

Factors That Mediate and Moderate the Link Between Partner Abuse and Suicidal Behavior in African American Women

Nadine J. Kaslow and Martie P. Thompson
Emory University School of Medicine

Lindi A. Meadows, Diana Jacobs,
and Susan Chance
Georgia State University

Brandon Gibb
Temple University

Hallie Bornstein
University of Wyoming

Leslie Hollins
University of Chicago—Illinois

Akil Rashid
Grady Health System

Kim Phillips
Georgia State University

Findings from a study comparing partner abuse in African American women suicide attempters ($n = 148$) and nonattempters ($n = 137$) revealed higher rates of physical and nonphysical partner abuse among attempters than their demographically similar nonsuicidal counterparts. The partner abuse—suicidal behavior link was mediated by psychological distress, hopelessness, and drug use and moderated by social support. Results also revealed that nonphysical partner abuse accounted for unique variance in the prediction of suicide attempt status beyond that attributable to childhood maltreatment. Implications of the findings for assessing both suicidal and abused women are discussed, and recommendations for preventive interventions for women at risk for suicidal behavior are provided.

Nonfatal suicidal acts predict suicide completions, the ninth leading cause of death in adults (Kachur, Potter, James, & Powell, 1995). Women make three times as many suicide attempts as men (Canetto & Lester, 1995). The suicide rate in women is

rising, and the gap in suicide completion rates between men and women is narrowing (Canetto & Lester, 1995). Further, although historically the suicide rate among African Americans has been lower than that of Caucasians, suicide is on the rise in the African American community (Griffith & Bell, 1989). Despite the increasing rates of suicide in women and African Americans, this is one of the first studies to address suicidal behavior in women in the African American community.

The role of partner abuse (domestic violence) only recently has been investigated as a risk factor for suicidal behavior in women (Abbott, Johnson, Koziol-McLain, & Lowenstein, 1995; Kaplan, Asnis, Lipschitz, & Chorney, 1995). Epidemiological data reveal that 21–34% of all women are physically assaulted by an intimate partner during their adult lives (Browne, 1993) and that partner abuse is associated with depression, anxiety, and posttraumatic stress (e.g., Browne, 1993; Goodman, Koss, Fitzgerald, Russo, & Keita, 1993). Despite the burgeoning empirical literature on partner abuse, few investigations have examined the effects of partner abuse for ethnic minority women (Goodman et al., 1993; Kanuha, 1994); thus, this study contributes to the literature by addressing an underresearched topic of considerable public health importance.

This study was funded by ASPH/CDC/ATSDR Grant "Interpersonal Violence, Discord, and Suicidality in Women." We thank Marnie Schlottman, Lisa Smith, and Mark Stevens for help with data collection; Salley Jesse, Denise Johnson, Arthur Kellermann, Pam McMahon, Ruth Parker, and Lloyd Potter, for assistance in study design and implementation; and the staffs of the Emergency Care Center, Psychiatric Emergency Service, Urgent Care Center, the Gynecology Emergency Clinic, and the Family Planning Clinic at the Grady Health System for assistance with recruitment.

Correspondence concerning this article should be addressed to Nadine J. Kaslow, Emory Department of Psychiatry and Behavioral Sciences, Grady Health System, 80 Butler Street SE, Atlanta, Georgia 30335. Electronic mail may be sent to nkaslow@emory.edu.

The bulk of the work on the partner abuse—suicidal behavior link has been conducted with adult victims of partner abuse or outpatient therapy clients. These data reveal that women abused

by their partners are more likely than nonabused women to have made suicide attempts (Abbott et al., 1995; Amaro, Fried, Cabral, & Zuckerman, 1990; Bergman & Brismar, 1991; Kaplan et al., 1995; Roberts, Lawrence, O'Toole, & Raphael, 1997; Stark & Flitcraft, 1996). The only study to focus on partner abuse in women suicide attempters was conducted in Greece and Denmark; 82% of Greek women suicide attempters and 32% of Danish women attempters reported being beaten by their current male partner (Arcel, Mantonakis, Peterson, Jemos, & Kaliteraki, 1992). Unfortunately, there was no control group, and the generalizability of the findings to an American sample is questionable.

No studies have focused on the link between abuse and suicidality among minority women. However, a review of medical records revealed that African American women who attempted suicide were more likely than Caucasian women to have a history significant for abuse (Stark & Flitcraft, 1996). However, the majority of this abuse occurred within the context of the adolescents' families of origin, rather than within an intimate partner relationship.

