depression or complicated grief. Clinical and research implications of these findings are discussed, including the possible impact of stigma associated with homicidal bereavement.

Keywords: homicide, African American, posttraumatic stress disorder, complicated grief, bereavement

Data on homicide in the United States suggest that approximately 15,000 people were murdered in 2007 (U.S. Department of Justice, 2008). Homicide is a leading cause of death for young adults and typically leaves in its wake survivors who struggle to face life following this traumatic form of loss. The demography of death is not democratic, as some cultural groups are far more likely to experience traumatic bereavement than others. According to year 2000 U.S. census data, African Americans were victims of homicide at a rate of 21.2 per 100,000, whereas Caucasian deaths due to homicide occur at a rate of 4.9 per 100,000 (Kochanek, Murphy, Anderson, & Scott, 2004). According to data from 2006, African Americans were 5.8 times as likely to be victims of homicide than were Caucasians (Heron et al., 2009). As a result, a disproportionate number of murder victims in the United States are African American, making an understanding of the ways in which African Americans experience the grief, loss, and trauma associated with homicide an important public health concern. The priority of such research is still greater in light of the history of poverty, racism, and oppression that has placed untold stresses on African Americans that in turn may well contribute to the ways in which they experience death and dying in general (Holloway, 2003; Rosenblatt & Wallace, 2005) and homicide bereavement in particular (Laurie & Neimeyer, 2008).

Loss by homicide puts survivors at risk for adverse outcomes such as posttraumatic stress disorder (PTSD), complicated grief, and depression (Rynearson & McCreery, 1993). Despite the magnitude of the problem, homicide survivors have received little focused attention from researchers. Earlier studies focusing exclusively on homicide survivors typically included small numbers of participants, due in part to the relative infrequency of homicide and in part to the difficulty of attracting these highly distressed individuals into research studies (Rynearson, 1995). Rynearson (1984) described a sample of 15 participants recruited from a homicide bereavement support group who had suffered a loss to homicide at least 3 years prior and found that they exhibited symptoms of prolonged grief and PTSD. A small pilot study of 19 homicide survivors (Amick-McMullan, Kilpatrick, Veronen, & Smith, 1989) examined posttraumatic stress symptoms and general distress. The sample comprised mostly parents (68%) or siblings (26%) of homicide victims who were assessed an average of 2.5 years posthomicide. On the Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979), the authors compared symptom levels in their sample with those reported for other samples in prior work and found that the homicide survivors exhibited elevations in total and intrusive symptom severity levels. Subsequently, a larger scale investigation followed 206 homicide survivors drawn from an epidemiological sample, assessing lifetime and current homicide-related PTSD (Amick-McMullan, Kilpatrick, & Resnick, 1991). Nearly one quarter of surviving family members met lifetime

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criteria for PTSD due to the homicide, and 4.8% met criteria for current (past 6 months) PTSD, rates that appear higher than the 6.8% lifetime and the 3.5% 12-month prevalence rates of PTSD in the general population (Kessler, Berglund, Demler, Jin, & Walters, 2005; Kessler, Chiu, Demler, & Walters, 2005).

The question of how homicide survivors compare with survivors of other traumatic events has also been addressed in a few reports. One study investigated a sample of 93 African American homicide survivors and two contrast groups with comparable demographic characteristics (Thompson, Norris, & Ruback, 1998). Compared with a group with no trauma exposure ($n = 119$) and one with nonhomicide trauma exposure ($n = 108$), homicide survivors exhibited significantly more severe PTSD symptoms and general distress than either of the control groups. Although this study did not assess complicated grief, the authors found that overall distress was significantly predicted by the nature of the relationship—mothers were more likely to exhibit PTSD symptoms—and by the frequency of contact with the victim as well as self-rated closeness of relationship to the deceased. In a study of 261 violently bereaved parents (Murphy, Johnson, Wu, Fan, & Lohan, 2003), parents bereaved by homicide had significantly higher levels of PTSD symptoms across 5 years than did parents bereaved by suicide loss. Finally, a study of a heterogeneous sample of 1,723 young adults found that those who were bereaved by homicide or suicide experienced more complicated grief symptomatology than those whose loved ones died natural deaths, even when those deaths were sudden and unanticipated (Currier, Holland, Coleman, & Neimeyer, 2007).

Overall the literature suggests that homicide loss puts survivors at risk for both PTSD and complicated grief. Given the potentially serious impact of homicide bereavement in both domains, more research on responses to this form of loss is indicated, particularly in vulnerable populations that could be at even greater risk of adverse outcomes. Low-income ethnic minority populations who suffer a severe loss may have fewer resources with which to cope with the associated trauma. When a trauma is associated with further resource loss, such as the loss of social support when a close friend or relative dies, or the loss of both interpersonal support and financial resources associated with the death of a spouse, the risk of adverse outcomes may be even greater (Walter & Hobfoll, 2009). The purpose of the present study was to evaluate a sample of African American homicide survivors with regard to clinically relevant outcomes such as PTSD, complicated grief, depression, and anxiety and to analyze which features of the relationship to the deceased or of the loss itself were associated with more intense symptomatology in each domain.

Method

Participants

Participants were recruited from Victims to Victory (VTV), a grassroots victim services organization with an explicitly Christian faith-based orientation, which collaborates with local law enforcement agencies to offer advocacy and support services to families of homicide victims in the Memphis, Tennessee, metropolitan area. VTV offers help in securing financial assistance to pay for funeral expenses, support in navigating the criminal justice system through the preliminary hearings and trial associated with the homicide, and a homicide survivor support group. VTV does not provide psychological treatment per se. Although the organization is faith-based, it is not affiliated with any specific church and occupies an office in a building shared by several community agencies. VTV receives families' contact information from the local police and attempts to contact every family who loses a loved one to homicide, irrespective of religious beliefs or affiliation, ethnicity, or any other characteristic. VTV mails a letter and makes a follow-up telephone call to each family. Some families request services at that point in time, others contact VTV later requesting support, and some never request services from VTV.