Given that not all women who are victims of partner abuse attempt suicide, it is important to ascertain those factors that explain the mechanisms through which partner abuse leads to suicidal behavior in women (mediators), as well as those variables that qualify the impact of partner abuse on suicidal behavior (moderators). Research suggests a number of potential mediating (e.g., psychological distress, hopelessness, and substance abuse) and moderating (e.g., coping skills and family and social support) variables that may play a role in the partner abuse-suicidal behavior link. Several studies have documented an association between nonfatal suicidal behavior in women and men and psychological distress (e.g., symptoms and feelings of hopelessness) and diagnoses (e.g., depression, anxiety, and alcohol and drug abuse or dependence; Beautrais et al., 1996; Beck, Steer, Beck, & Newman, 1993; Bergman & Brismar, 1991; Catnetto & Lester, 1995; Chance, Kaslow, & Baldwin, 1994; Weissman, Klerman, Markowitz, & Ouellette, 1989). Other research has indicated that social-psychological processes, including coping skills, social support, and family functioning, are related to suicidal behavior. Specifically, compared with their nonsuicidal counterparts, suicidal adults (a) use less adaptive coping skills (Josepho & Plutchik, 1994; Kotler et al., 1993), (b) report lower levels of social support and greater levels of social isolation (Clum & Febraro, 1994; Heikkinen, Aro, & Lonnqvist, 1994; Kotler et al., 1993; Veiel, Brill, Hafner, & Welz, 1988), and (c) endorse higher levels of family discord or stress (e.g., separation and loss, illness in a family member, and family life cycle transitions [Heikkinen et al., 1994]). Whereas poor coping skills, limited social support, and family dysfunction have been found to be associated with suicidal behavior, the capacity to mobilize a broad array of adaptive coping strategies and the presence of a supportive social and familial network protect an individual from engaging in suicidal behavior (Kotler et al., 1993; Nisbet, 1996).

In the present study, we sought to ascertain whether or not African American women who make suicide attempts are more likely to have experienced partner abuse than demographically similar nonattempters (controls). It is hypothesized that African

American women who make suicide attempts will report more current physical and nonphysical partner abuse than will demographically similar women who never have made a suicide attempt. If such an association is found, the study aims to identify factors that mediate or moderate the partner abuse-suicidal behavior relation in African American women. It is hypothesized that psychological distress, hopelessness, and alcohol and drug use will mediate the partner abuse-suicidal behavior link and that coping skills, social support, and family strengths will moderate the partner abuse-suicidal attempt status relation. Finally, given that female survivors of childhood trauma often are revictimized as adults (Messman & Long, 1996) and are at increased risk for suicidal behavior (Briere & Runtz, 1986; Kaplan et al., 1995; Yang & Clum, 1996), we also examined the unique effects of current partner abuse in predicting adult suicide attempt status beyond that accounted for by a self-reported history of child maltreatment. It is hypothesized that exposure to partner abuse will increase a woman's risk for suicidal behavior beyond that attributable to a history of childhood maltreatment.

Method

Sample

The sample was recruited from Grady Health System (GHS), an Emory University-affiliated public health care system that serves an indigent and urban population. The sample consisted of the following two groups of African American women ages 18-64, with a partner in the past year: (a) women who presented to the hospital following a nonfatal suicide attempt (attempters; $n = 148$) and (b) women who presented to the hospital for medical problems with no history of suicidal behavior (controls; $n = 137$).

Of the 191 African American suicide attempters referred to the study, only 11 women refused to participate (6%). Of the 217 African American women approached to serve as control participants for the study, 21 refused to participate (10%). Using a *t* test we found that the only difference between refusers and participants in both groups was for age, $t(390) = -2.05$, $p < .05$, with refusers being slightly older ($M_{age} = 36.19$) than participants ($M_{age} = 32.19$).

Women were excluded from both the attempter and the control conditions if they had a life-threatening medical condition, if they had significant cognitive impairment (defined by low scores on the Mini-Mental State Exam; MMSE; Folstein, Folstein, & McHugh, 1975), or if they were acutely psychotic or delirious. Control participants also were excluded if they had a history of prior suicide attempts. Four suicide attempters (2%) met the exclusion criteria. Of the 217 women approached for the control group, 11 (5%) were excluded because of a history of at least one prior suicide attempt.

Because the present article assesses the link between partner abuse and suicidal behavior in women, only women who reported having a partner currently or within the past year were included. Of the 176 African American attempters who participated in the study, 148 (84%) met this criteria. Of the 185 African American controls who participated in the study, 137 (74%) met this criteria. Thus, for the present report, the sample includes 285 women.

Measures

Background Variables

Sociodemographic variables. The following demographic variables were assessed: age (in years), marital status, education level (in years), homeless status, and employment status.

Rapid Estimate of Adult Literacy in Medicine (REALM; Williams et al., 1995). The REALM, used to assess grade equivalent literacy levels, categorized respondents into four literacy levels equivalent to Grades 0–12. The REALM has excellent criterion-related validity and test-retest and interrater reliabilities.

MMSE. The MMSE is a brief, widely used screening device of the person's mental state. Scores $\leq 24/30$ indicate diffuse cognitive dysfunction; women with scores ≤ 24 were excluded unless they were illiterate (REALM score), in which case they were excluded with MMSE scores ≤ 22 .

Childhood Trauma Questionnaire (CTQ; Bernstein et al., 1994). The CTQ, a 34-item scale, was used to gather data regarding childhood history of abuse (e.g., physical and sexual abuse and emotional and physical neglect). The CTQ has good internal consistency ($\alpha = .92$ for the current sample) and test-retest reliabilities, and strong convergent and discriminant validity (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997; Bernstein et al., 1994).

Dependent and Independent Variables

Dependent variable: Suicide attempt status. Women were classified as attempters or control participants.

Independent variable: Index of Spouse Abuse (ISA; Hudson & McIntosh, 1981). Physical partner abuse and nonphysical partner abuse were derived from the 30-item ISA. For completion of the ISA, partner was defined as a person the woman had been dating, living with, committed to, or separated from within the past year. The scale has good internal consistency reliability (in the present sample, $\alpha = .91$ and $.89$ for the ISA-P [physical partner abuse] and ISA-NP [nonphysical partner abuse], respectively), and good discriminant, content, and construct validity. Higher scores represent more self-reported partner abuse.

Mediating Variables

Brief Symptom Inventory (BSI; Derogatis & Spencer, 1982). General psychological distress was measured using the BSI, a 53-item self-report scale that assesses nine domains of emotional and behavioral difficulties. The scale yields a Global Severity Index (mean score of the sum of all items). The BSI has very good internal consistency ($\alpha = .95$ in present study) and test-retest reliabilities, as well as good convergent, construct, and criterion validity. Higher scores indicate greater distress.

Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974). The 20-item true-false BHS assesses negative expectancies about the future. Scores range from 0 to 20; higher scores indicate more hopelessness. The scale has good internal consistency reliability ($\alpha = .94$ for current sample), as well as good convergent and criterion related validity.

Brief Michigan Alcoholism Screening Test (MAST; Pokorny, Miller, & Kaplan, 1972). The 10-item Brief MAST, with a yes-no format, screens for alcohol-related problems. The scale has adequate internal consistency reliability ($\alpha = .84$ for the present sample).

Brief Drug Abuse Screening Test (DAST; Skinner, 1983). The 20-item DAST provides an index of the severity of drug-related problems. The scale has good internal consistency reliability ($\alpha = .94$ for the present sample) and concurrent validity.

Moderating Variables

Preliminary Strategic Approach to Coping Scale (P-SACS; Hobfoll, Dunahoo, Ben-Porath, & Monnier, 1994). The P-SACS, a 34-item measure rated on a 5-point Likert scale, assessed personal strengths and coping abilities. The P-SACS, which assesses prosocial-antisocial and active-passive dimensions of coping, has adequate psychometric proper-

ties (e.g., internal consistency reliability $\alpha = .81$ in the present sample) and is reliable and valid with inner-city women (Monnier & Hobfoll, 1997).

Family Strengths (FS; Olson, Larsen, & McCubbin, 1982). Respondents completed this 12-item 5-point Likert scale to provide their view on their family's strengths and resources. The scale has good internal consistency reliability ($\alpha = .88$ for the present sample), and adequate test-retest reliability and construct validity.

Perceived Social Support (PSS; Cohen & Hoberman, 1983; Russell & Curnona, 1984). This 15-item scale assessed perceptions about available emotional, tangible, and appraisal social support resources. The scale, which provides data on the respondent's confidence that adequate support will be available if needed, has good internal consistency reliability ($\alpha = .86$ in the present sample), and convergent, discriminant, and criterion-related validity.

Procedures

Recruitment of Suicide Attempters

The principal investigator (PI) was reachable by pager 24 hr/day, 7 days/week, for 18 months, so that the research team could be notified immediately about all women who came to the medical or psychiatric emergency rooms following a suicide attempt. The PI determined if the woman's behavior met the study criteria for a suicide attempt (i.e., self-injurious act that required medical attention). After the PI determined that the woman had made a suicide attempt, a research team member went to the hospital and, once the patient was medically stable enough to participate, recruited her for the study.

Recruitment of Control Participants

A team member approached all women seeking medical care at three medical walk-in clinics at the times that the team member was stationed at the clinic. Team members rotated through these clinics at various times of the day and various days of the week for 18 months.