Potential participants were reached through a variety of avenues. The absolute number of people who received information about the project is unclear because we used several methods to advertise the project and also attracted some participants via word-of-mouth. Recruitment methods included direct referral from VTV staff, announcements by VTV staff at the biweekly survivors' support group meeting, and a mass mailing and follow-up phone call to all VTV clients who had been contacted by VTV in the past 3 years. Of the 137 people with whom research project staff had one-on-one conversations, 15 refused to participate for the following reasons: not ready to talk about the loss ($n = 5$), too busy ($n = 5$), not interested in research ($n = 1$), too sick to participate ($n = 1$), too close to the holidays ($n = 1$), or did not speak English ($n = 1$). One person did not give a reason. Twenty people agreed to participate but repeatedly missed or canceled appointments. Many others expressed interest but did not schedule assessment appointments.

All homicidally bereaved individuals who were at least 18 years old were invited to participate in the study. Sixty-two participants enrolled in the project and completed the assessment session. For the present investigation, we limited the sample to only those participants who were African American and who were bereaved within the past 5 years, resulting in a sample of 54 individuals. Among the 62 potential participants, there were four outliers whose losses had occurred from 6.8 to 14.3 years prior. These four cases seemed to reflect a different population; in addition to being homicide survivors themselves, they were also heavily involved in VTV as volunteers/advocates and therefore were excluded from this study. Women composed most of the final sample (88.9%, $n = 48$). Participants' ages ranged from 19 to 71 years ($M = 48.61$ years, $SD = 12.26$). Time since the homicide ranged from 29 days to 58.30 months (4.89 years), with a mean of 20.93 months (1.74 years, $SD = 1.22$); 44 participants (81.5%) were bereaved for 6 or more months. Twenty-six percent ($n = 14$) of participants reported being married, 29.6% ($n = 16$) reported being single, 26.0% ($n = 14$) being separated or divorced, and 18.5% ($n = 10$) widowed (not necessarily due to homicide). We found a wide variation in education levels, with the majority reporting having completed high school/GED (29.6%, $n = 16$) or attended some college (38.9%, $n = 21$), and smaller numbers reporting less than a high school education (9.3%, $n = 5$) or having completed or gone beyond college (22.3%, $n = 12$). For use in correlational analyses, we created a dichotomous education variable that divided participants into two groups: a group that included participants having the equivalent of or less than a high school education ($n = 21$) and group with some level of education beyond high school ($n = 33$). In terms of income, 10 participants (18.5%) reported that their annual income exceeded $50,000, 25 (46.3%) reported having

annual incomes in the range of $20,000 to $50,000, and 19 (35.2%) reported their annual income level to be less than $20,000. We did not limit participation beyond the inclusion criteria mentioned above because of anticipated difficulty in engaging this population in research, based on concerns expressed in the literature (Rynearson, 1995). Thus, we allowed multiple and related loved ones per homicide victim to participate.

Measures

In a single assessment session, participants completed a set of questionnaires, including a demographics questionnaire and several questions about the homicide, including the timing of the homicide and the nature of the participants' relationship to the deceased. Another question pertained to the frequency of contact between the participant and the deceased prior to the death with no timeframe specified. Response options ranged from *less than once per month* to *2 to 7 times per week*. Also included were the measures described below.

Beck Anxiety Inventory (BAI; Beck, Brown, Epstein, & Steer, 1988). The BAI was used to assess severity of anxiety. The BAI consists of a 21-item scale of somatic and cognitive symptoms of anxiety. Symptom examples include "feelings of choking" and "fear of the worst happening." Participants use a 4-category Likert scale ranging from *not at all* to *severely* ("I could barely stand it") to indicate how much he or she has been bothered by the symptom during the past week. Scores of 8 or higher are considered indicative of at least mild anxiety (Beck & Steer, 1993). A recent study (Chapman & Woodruff-Borden, 2009) found that the BAI demonstrated strong internal consistency in both an African American sample ($\alpha = .88$) and a European American sample ($\alpha = .86$). The BAI demonstrated high internal consistency in the present sample ($\alpha = .92$).

Beck Depression Inventory—II (BDI–II; Beck, Steer, & Brown, 1996). The BDI–II is a 21-item self-report depression measure of depressive symptoms. A Likert scale with 4 points ranging from 0 to 3 measures aspects of depression, with higher scores indicating greater depressive symptomatology. The BDI–II was found to be a reliable and valid instrument of depressive symptoms in a sample of low-income, African American, severely distressed individuals (Joe, Woolley, Brown, Ghahramanlou-Holloway, & Beck, 2008). Possible total scores range from 0 to 63. Scores of 14 or higher are considered indicative of at least mild depression (Beck et al., 1996). The BDI–II showed high internal consistency in the present sample ($\alpha = .92$).

Inventory of Complicated Grief—Revised (ICG; Prigerson & Jacobs, 2001). The ICG was developed to assess a distinct cluster of symptoms that have been found to predict long-term dysfunction in bereavement. This measure includes 30 questions rated on a 5-point Likert scale, from 1 (*almost never/none*) to 5 (*always/an overwhelming sense*) to evaluate severity on items such as "I feel that life is empty or meaningless without [_____]," and "Ever since [_____] died I feel like I have lost the ability to care about other people or I feel distant from people I care about." In addition, the ICG contains three questions regarding the duration of symptoms. High internal consistency ($\alpha = .95$) and sufficient test–retest reliability ($r = .80$) were reported in a sample of bereaved college students (Schnider, Elhai, & Gray, 2007), with similar reliability and validity found in a study of bereaved parents ($\alpha = .95$; Keesee, Currier, & Neimeyer, 2008). Laurie and Neimeyer (2008) found this measure to have high reliability ($\alpha = .95$) in their study of more than 600 African American grievers and the homicidally bereft. We computed a score for the 19-item version of the ICG and applied the widely accepted cut score of 30 to that score to indicate clinically significant "caseness" for complicated grief (Keesee et al., 2008). Although the ICG may be completed at any time following a loss, the designation of complicated grief is not appropriate until the respondent is at least 6 months postloss (Prigerson & Maciejewski, 2006). Thus, for analyses using the ICG to estimate the rate of complicated grief, we limited the sample to those participants whose homicide losses were at least 6 months prior to the time of assessment.

PTSD Checklist—Civilian Version (PCL; Weathers, Litz, Herman, Huska, & Keane, 1993). The PCL is a 17-item measure that directly corresponds to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; *DSM–IV–TR*; American Psychiatric Association, 2000) criteria for PTSD. Participants were instructed to complete the items using the homicide as the index trauma. Using a 5-point Likert scale ranging from 1 = *not at all* to 5 = *extremely*, participants respond to questions regarding how bothered they have been by PTSD symptoms. Item responses are summed to yield a total PTSD score and subscale scores for the B ("reexperiencing"), C ("avoidance/numbing"), and D ("hyperarousal") symptom clusters as defined by *DSM–IV–TR*. The PCL has shown good psychometric properties in other studies of PTSD following bereavement (Bonanno et al., 2007; Schnider et al., 2007) and in a study of individuals who experienced community violence (Ramchand, Marshall, Schell, & Jaycox, 2008). The cut score of 50 has been used in many studies and is generally the most conservative one to be widely reported (Ruggiero, Del Ben, Scotti, & Rabalais, 2003; Yeager, Magruder, Knapp, Nicholas, & Freuh, 2007). PCL scores have demonstrated test–retest correlation coefficients of .88 after 1 week and .68 after 2 weeks (Ruggiero et al., 2003). In this study, the PCL demonstrated high internal consistency, with a Cronbach's alpha of .93.

Procedure

Approval was obtained from The University of Memphis Institutional Review Board. After completing an informed consent form, participants met with a trained master's- or doctoral-level graduate student for an assessment session (typically 60–120 min in length). The interaction began with a brief open-ended rapport-building interview that followed from a standard prompt: "I did not have the pleasure of knowing [loved one], would you please tell me something about [him/her]?" Following a brief discussion, participants were asked to complete a set of self-report questionnaires.

Data Analysis Plan

The primary aim of the study was to document the level of symptoms of relevant syndromes (PTSD, complicated grief, depression) in a sample of African American individuals bereaved by homicide loss, and to examine associations between symptom severities and other measured indices. In keeping with proposed diagnostic criteria for complicated grief (Prigerson & Maciejewski, 2006), only those participants were included whose index homicide had occurred at least 6 months ago ($n = 44$) in estimat-

ing the prevalence of categorical complicated grief on the ICG. When the ICG was used as a continuous measure, all study participants were included. Chi-square analyses were used to investigate patterns of co-occurrence of categorical PTSD, complicated grief, and depression. Group comparisons were conducted to evaluate the impact of time by comparing those within 2 years of the loss with those beyond 2 years and by relationship to the deceased. The 2-year timeframe corresponds to the follow-up period adopted by other published studies in the field (Kaltman & Bonanno, 2003; Prigerson & Jacobs, 2001). The sample size did not permit comparisons across all relationship categories, but mothers were compared with all other participants based on research suggesting that parents of homicide victims, and mothers in particular, may have more severe and persistent responses to this type of loss. Correlations among the symptom measures and between each symptom measure and a set of potential predictors, including demographic characteristics and aspects of the loss, were examined in preparation for regression analyses. Demographic variables included age, gender, education (a categorical variable with two levels), income (a categorical variable with eight levels that we treated as a continuous variable), and relationship status (whether the participant was currently involved in a romantic relationship). Aspects of the loss that were investigated included frequency of contact with the loved one prior to the homicide and time since the homicide. For all between-groups comparisons, we used mixed-model analyses of variance (ANOVAs) that nested participants as random effects by homicide victim to account for some participants reporting the same homicide loss. Complete data were obtained for all but one participant, and missing data were handled using pairwise deletion, which resulted in an n of 53 for analyses using the BDI–II.

Results

Descriptive Statistics

Characteristics of the 54 participants and means and standard deviations for all symptom measures are reported in Table 1. The majority of participants were parents (i.e., mother, father, and stepfather; 63.0%, $n = 34$) of the deceased. The next most common relationship categories were sibling (13.0%, $n = 7$) and extended family (grandmothers and aunts; 13.0%, $n = 7$), followed by spouse (9.3%, $n = 5$). The remainder 1.9% ($n = 1$) endorsed "other," a category that included friends, coworkers, or other members of the deceased's community. The 44 homicide victims were 100% African American, and 65.9% ($n = 29$) male, with an age range of 2 years to 55 years old ($M = 27.41$ years, $SD = 10.47$). There were 10 instances of participants reporting the same homicide victim. In six instances, two participants reported the same homicide loss, and in two instances, three participants reported the same homicide loss. The relationships between the participants and homicide victims included one mother and grandmother pair, one mother and sister pair, two pairs of mothers and stepfathers, and two pairs of mothers and aunts. Two additional sets of participants included a mother, aunt, and sister triad and a mother and two sisters.

Prevalence of PTSD, Complicated Grief, Depression, and Anxiety

On the PCL, 10 participants (18.5%) screened positive for PTSD. On the ICG, among the 44 participants whose loss occurred 6 or more months before, 54.5% ($n = 24$) screened positive for complicated grief, constituting 44.4% of the total sample. Using the BDI–II, a total of 29 participants (53.7%) screened positive for at least mild depression. On the BAI, 46.5% screened positive for at least mild anxiety.