Data Collection

Research team members, graduate and undergraduate psychology students trained in interviewing techniques and supervised weekly, approached eligible participants and explained the study. After written informed consent was obtained, a brief screening determined the eligibility of the participants. The research team member administered the questionnaires verbally to prevent confounding by the low levels of literacy in this population. Interviews were conducted in hospital areas once privacy had been acquired. Data collection consisted of a 2- to 3-hr face-to-face interview. Women were paid \$25 for their participation.

Results

Demographic Data

Group differences on sociodemographic variables were examined before testing study hypotheses to determine whether or not the two groups were comparable on key demographics. We conducted *t* tests when the variables were continuous, and we used chi-square analyses when the variables were ordinal, using group status as the independent variable and demographic characteristics as the respective dependent variables. Demographic data for the present sample and for the two groups separately are presented in Table 1.

The attempters were predominantly unmarried, unemployed,

Table 1
Demographic Characteristics of the Total Sample and Subsamples

Demographic characteristic	Group status			$F(1, 283)$ or $\chi^2(1)$
	Total (<i>n</i> = 285)	Suicide attempters (<i>n</i> = 148)	Control participants (<i>n</i> = 137)	
Age				
<i>M</i>	30.80	30.30	31.32	<i>ns</i>
<i>SD</i>	8.96	8.32	9.60	
Education				
<i>M</i>	11.75	11.47	12.05	12.07***
<i>SD</i>	1.44	1.53	1.27	
Grade equivalent reading level (% <high school)	48.0	45.6	50.8	<i>ns</i>
Homeless (% yes)	13.3	15.5	10.9	<i>ns</i>
Employed (% no)	58.8	71.4	45.3	20.05***
Marital status (% married)	22.8	24.3	21.2	<i>ns</i>

*** $p < .001$.

and relatively young with limited education and literacy skills (46% had a literacy level below that expected for high schoolers). Control participants were more likely to be employed and had more years of education than the attempters. The two demographic variables (employment status, education) on which between group differences were found were controlled for statistically in subsequent analyses.

Table 2 provides means and standard deviations for all variables, as well as F statistics for examining group differences between attempters and control participants.

Partner Abuse and Suicide Attempt Status

To test the primary study hypothesis that women who make suicide attempts will report higher current levels of partner abuse (ISA-P, ISA-NP) than their nonsuicidal counterparts and to protect against Type I error, we conducted a multivariate analysis of variance (MANOVA). Results revealed that attempters reported higher levels of partner abuse than controls did, $F(2, 263) = 11.55, p < .001$. Subsequent univariate analyses of variance (ANOVAs) indicated that higher abuse levels were found for both physical partner abuse, $F(1, 264) = 12.61, p < .001$, and nonphysical partner abuse, $F(1, 264) = 22.92, p < .001$.

Factors Mediating the Partner Abuse–Suicide Attempt Status Link

To determine whether or not the relation between partner abuse and suicide attempt status is mediated by psychological symptoms (BSI, BHS) and substance use (MAST, DAST), we used Baron and Kenny's (1986) criteria for mediation: (a) the independent variable (partner abuse) must be associated with the hypothesized mediator; (b) the mediator must be associated with the dependent variable (suicide attempt status); and (c) when the mediator is statistically controlled, a previously significant association between the independent and dependent vari-

ables must no longer be significant or must be reduced significantly in effect size.

We conducted correlational analyses, using Pearson product-moment correlations, to ascertain whether or not there was an association between physical and nonphysical partner abuse (independent variables) and the hypothesized mediators. As seen in Table 3, physical and nonphysical partner abuse were each related to all measures used as indicators of psychological distress and substance use; higher levels of self-reported physical and nonphysical partner abuse in the past year were associated with greater levels of overall psychological distress, hopelessness, alcohol use, and drug use. Thus, Criterion 1 for mediation was met.

To ascertain the association between the hypothesized mediators and suicide attempt status, we conducted a MANOVA with suicide attempt status as the independent variable and the hypothesized mediators as the dependent variables. Given that suicide attempt status is a dichotomous rather than continuous variable, combined with the need to protect against Type I error, it was necessary to perform a MANOVA. Results indicated that attempters reported more psychological distress and substance use problems than controls, $F(2, 277) = 36.05, p < .001$. Subsequent univariate ANOVAs showed that attempters endorsed higher levels of psychological symptoms, $F(1, 280) = 106.21, p < .001$; hopelessness, $F(1, 280) = 91.85, p < .001$; alcohol use, $F(1, 280) = 14.63, p < .001$; and drug use, $F(1, 280) = 51.45, p < .001$. Thus, Criterion 2 for testing mediation was met.