Relations Between PTSD, Depression, Complicated Grief, and Survivor Characteristics

In examining only those 44 participants whose loss occurred 6 months or more prior to the study, of the nine participants (20.5%) screening positive for PTSD, all but one (88.9%) screened positive for complicated grief. In contrast, among those without PTSD ($n =$

Table 1
Descriptive Statistics on Screening Measures for the Full Sample and by Time Since Loss (N = 54)

Variable	Full sample ($N = 54$)	Less than 2 years posthomicide ($n = 31$)	More than 2 years posthomicide ($n = 23$)	Test statistic (*df*)
Mean (*SD*) age (years)	48.61 (12.26)	48.16 (11.86)	49.22 (13.02)	$t(42.7) = -0.49$, *ns*
Mean (*SD*) months since homicide	21.58 (14.69)	10.82 (7.26)	36.10 (8.04)	$t(42) = -10.23^{**}$
Mean (*SD*) months knew the deceased	277.54 (114.89)	300.87 (122.16)	246.09 (98.23)	$t(42) = 1.92$, *ns*
Relationship status, %[a]	37.00	32.26	43.48	Wald$\chi^2(1) = 1.97$, *ns*
Mean (*SD*) frequency of contact[b]	4.70 (0.86)	4.55 (1.09)	4.91 (0.29)	Wald$\chi^2(1) = 3.06^{***}$
Mean (*SD*) PCL total score	36.59 (15.33)	40.61 (15.71)	31.17 (13.27)	$t(39) = 2.32^{*}$
Reexperiencing	11.55 (5.77)	12.71 (5.86)	10.00 (5.39)	$t(52) = 1.74$, *ns*
Avoidance/Numbing	13.93 (6.55)	15.52 (6.78)	11.78 (5.67)	$t(39.9) = 2.11^{*}$
Hyperarousal	11.11 (4.89)	12.39 (4.99)	9.39 (4.28)	$t(52) = 2.31^{*}$
Mean (*SD*) ICG score	32.46 (15.34)	35.39 (15.85)	28.52 (14.00)	$t(52) = 1.65$, *ns*
Mean (*SD*) BDI–II score[c]	15.72 (11.17)	17.48 (11.98)	13.23 (9.63)	$t(52) = 1.38$, *ns*
Mean (*SD*) BAI score	11.74 (10.86)	15.06 (12.13)	7.26 (6.86)	$t(51) = 2.77^{**}$

Note. PCL = PTSD Checklist—Civilian; ICG = Inventory of Complicated Grief—Revised; BDI–II = Beck Depression Inventory—II; BAI = Beck Anxiety Inventory.
[a] Current relationship status: (0 = not in a relationship, 1 = in a relationship). [b] Frequency of contact: (1 = *less than once per month*, 2 = *once per month*, 3 = *every other week*, 4 = *once per week*, 5 = *2 to 7 times per week*). [c] $n = 53$.
$^{*}p < .05$. $^{**}p < .01$. *** Nonsignificant trend, $p < .10$.

35), 45.7% ($n = 16$) screened positive for complicated grief, Pearson $\chi^2(1) = 5.38$, $p < .05$. Among the 24 participants whose loss occurred 6 months or more prior to the study and who screened positive for complicated grief, 33.3% ($n = 8$) screened positive for PTSD, and 75.0% ($n = 18$) screened positive for at least mild depression, compared with 20.0% of the 20 participants without complicated grief, Pearson $\chi^2(1) = 13.20$, $p < .01$. Not surprisingly, regardless of status on the ICG, all of the PTSD-positive participants whose loss occurred 6 or more months prior also screened positive for at least mild depression, in comparison to 37.1% ($n = 13$) of those without PTSD, Pearson $\chi^2(1) = 11.31$, $p < .01$.

We then divided the total sample into two groups, using 2 years since the homicide as the cutoff point and compared the groups on each symptom dimension after controlling for the within-subjects variance shared by association of some participants with the same homicide victim and with other participants. Significant group differences emerged on PCL total scores, the PCL Avoidance/Numbing and Hyperarousal subscales, and the BAI, with the early bereavement group reporting greater severity of symptoms on both measures (see Table 1). However, no significant differences emerged on depression or complicated grief symptoms as a function of the dichotomous grouping of early versus late bereavement.

Given that over half of the total sample comprised bereaved mothers, mothers were compared with all other study participants on symptom measures. A series of mixed-model ANOVAs was used to assess these differences, with the dichotomous mother/nonmother category as the independent variable. No statistically significant differences emerged between mothers ($n = 30$) and other study participants ($n = 24$). When the sample was restricted to only women, the same pattern of findings emerged such that no statistically significant differences emerged between mothers ($n = 30$) and other women ($n = 18$) on symptom measures.[1]

Correlations Between Measures

Correlations between measures are presented in Table 2. Gender was moderately correlated with ICG scores such that women demonstrated higher scores. Relationship status (scored dichotomously: currently in an intimate relationship or not) was inversely associated with ICG score, such that currently being in a relationship was associated with lower ICG scores. Total PCL and BAI scores were negatively correlated with age and with time since the homicide. The ICG score was the only symptom scale related to frequency of contact with the deceased and to gender. Education was not significantly correlated with any of the symptom measures, but income and ICG were inversely correlated, such that those survivors with lower income suffered more symptoms of complicated grief. Specifically, those earning $20,000 or less annually had a mean ICG score that was 11 points higher ($M = 39.84$, $SD = 12.31$) than those earning more than $20,000 ($M = 28.42$, $SD = 15.48$). Surprisingly, the total BDI–II score did not significantly correlate with any of the other indices apart from the expectable robust correlations with other symptom severity scores.

Regression Analyses

Variables that were correlated with the BAI, PCL, or ICG were entered simultaneously as predictors of psychopathology in a series of mixed-model regression equations (see Table 3). Time since the loss was inversely predictive of anxiety and approached inverse significance for PTSD. Age was inversely predictive of PTSD and anxiety. Income was inversely predictive, and frequency of contact with the deceased was directly predictive of complicated grief, but relationship status was not so associated. In post hoc analysis, income level was not associated with recency of loss.

Table 2
Correlations Among Demographic and Symptom Variable (N = 54)

Variable	PCL	ICG	BAI	BDI–II[a]
PTSD Checklist (PCL)	—	.69**	.69**	.75**
Inventory of Complicated Grief (ICG)			.50**	.61**
Beck Anxiety Inventory (BAI)				.58**
Time since death	−.28*	−.26***	−.35**	−.19
Months knew the deceased	−.05	−.15	−.07	.10
Gender	.22	.29*	.06	.15
Frequency of contact	.12	.27*	−.02	.17
Age	−.32*	−.24***	−.42**	−.19
Yearly income	−.09	−.32*	−.18	.01
Education	.13	−.01	.01	.04
Relationship status	.01	−.28*	.04	−.02

Note. BDI–II = Beck Depression Inventory—II. "Frequency of contact" refers to the frequency of contact with the deceased loved one prior to the homicide, response options ranged from *less than once per month* to *2 to 7 times per week*. Gender was scored 1 = male, 2 = female. Relationship status refers to whether the participant is currently involved in a romantic relationship: 1 = no, 2 = yes.
[a] $n = 53$.
* $p < .05$. ** $p < .01$. *** Nonsignificant trend, $p < .10$.

Discussion

This study investigated symptoms of PTSD, complicated grief, depression, and anxiety in a sample of homicidally bereaved individuals. Participants were recruited from a faith-based community agency dedicated to helping survivors of homicide. This study is the first, to our knowledge, to investigate these important clinical outcomes within an African American sample of homicide survivors.

Significant proportions of the sample screened positive for adverse clinical outcomes including PTSD, complicated grief, depression, and anxiety. The rates of participants screening positive for depression and for complicated grief were both particularly high. Over 40% of the full sample, and more than half of those whose loss occurred at least 6 months prior, screened positive for complicated grief. These rates, not surprisingly, are considerably higher than the rates of approximately 10% found in bereaved samples following more normative losses (Prigerson & Maciejewski, 2006) and is even higher than the "caseness" rate among bereaved parents, which at 30% is also greatly elevated (Keesee et al., 2008). The rate of positive PTSD screens (18.5%) falls within the range of those reported in previous studies, which vary widely. For example, the estimated rate of current PTSD was approxi-

[1] Descriptive statistics for mothers versus nonmothers analyses are available from Meghan E. McDevitt-Murphy.

Table 3
Mixed-Model Regression Analyses With Demographic Variables Predicting Psychopathology

Variable	Estimate	*SE*	*t*	95% CI
PCL total ($n = 54$)				
Age	−0.35	0.16	−2.14*	[−0.68, −0.02]
Time since homicide	−0.25	0.14	−1.84***	[−0.53, 0.03]
ICG total ($n = 54$)				
Gender	10.50	6.12	1.72***	[−1.84, 22.84]
Income	−6.78	2.66	−2.55*	[−12.13, −1.44]
Relationship status	−5.83	4.04	−1.44	[−13.98, 2.32]
Frequency of contact	5.03	2.16	2.33*	[0.69, 9.37]
BAI total ($n = 54$)				
Age	−0.33	0.11	−3.08**	[−0.55, −0.12]
Time since homicide	−0.22	0.09	−2.49*	[−0.40, −0.04]

Note. PCL = PTSD Checklist; ICG = Inventory of Complicated Grief. "Frequency of contact" refers to the frequency of contact with the deceased loved one prior to the homicide, response options ranged from *less than once per month* to *2 to 7 times per week*. Gender was scored 1 = male, 2 = female. Relationship status refers to whether the participant is currently involved in a romantic relationship: 1 = no, 2 = yes.
* $p < .05$. ** $p < .01$. *** Nonsignificant trend, $p < .10$.

mately 5% for those with lifetime exposure to the homicide of a loved one (Amick-McMullan et al., 1991) and approximately 50% for persons homicidally bereaved within the past 6 months (Kaltman & Bonanno, 2003). As there is not an established cut score on the PCL for the homicidally bereaved, it is possible that reliance on the cut score of 50 may have resulted in an underestimate of the rate of PTSD.

An interesting pattern of comorbidity emerged. Among the participants whose loss occurred 6 months or more prior to assessment, almost all participants screening positive for PTSD also screened positive for complicated grief and for at least a mild level of depression. Among participants screening positive for complicated grief, more than three quarters screened positive for at least mild depression and one third screened positive for PTSD. In all analyses, we employed conservative cut scores to minimize the rate of false positives. These findings suggest that individuals surviving the homicide of a loved one are at considerable risk for adverse psychological outcomes in multiple domains.

Scores on measures of depression and complicated grief did not differ between those whose homicide loss occurred more than 2 years prior and those who were less than 2 years postloss. Complicated grief also did not show a significant relationship to time since the event in continuous analyses, although it approached significance. In contrast, in categorical and continuous analyses, PTSD and anxiety severities were inversely associated with time since the homicide. This sample, mostly comprising parents of murdered children, may reflect a population for whom complicated grief may be particularly severe and minimally mitigated by the passage of time (cf. Keesee et al., 2008).

The small number of men in the sample renders any conclusions about gender tentative, but previous literature suggests that mothers surviving their children may have a particularly persistent grief reaction (Murphy, Johnson, & Lohan, 2002). Our comparison of mothers with nonmothers did not result in significant findings, and the small sample size did not permit comparisons of mothers to other specific relationship groups. These findings differ from prior research suggesting that mothers exhibit more distress than other relatives in response to homicide loss (Thompson et al., 1998). The reasons for this discrepancy are not clear, but the study's small sample size may have hindered our ability to detect significant differences.

The present results suggest that age was inversely related to both PTSD and anxiety independent of the effect of time since homicide. This is somewhat consistent with previous findings that older people demonstrate lower rates of PTSD when controlling for differing rates of trauma exposure across age groups (Norris, 1992). In the present sample, the effect of age is of interest given that the nature of the traumatic event was constant across participants, in contrast to previous studies that have investigated the relationship of age to PTSD symptoms in samples with heterogeneous trauma exposure (Bromet, Sonnega, & Kessler, 1998). Some studies, however, have not found an association with age (Christiansen & Elklit, 2008) or have found an interaction between age and gender (Bromet et al., 1998). The present study was underpowered for the investigation of a gender interaction. Even so, the combination of significant inverse associations between age and PCL or BAI scores and either an association or a trend toward an association between time since homicide and the PCL or BAI suggest the importance of change over time, whether as a product of normative age-related developmental changes or as a result of specific adaptations or adjustments. Prospective longitudinal studies would be helpful in clarifying the mechanisms involved.