Given that criteria for testing mediation were met, logistic regression analyses were used to examine whether or not psychological distress and substance use mediated the partner abuse–suicidal behavior link. To test mediation, suicide attempt status was regressed on partner abuse after controlling for the mediators. Results revealed that psychological distress, hopelessness, and drug use problems mediated the relation between physical partner abuse and suicide attempt status (see Table 4).

Table 2
Means, Standard Deviations, and Group Differences for All Variables

Variable (and measure)	Group status		<i>F</i> (1, 283)
	Suicide attempters	Control participants	
Physical partner abuse (ISA-P)			
<i>M</i>	14.95	7.14	12.61***
<i>SD</i>	20.79	16.07	
Nonphysical partner abuse (ISA-NP)			
<i>M</i>	26.02	12.90	22.92***
<i>SD</i>	22.96	19.97	
General distress (BSI)			
<i>M</i>	1.77	0.79	106.21***
<i>SD</i>	0.91	0.65	
Hopelessness (BHS)			
<i>M</i>	8.32	2.57	91.85***
<i>SD</i>	6.30	3.09	
Alcohol Problems (MAST)			
<i>M</i>	5.19	2.14	14.63***
<i>SD</i>	8.27	4.54	
Drug Problems (DAST)			
<i>M</i>	5.87	1.80	51.46***
<i>SD</i>	5.72	3.55	
Family Strengths (FS)			
<i>M</i>	36.28	44.81	41.38***
<i>SD</i>	11.60	10.65	
Social Support (PSS)			
<i>M</i>	2.72	3.21	44.56***
<i>SD</i>	0.63	0.61	
Coping (PSACS)			
<i>M</i>	3.11	3.56	56.58***
<i>SD</i>	0.58	0.39	

Note. ISA-P = Index of Spouse Abuse, physical partner abuse; ISA-NP = Index of Spouse Abuse, nonphysical partner abuse; BSI = Brief Symptom Inventory; BHS = Beck Hopelessness Scale; MAST = Brief Michigan Alcoholism Screening Test; DAST = Brief Drug Abuse Screening Test; PSS = Perceived Social Support; PSACS = Preliminary Strategic Approach to Coping Scale.

** $p < .01$. *** $p < .001$.

More specifically, the relation between physical partner abuse and suicide attempt status was no longer significant when these variables were controlled. However, when controlling for alcohol use, physical partner abuse and suicide attempt status still were related, indicating that alcohol problems did not mediate the link.

In terms of nonphysical partner abuse, mediational analyses revealed that the relation between nonphysical partner abuse and suicidality was no longer significant when controlling for psychological distress and hopelessness. However, alcohol and drug use did not mediate the nonphysical partner abuse-suicidal behavior relation.

Factors Moderating the Partner Abuse-Suicide Attempt Status Link

To determine whether or not there were differential effects of partner abuse on suicidal behavior as a function of the hypothesized protective factors (PSACS, FS, and PSS), Baron and Kenny's (1986) criteria for testing moderation were used: The interaction of the predictor (partner abuse) and the hypothesized moderator variable (coping skills, family strengths, and

social support) must be significant when predicting the outcome variable (suicide attempt status). To test the moderation hypotheses, we conducted hierarchic logistic regression analyses. For these hierarchic logistic regression analyses, the main effects of partner abuse and the moderators first were entered into the regression equations, followed by the respective interaction terms. Results revealed that the interaction of social support with both physical and nonphysical partner abuse accounted for significant variance in suicidal behavior, such that abused women who reported higher levels of perceived social support were less likely than abused women reporting less support to engage in suicidal behavior ($\text{Wald} = 4.93, p < .05$, for Physical Abuse \times Social Support; $\text{Wald} = 5.01, p < .05$, for Nonphysical Abuse \times Social Support). Thus, social support moderated the partner abuse-suicide behavior link. On the other hand, neither coping skills nor perceived family strengths moderated the partner abuse-suicidal behavior link. This may reflect in part the fact that both physical and nonphysical partner abuse were correlated with coping skills ($r_s = -.19$ and $-.25$, respectively, $p < .01$) and family strengths ($r_s = -.25$ and $-.30$, respectively, $p < .01$), making moderation difficult to obtain.

Table 3
Correlations Between Partner Abuse Measures and Hypothesized Mediators

Measure	ISA-P	ISA-NP	BSI	BHS	MAST	DAST
ISA-P	—					
ISA-NP	.82***	—				
BSI	.30***	.37***	—			
BHS	.25***	.36***	.64***	—		
MAST	.23***	.17**	.44***	.34***	—	
DAST	.23***	.23***	.54***	.43***	.67***	—

Note. ISA-P = Index of Spouse Abuse, physical partner abuse; ISA-NP = Index of Spouse Abuse, nonphysical partner abuse; BSI = Brief Symptom Inventory; BHS = Beck Hopelessness Scale; MAST = Brief Michigan Alcoholism Screening Test; DAST = Brief Drug Abuse Screening Test.