The pattern of findings associated with income was noteworthy. Income was not significantly correlated with scales assessing depression, anxiety, or PTSD. It was, however, significantly correlated with complicated grief. The finding of a relationship between low income and higher complicated grief symptoms and bereavement-related depression has been reported in other populations (Tomarken et al., 2008). One potential explanation for the association between income and complicated grief scores may be that in some lower income families, relationships may be tighter-knit because of a greater level of interdependence financially (Mutran, 1985) or the greater likelihood of having lived in the same residence. In this study, complicated grief severity was also related to frequency of contact, which is consistent with a theory of increased interdependence. It is also possible that complicated grief may impair income generation. Although it was not possible to evaluate this question in the present cross-sectional study, future longitudinal studies may be helpful in examining these models. Conversely, the absence of an association between PTSD and income in this study contrasts with studies showing low income to be a risk factor for higher PTSD symptom levels (e.g., Coker, Weston, Creson, Justice, & Blakeney, 2005). However, the relationship between PTSD and income or other measures of socioeconomic status is inconsistent, with other studies finding no such association (Lilly & Graham-Bermann, 2009). This therefore remains an area in which further examination is warranted.

An unexpected and interesting finding was the lack of association between depression severity and other variables apart from the other symptom measures. Other studies involving bereaved samples have also found a lack of an association between depressive symptoms and other indices. For instance, Boelen, Huntjens, van Deursen, and van den Hout (2010), in a sample of 109 bereaved people, found that self-reported depressive symptoms did not significantly correlate with gender, age, education level, kinship,

or the deceased's cause of death. They did, however, report that depressive symptoms were negatively correlated with time since the loss. Perhaps the lack of such a relation in the present sample is reflective of the persistent nature of depression following homicide bereavement, in comparison to the mixed bereavement sample in Boelen et al., which included a sizable proportion of individuals bereaved by natural death. This finding may also be consistent with recent longitudinal work by King, King, McArdle, Shalev, and Doron-LaMarca (2009), which suggests that depression may be etiologically reflective of temperamental factors independent of PTSD or other risk factors, whereas sequelae like PTSD in the homicidally bereaved may be etiologically more related to environmental and other risk factors. Future research should explore the possible mechanisms underlying bereavement-related depression, especially among violently bereaved individuals.

The present results should be interpreted in the context of findings regarding treatment seeking among African Americans with complicated grief. Although African Americans appear to benefit as much from formal treatment for complicated grief as Caucasians do (Cruz et al., 2007), some research suggests that African Americans may be less likely to seek professional help for grief (Laurie & Neimeyer, 2008). In fact, research indicates that African Americans rely to a greater extent on informal support (Neighbors & Jackson, 1984). Barrett (1998) also reported that following the death, African American grievers place exceptionally high value on and express notable appreciation for the receipt of condolences. In spite of this, some findings suggest that African Americans may actually talk less overall about their losses relative to Caucasians in formal or informal settings, and that those who communicate their distress least are at greatest risk for bereavement complications (Laurie & Neimeyer, 2008). Factors such as these call for future studies examining obstacles to psychosocial service use (i.e., professional therapy, grief support groups) and aspects of informal social support (particularly, grief-specific support) characteristic of African American homicidally bereaved individuals.

Coupling our sample's high level of bereavement distress with studies indicating that specialized therapeutic interventions and informal social support appear to be beneficial yet poorly used by African American grievers, there is reason to believe that homicide loss adds yet another component to this scenario. Finding appropriate and adequate support may be difficult for those dealing with "disenfranchised grief," wherein survivors may withdraw from or be held at arm's length by the social network because of stigma associated with the deceased's manner of death, as in homicide (Armour, 2007; Doka, 1989). Martin (2005) terms this the "social construction of blame," which is characterized by dialogue between parents bereaved by homicide and others (i.e., family, community members, police) that "assigns blame, creates stigma, and devalues victims and surviving families" (p. 162), often making adjustment following violent loss more difficult. Furthermore, the social construction of blame surrounding homicide loss does not seem to be confined to those losses that occurred during the course of direct involvement in criminal activity. In the course of this study, one participant movingly described a sense of feeling looked down on by others following the murder of her daughter, who was killed in a drive-by shooting. Other survivors conveyed having felt judged by others for not having adequately protected their loved one from such an untimely and violent death, despite the fact that doing so would have been impossible. Future efforts to extend therapeutic interventions and informal support to homicide survivors should also consider intervening at the community level to help diminish stigma associated with this form of loss.

Findings from the present study should be interpreted with attention to several important limitations. First, this study included a small sample, which may have limited our ability to detect significant patterns. In addition, we used exclusively self-report questionnaires, although each scale we used has demonstrated strong evidence of sound psychometric characteristics in previous research. We also did not include a measure of prior trauma, so we have no way of estimating the contribution of prior experiences to participants' responses to the homicide loss. In addition, our sample was recruited from a faith-based community agency. Although VTV does not discriminate on the basis of religious belief or affiliation, and it is embedded in a community with a high rate of religious involvement, it nonetheless may not reflect a sample representative of all African American homicide survivors. We did not collect information about individuals' levels of religious involvement, but we recommend doing so in future studies. An additional limitation is that we did not study cultural variation among African Americans in our sample. However, informal observations suggest that the vast majority were from families who had resided in the United States for multiple generations and that few if any were first- or second-generation immigrants. Future studies should attempt to delineate the effect of culture and acculturation for different subgroups of persons identifying as African American (e.g., persons of Caribbean heritage vs. those whose forebears came directly to the United States from Africa). Finally, these analyses were cross-sectional. Although our findings related to time since homicide seem to suggest a temporal process, only longitudinal data would permit such conclusions with certainty.

In summary, this study of African Americans bereaved by homicide raises serious concerns about the heavy psychological impact of homicide bereavement, with nearly half of the sample evaluated screening positive for depression, complicated grief, PTSD, or anxiety, even years after the loss. Indeed, most participants who screened positive for one disorder also met screening criteria for a second disorder, suggesting that there is likely a high rate of comorbidity in a population that often lacks access to adequate health and mental health services. The further observation that participants still reported significant symptoms even years following the loss suggests that this form of traumatic loss may have a protracted impact, and argues for the relevance of developing and evaluating tailored interventions for bereavement distress in this population. Practically, these findings suggest that many homicide survivors are experiencing clinically significant distress. They may not seek mental health services but may be in contact with victims' services organizations like VTV. These findings suggest that screening for symptoms of complicated grief, PTSD, and depression and referral to appropriate agencies by victims' services advocates could be of benefit. We hope this preliminary study gives encouragement for this work.

References

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

Amick-McMullan, A., Kilpatrick, D. G., & Resnick, H. S. (1991). Homicide as a risk factor for PTSD among surviving family members. *Behavior Modification, 15,* 545–559. doi:10.1177/01454455910154005

Amick-McMullan, A., Kilpatrick, D. G., Veronen, l. J., & Smith, S. (1989). Family survivors of homicide victims: Theoretical perspectives and an exploratory study. *Journal of Traumatic Stress, 2,* 21–35. doi:10.1002/jts.2490020104

Armour, M. (2007). Violent death: Understanding the context of traumatic and stigmatized grief. *Journal of Human Behavior in the Social Environment, 14,* 53–90. doi:10.1300/J137v14n04_04

Barrett, R. K. (1998). Sociocultural considerations for working with Blacks experiencing loss and grief. In K. Doka & J. Davidson (Eds.), *Living with grief: Who we are, how we grieve* (pp. 83–96). Washington, DC: Hospice Foundation of America.

Beck, A. T., Brown, G. K., Epstein, N., & Steer, R. A. (1988). An inventory measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56,* 893–897. doi:10.1037/0022-006X.56.6.893

Beck, A. T., & Steer, R. A. (1993). Beck Anxiety Inventory manual. San Antonio, TX: Psychological Corporation.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory–II.* San Antonio, TX: Psychological Corporation.

Boelen, P. A., Huntjens, R. J. C., van Deursen, D. S., & van den Hout, M. A. (2010). Autobiographical memory specificity and symptoms of complicated grief, depression, and posttraumatic stress disorder following loss. *Journal of Behavior Therapy and Experimental Psychiatry, 41,* 331–337. doi:10.1016/j.jbtep.2010.03.003

Bonanno, G. A., Neria, Y., Mancini, A., Coifman, K., Litz, B., & Insel, B. (2007). Is there more to complicated grief than depression and posttraumatic stress disorder? A test of incremental validity. *Journal of Abnormal Psychology, 116,* 342–351. doi:10.1037/0021-843X.116.2.342

Bromet, E., Sonnega, A., & Kessler, R. C. (1998). Risk factors for *DSM–III–R* posttraumatic stress disorder: Findings from the National Comorbidity Survey. *American Journal of Epidemiology, 147,* 353–361.

Chapman, L. K., & Woodruff-Borden, J. (2009). The impact of family functioning on anxiety symptoms in African American and European American young adults. *Personality and Individual Differences, 47,* 583–589. doi:10.1016/j.paid.2009.05.012

Christiansen, D. M., & Elklit, A. (2008). Risk factors predict posttraumatic stress disorder differently in men and women. *Annals of General Psychiatry, 7,* 24. doi:10.1186/1744-859X-7-24

Coker, A. L., Weston, R., Creson, D. L., Justice, B., & Blackeney, P. (2005). PTSD symptoms among men and women survivors of intimate partner violence: The role of risk and protective factors. *Violence and Victims, 20,* 625–643.

Cruz, M., Scott, J., Houck, P., Reynolds, C. F., III., Frank, E., & Shear, M. K. (2007). Clinical presentation and treatment outcome of African Americans with complicated grief. *Psychiatric Services, 58,* 700–702. doi:10.1176/appi.ps.58.5.700

Currier, J., Holland, J., Coleman, R., & Neimeyer, R. A. (2007). Bereavement following violent death: An assault on life and meaning. In R. Stevenson & G. Cox (Eds.), *Perspectives on violence and violent death* (pp. 177–202). Amityville, NY: Baywood.

Doka, K. J. (Ed.). (1989). *Disenfranchised grief: Recognizing hidden sorrow.* Lexington, MS: Lexington Books.

Heron, M., Hoyert, D. L., Murphy, S. L., Xu, J., Kochanek, K. D., & Tejada-Vera, B. (2009). Deaths: Final data for 2006. *National Vital Statistics Reports, 57,* 1–134.

Holloway, K. F. C. (2003). *Passed on: African American mourning stories.* Durham, NC: Duke University Press.

Horowitz, M., Wilner, N., & Alvarez, W. (1979). Impact of Event Scale: A measure of subjective stress. *Psychosomatic Medicine, 41,* 209–218.

Joe, S., Woolley, M. E., Brown, G. K., Ghahramanlou-Holloway, M., & Beck, A. T. (2008). Psychometric properties of the Beck Depression Inventory—II in low-income, African American suicide attempters. *Journal of Personality Assessment, 90,* 521–523. doi:10.1080/00223890802248919

Kaltman, S., & Bonanno, G. A. (2003). Trauma and bereavement: Examining the impact of sudden and violent death. *Journal of Anxiety Disorders, 17,* 131–147. doi:10.1016/S0887-6185(02)00184-6

Keesee, N. J., Currier, J. M., & Neimeyer, R. A. (2008). Predictors of grief following the death of one's child: The contribution of finding meaning. *Journal of Clinical Psychology, 64,* 1145–1163. doi:10.1002/jclp.20502

Kessler, R., Berglund, P., Demler, O., Jin, R., & Walters, E. E. (2005). Lifetime prevalence and age-of-onset distributions of *DSM–IV* disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62,* 593–602.

Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month *DSM–IV* disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62,* 617–627.