** $p < .01$. *** $p < .001$.

Child Maltreatment, Partner Abuse, and Suicide Attempt Status

We used logistic regression to examine the degree to which current partner abuse increased women's propensity to engage in suicidal behavior beyond that attributable to a childhood history of abuse and neglect. First, suicide attempt status was regressed on the CTQ to ascertain whether a history of childhood maltreatment was associated with suicide attempt status. Results indicated that women in the attempter group reported significantly higher levels of childhood maltreatment than did women in the control condition (Wald = 26.35, $p < .001$). Therefore, we conducted hierachic logistic regression analyses to determine the unique variance in suicide attempt status attributable to current partner abuse. In these analyses, the variance in attempt status because of childhood maltreatment was partialled out. Next, we entered the variables assessing partner abuse into separate regression equations to determine whether or not current partner abuse accounted for unique additional variance in suicide attempt status beyond that accounted for by past maltreatment. Results revealed that physical partner abuse was no longer related significantly to attempt status ($p > .05$), but nonphysical partner abuse was still related significantly to attempt status (Wald = 7.97, $p < .01$). Thus, nonphysical partner, but not physical partner, abuse provided unique predictive utility for suicide attempt status in women above that attributable to a childhood history of maltreatment.

Discussion

African American women who attempted suicide were more likely to acknowledge being victims of physical and nonphysical partner abuse than were demographically similar women who had never made a suicide attempt. Women who engaged in suicidal behavior were also more likely to report higher levels of distress, hopelessness, and substance use compared with women who had never made a suicide attempt. However, only distress, hopelessness, and drug use accounted for the link between partner abuse and suicidal behavior. Regarding protective factors, women who reported partner abuse were less likely to engage

in suicidal behavior if they felt they had access to social support. Counter to our hypothesis, positive appraisals of familial strengths and resources and prosocial and active coping styles did not protect abused women from engaging in suicidal behavior. Finally, nonphysical partner abuse predicted suicidal behavior beyond that accounted for by childhood maltreatment. Physical partner violence marginally predicted suicidal behavior beyond that accounted for by childhood abuse. Given that physical and nonphysical abuse often co-occur, we need to be cautious in drawing conclusions about the relative influence of these different, but related, forms of abuse on suicidal behavior in women.

Findings from this study, the first large scale investigation of the link between partner abuse and suicidal behavior in African American female suicide attempters in the United States, support and extend prior research. Taken together with findings from prior research (Amaro et al., 1990; Bergman & Brismar, 1991; Roberts et al., 1997), it appears that women abused by their partners constitute a subgroup of women at heightened risk for suicidal behavior. These findings underscore the importance of carefully assessing suicidal ideation and intent in women who are victims of partner abuse and for partner abuse in women who present with suicidal ideation, suicide attempts, or both.

Not surprisingly, our data indicate that the link between partner abuse and suicidal behavior in women may be explained partially by the women's feelings of hopelessness and psychological distress. Thus, hopelessness and psychological symptoms should be evaluated thoroughly in women who are victims of intimate partner violence. The finding of strong associations among partner abuse, hopelessness and psychological symptoms, and suicidal behavior in women is consistent with Walker's battered women's syndrome theory (1984), which posits that abused women are at increased risk for engaging in suicidal behavior because they feel helpless to escape the violence and, as a result, feel depressed and hopeless. For these women, a suicide attempt may reflect efforts to gain help to extricate themselves from an abusive situation in which they feel trapped

Table 4
Results of Mediational Analysis: Predicting Suicide Attempt Status

Form of abuse	Behavior (and measure)	Wald	R
Physical abuse	General distress (BSI)	5.85**	.104
	Hopelessness (BHS)	0.12	.000
	Alcohol problems (MAST)	0.77	.000
	Drug problems (DAST)	4.37*	.083
Nonphysical abuse	General distress (BSI)	3.23	.062
	Hopelessness (BHS)	14.43***	.191
	Alcohol problems (MAST)	2.12	.022
	Drug problems (DAST)	12.66***	.178
		10.50***	.166

Note. BSI = Brief Symptom Inventory; BHS = Beck Hopelessness Scale; MAST = Brief Michigan Alcoholism Screening Test; DAST = Brief Drug Abuse Screening Test.

* $p < .05$. ** $p < .01$. *** $p < .001$.

and unable to access vital sources of assistance and support (Stark & Flitcraft, 1996).