King, D. W., King, L. A., McArdle, J. J., Shalev, A. Y., & Doron-LaMarca, S. (2009). Sequential temporal dependencies in associations between symptoms of depression and posttraumatic stress disorder: An application of bivariate latent difference score structural equation modeling. *Multivariate Behavioral Research, 44,* 437–464. doi:10.1080/00273170903103308

Kochanek, K. D., Murphy, S. L., Anderson, R. N., & Scott, C. (2004). Deaths: Final data for 2002. *National Vital Statistics Reports, 53,* 1–116.

Laurie, A., & Neimeyer, R. A. (2008). African Americans in bereavement: Grief as a function of ethnicity. *Omega: Journal of Death and Dying, 57,* 173–193. doi:10.2190/OM.57.2.d

Lilly, M. M., & Graham-Bermann, S. A. (2009). Ethnicity and risk for symptoms of posttraumatic stress following intimate partner violence: Prevalence and predictors in European American and African American women. *Journal of Interpersonal Violence, 24,* 3–19. doi:10.1177/0886260508314335

Martin, D. D. (2005). Acute loss and the social construction of blame. *Illness, Crisis & Loss, 13,* 149–167.

Murphy, S. A., Johnson, L. C., & Lohan, J. (2002). The aftermath of the violent death of a child: An integration of the assessments of parents' mental distress and PTSD during the first 5 years of bereavement. *Journal of Loss and Trauma, 7,* 203–222. doi:10.1080/10811440290057620

Murphy, S. A., Johnson, L. C., Wu, L., Fan, J. J., & Lohan, J. (2003). Bereaved parents outcomes 4 to 60 months after their children's deaths by accident, suicide, or homicide: A comparative study demonstrating differences. *Death Studies, 27,* 39–61.

Mutran, E. (1985). Intergenerational family support among Blacks and Whites: Response to culture or to socioeconomic differences. *Journal of Gerontology, 40,* 382–389. doi:10.1093/geronj/40.3.382

Neighbors, H. W., & Jackson, J. S. (1984). The use of informal and formal help: Four patterns of illness behavior in the Black community. *American Journal of Community Psychology, 12,* 629–644. doi:10.1007/BF00922616

Norris, F. H. (1992). Epidemiology of trauma: Frequency and impact of different potentially traumatic events on different demographic groups. *Journal of Consulting and Clinical Psychology, 60,* 409–418. doi:10.1037/0022-006X.60.3.409

Prigerson, H. G., & Jacobs, S. C. (2001). Traumatic grief as a distinct disorder: A rationale, consensus criteria, and a preliminary empirical test. In M. S. Stroebe, R. O. Hansson, W. Stroebe, & H. Schut (Eds.), *Handbook of bereavement research: Consequences, coping, and care* (pp. 613–645). Washington, DC: American Psychological Association.

Prigerson, H. G., & Maciejewski, P. K. (2006). A call for sound empirical testing and evaluation of criteria for complicated grief proposed by the *DSM V. Omega: Journal of Death and Dying, 52,* 9–19. doi:10.2190/ANKH-BB2H-D52N-X99Y

Ramchand, R., Marshall, G. N., Schell, T. L., & Jaycox, L. H. (2008).

Posttraumatic distress and physical functioning: A longitudinal study of injured survivors of community violence. *Journal of Consulting and Clinical Psychology, 76,* 668–676. doi:10.1037/0022-006X.76.4.668

Rosenblatt, P., & Wallace., B. R. (2005). *African American grief.* New York: Brunner-Routledge.

Ruggiero, K. J., Del Ben, K., Scotti, J. R., & Rabalais, A. E. (2003). Psychometric properties of the PTSD Checklist—Civilian Version. *Journal of Traumatic Stress, 16,* 495–502. doi:10.1023/A:1025714729117

Rynearson, E. K. (1984). Bereavement after homicide: A descriptive study. *The American Journal of Psychiatry, 141,* 1452–1454.

Rynearson, E. K. (1995). Bereavement after homicide: A comparison of treatment seekers and refusers. *British Journal of Psychiatry, 166,* 507–510.

Rynearson, E. K., & McCreery, J. M. (1993). Bereavement after homicide: A synergism of trauma and loss. *The American Journal of Psychiatry, 150,* 258–261.

Schnider, K. R., Elhai, J. D., & Gray, M. J. (2007). Coping style use predicts posttraumatic stress and complicated grief symptom severity among college students reporting a traumatic loss. *Journal of Counseling Psychology, 54,* 344–350. doi:10.1037/0022-0167.54.3.344

Thompson, M. P., Norris, F. H., & Ruback, R. B. (1998). Comparative distress levels of inner-city family members of homicide victims. *Journal of Traumatic Stress, 11,* 223–242. doi:10.1023/A:1024494918952

Tomarken, A., Holland, J., Schachter, S., Vanderwerker, L., Zuckerman, E., Nelson, C., . . . Prigerson, H. (2008). Factors of complicated grief pre-death in caregivers of cancer patients. *Psycho-Oncology, 17,* 105–111. doi:10.1002/pon.1188

U.S. Department of Justice, Federal Bureau of Investigation. (2008). *Crime in the United States: Expanded homicide data.* Retrieved from http://www.fbi.gov/ucr/cius2007/offenses/expanded_information/homicide.html

Walter, K. H., & Hobfoll, S. E. (2009). Resource loss and naturalistic reduction of PTSD among inner-city women. *Journal of Interpersonal Violence, 24,* 482–498. doi:10.1177/0886260508317174

Weathers, F., Litz, B., Herman, D., Huska, J., & Keane T. (1993, October). *The PTSD Checklist (PCL): Reliability, validity, and diagnostic utility.* Paper presented at the Annual Convention of the International Society for Traumatic Stress Studies, San Antonio. TX.

Yeager, D. E., Magruder, K. M., Knapp, R. G., Nicholas, J. S., & Frueh, C. (2007). Performance characteristics of the Posttraumatic Stress Disorder Checklist and SPAN in Veterans Affairs primary care settings. *General Hospital Psychiatry, 29,* 294–301. doi:10.1016/j.genhosppsych.2007.03.004

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