Our findings highlight the importance of confidants and close relationships in protecting abused women from engaging in suicidal behavior. Given the shame and social stigma so often associated with victimization, this finding is understandable. These results highlight the need to design interventions that facilitate the development and strengthening of social ties for women who are victims of partner abuse. Given the strength of the extended family and community support networks in the African American community, African American women who are abused may be particularly receptive to interventions geared toward enhancing their support networks. These intervention efforts may prove challenging, as batterers often try to isolate their victims from their support networks and appropriate resources (Stark & Flitcraft, 1996).

Findings from this investigation should be considered in light of several study limitations. First, the generalizability of our findings to other racial and socioeconomic groups is unknown. Second, we used self-report and retrospective accounts of participants' experiences, raising questions about response validity. A prospective study design, in which data are gathered from multiple informants, would strengthen the conclusions that could be drawn. Another measurement related limitation is that very few of the measures have been validated extensively with low-income women in ethnic minority groups. Although the psychometric properties of the measures with a comparable sample to the study population was a major factor in instrument selection, more culture-specific measures must be devised and incorporated in future studies. Third, although an attempt was made to match participants demographically, differences emerged between control participants and attempters on education and employment variables, with control participants more often employed and with higher levels of education than attempters. Perhaps employed women are less dependent on abusive partners and better able to extricate themselves from harmful relationships. Further exploration is needed to determine the impact of limited educational and employment opportunities on suicidal behavior.

Despite these limitations, the present study adds to the research on suicidal behavior in African American women. The data underscore that suicidal behavior among these women is a serious public health problem. Recognition of this major public health issue sets the stage for the development and implementation of prevention programs targeted at high-risk populations. Additionally, the data emphasize the importance of screening for interpersonal violence in suicidal women and for suicidal ideation, intent, and plan among female victims of violence.

References

Abbott, J., Johnson, R., Kozol-McLain, J., & Lowenstein, S. R. (1995). Domestic violence against women: Incidence and prevalence in an emergency department population. *Journal of the American Medical Association*, 273, 1763-1767.

Amaro, H., Fried, L., Cabral, H., & Zuckerman, B. (1990). Violence during pregnancy and substance abuse. *American Journal of Public Health*, 80, 575-579.

Arcel, L. T., Mantonakis, J., Peterson, B., Jemos, J., & Kaliteraki, E. (1992). Suicide attempts among Greek and Danish women and the quality of their relationships with husbands or boyfriends. *Acta Psychiatrica Scandinavica*, 85, 189-195.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.

Beautrais, A. L., Joyce, P. R., Mulder, R. T., Fergusson, D. M., Deavoll, B. J., & Nightingale, S. K. (1996). Prevalence and comorbidity of mental disorders in persons making serious suicide attempts: A case-control study. *American Journal of Psychiatry*, 153, 1009-1014.

Beck, A. T., Steer, R. A., Beck, J. S., & Newman, C. F. (1993). Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide and Life-Threatening Behavior*, 23, 139-145.

Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: The Hopelessness Scale. *Journal of Consulting and Clinical Psychology*, 42, 861-865.

Bergman, B., & Brismar, B. (1991). Suicide attempts by battered wives. *Acta Psychiatrica Scandinavica*, 83, 380-384.

Bernstein, D. P., Ahluvalia, T., Pogge, D., & Handelsman, L. (1997). Validity of the Childhood Trauma Questionnaire in an adolescent psychiatric population. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 340-348.

Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., Sapareto, E., & Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *American Journal of Psychiatry*, 151, 1132-1136.

Briere, J., & Runtz, M. (1986). Suicidal thoughts and behaviors in former sexual abuse victims. *Canadian Journal of Behavioral Science*, 18, 413-423.

Browne, A. (1993). Violence against women by male partners: Prevalence, outcomes, and policy implications. *American Psychologist*, 48, 1077-1087.

Canetto, S. S., & Lester, D. (Eds.). (1995). *Women and suicidal behavior*. New York: Springer.

Chance, S. E., Kaslow, N. J., & Baldwin, K. (1994). Anxiety and other predictors of severity of suicidal intent in urban psychiatric patients. *Hospital and Community Psychiatry*, 7, 716-718.

Clum, G. A., & Febbraro, G. A. (1994). Stress, social support, problem-solving appraisal/skills: Prediction of suicide severity within a college sample. *Journal of Psychopathology and Behavioral Assessment*, 16, 69-83.

Cohen, S., & Hoberman, H. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99-125.

Derogatis, L., & Spencer, P. (1982). *The Brief Symptom Inventory (BSI): Administration, scoring, and procedures manual*. Baltimore: Author.

Folstein, M. F., Folstein, S. E., & McHugh, P. R. (1975). Mini-Mental State: A practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12, 189-198.

Goodman, L., Koss, M., Fitzgerald, L., Russo, N., & Keita, G. (1993). Male violence against women: Current research and future directions. *American Psychologist*, 48, 1054-1058.

Griffith, E. E., & Bell, C. G. (1989). Recent trends in suicide and homicide among Blacks. *Journal of the American Medical Association*, 262, 2265-2269.

Heikkinen, M., Aro, H., & Lonnqvist, J. (1994). Recent life events, social support, and suicide. *Acta Psychiatrica Scandinavica* (Suppl. 377), 65-72.

Hobfoll, S. E., Dunahoo, C. L., Ben-Porath, Y., & Monnier, J. (1994).

Gender and coping: The dual-axis model of coping. *American Journal of Community Psychology*, 22, 49-82.

Hudson, W. W., & McIntosh, S. R. (1981). The assessment of spouse abuse: Two quantifiable dimensions. *Journal of Marriage and the Family*, 43, 873-888.

Joseph, S. A., & Plutchik, R. (1994). Stress, coping, and suicide risk in psychiatric patients. *Suicide and Life-Threatening Behavior*, 24, 48-57.

Kachur, S. P., Potter, L. B., James, S. P., & Powell, K. E. (1995). *Suicide in the United States: 1980-1992. Violence surveillance summary series no. 1*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Kanuha, V. (1994). Women of color in battering relationships. In L. Comas-Diaz & B. Greene (Eds.), *Women of color: Integrating ethnic and gender identities in psychotherapy* (pp. 428-454). New York: Guilford Press.

Kaplan, M. L., Asnis, G. M., Lipschitz, D. S., & Chorney, P. (1995). Suicidal behavior and abuse in psychiatric outpatients. *Comprehensive Psychiatry*, 36, 229-235.

Kotler, M., Finkelstein, G., Molcho, A., Botsis, A., Plutchik, R., Brown, S., & van Praag, H. M. (1993). Correlates of suicide and violence risk in an inpatient population: Coping styles and social support. *Psychiatry Research*, 47, 281-290.

Messman, T. L., & Long, P. J. (1996). Child sexual abuse and its relationship to revictimization in adult women: A review. *Clinical Psychology Review*, 16, 397-420.

Monnier, J., & Hobfoll, S. (1997). Crossover effects of communal coping. *Journal of Social and Personal Relationships*, 14, 263-270.

Nisbet, P. A. (1996). Protective factors for suicidal black females. *Suicide and Life-Threatening Behavior*, 26, 325-341.

Olson, D. H., Larsen, A. S., & McCubbin, H. I. (1982). Family Strengths. In D. H. Olson, H. I. McCubbin, H. Barnes, A. Larsen, M. Muxen, & M. Wilson (Eds.), *Family inventories* (pp. 56-70). St. Paul: University of Minnesota Family Social Science.

Pokorny, A., Miller, B., & Kaplan, H. (1972). The Brief MAST: A shortened version of the Michigan Alcoholism Screening Test. *American Journal of Psychiatry*, 129, 342-345.

Roberts, G. L., Lawrence, J. M., O'Toole, B. I., & Raphael, B. (1997). Domestic violence in the Emergency Department: I. Two case-control studies of victims. *General Hospital Psychiatry*, 19, 5-11.

Russell, D., & Cutrona, C. (1984, August). *The provisions of social relationships and adaptation to stress*. Paper presented at the 92nd Annual Convention of the American Psychological Association, Toronto, Ontario, Canada.

Skinner, H. (1983). The Drug Abuse Screening Test. *Addictive Behaviors*, 7, 363-371.

Stark, E., & Flitcraft, A. (1996). *Women at risk: Domestic violence and women's health*. Thousand Oaks, CA: Sage.

Veiel, H. O., Brill, G., Hafner, H., & Welz, R. (1988). The social supports of suicide attempts: The different roles of family and friends. *American Journal of Community Psychology*, 16, 839-861.

Walker, L. (1984). *The battered woman syndrome*. New York: Springer.

Weissman, M. M., Klerman, G., Markowitz, J. S., & Ouellette, R. (1989). Suicidal ideation and suicide attempts in panic disorder and attacks. *New England Journal of Medicine*, 321, 1209-1214.

Williams, M. V., Parker, R. M., Baker, D. W., Parikh, N. S., Pitkin, K., Coates, W. C., & Nurss, J. R. (1995). Inadequate functional health literacy among patients at two public hospitals. *Journal of the American Medical Association*, 274, 1677-1682.

Yang, B., & Clum, G. (1996). Effects of early negative life experiences on cognitive functioning and risk for suicide: A review. *Clinical Psychology Review*, 16, 177-196.

Received July 21, 1997

Revision received September 29, 1997

Accepted October 7, 1997 ■