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Race, Psychosocial Vulnerability and Social Support Differences in Inner-City Women's Symptoms of Posttraumatic Stress Disorder

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Abstract

Background/Objectives: Inner-city Black women may be more susceptible to post-traumatic stress disorder (PTSD) than White women, although mechanisms underlying this association are unclear. Living in urban neighborhoods distinguished by higher chronic stress may contribute to racial differences in women's cognitive, affective, and social vulnerabilities, leading to greater trauma-related distress including PTSD. Yet social support could buffer the negative effects of psychosocial vulnerabilities on women's health.

Methods/Design: Mediation and moderated mediation models were tested with 371 inner-city women, including psychosocial vulnerability (i.e., catastrophizing, anger, social undermining) mediating the pathway between race and PTSD, and social support moderating psychosocial vulnerability and PTSD.

Results: Despite comparable rates of trauma, Black women reported higher vulnerability and PTSD symptoms, and lower support compared to White Hispanic and non-Hispanic women. Psychosocial vulnerability mediated the pathway between race and PTSD, and social support moderated vulnerability, reducing negative effects on PTSD. When examining associations by race, the moderation effect remained significant for Black women only.

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Conclusions: Altogether these psychosocial vulnerabilities represent one potential mechanism explaining Black women's greater risk of PTSD, although cumulative psychosocial vulnerability may be buffered by social support. Despite higher support, inner-city White women's psychosocial vulnerability may actually outweigh support's benefits for reducing trauma-related distress.

INTRODUCTION

Trauma is a ubiquitous risk in geographical areas characterized by social disadvantage; trauma contributes to chronic stress as well as to stress-related disorders in women (Anakwenze & Zuberi, 2013; Clark et al., 2008; Vogel & Marshall, 2001). Jackson and Knight (2006) theorized that environmental characteristics shape stress-responsive behavior and subsequent distress. Relative to non-Hispanic and Hispanic Whites, Black women tend to live in neighborhoods more differentiated by violence and experience higher rates of racial discrimination (Gillespie et al., 2009; Roberts et al., 2011). Correspondingly, Black inner-city residents, females and low-income individuals all tend to be most vulnerable to traumatic event exposure; other chronic stressors are also especially pervasive for those groups (Landrine & Klonoff, 1996; McLaughlin et al., 2010; Williams & Mohammed, 2009). Living in an urban environment increases the likelihood that traumatic events profoundly affect Black women's psychological distress and physical health. Compared to women of other ethnicities and race, Black inner-city women may be particularly vulnerable to posttraumatic stress disorder (PTSD) (Alim et al., 2006; Bradley et al., 2005; Breslau et al., 1991; Ghafoori et al., 2012; Lipsky et al., 2009; Tolin & Foa, 2006).

The mechanisms by which Black women's traumatic stress, along with the psychosocial imprint of their environment, may lead to greater symptoms of PTSD, is unknown. Psychological vulnerability includes a variety of regulatory strategies that may deleteriously affect a person's coping and together promote stress-related disorders (Alim et al., 2008; Sinclair & Wallston, 1999; Thoits, 1982). Within urban contexts, negative coping is shown to predict negative symptoms including PTSD (Dempsey, 2002; Richards et al., 2004). As reviewed by Agaibi and Wilson (2005), vulnerability to PTSD is multifaceted, including one's coping styles, cognitive and social factors. Deficits in personal and social resources may be more salient than perceived strengths, and individual vulnerabilities often function in an integrated, additive fashion rather than separately (Agaibi and Wilson 2005; Gaffey et al., 2018; Hobfoll et al., 2003). Since personal and social resources tend to aggregate, we propose that the umbrella term *psychosocial vulnerability* is more inclusive than psychological vulnerability, but do not suggest that this term encompasses all potentially important vulnerabilities (Cundiff et al., 2013; Hobfoll, 2003; Lillis et al., 2018).

Psychosocial vulnerability is operationalized as pain catastrophizing, anger and social undermining. Based on past examinations of individual vulnerability factors, there may be race differences in pathways between psychosocial vulnerability and trauma-related distress. Compared to White Hispanic and non-Hispanics, Blacks have reported greater vulnerability across multiple domains including maladaptive cognitions (e.g., catastrophizing; Edwards et al., 2005; Forsythe et al., 2011), negative affect (e.g., anger; Gibbons et al., 2014; Krieger et al., 1996; Mawbry & Kiecolt, 2005; Ryan et al., 2006) and chronic negative social experiences (e.g., personal victimization such as social undermining; Duffy et al., 2002;

Lincoln et al., 2003; Vinokur and van Ryn, 1993). Although many other factors likely influence psychosocial vulnerability, these factors represent emotional, cognitive and social domains, and together partially account for the complex psychosocial vulnerability predisposing Black women to trauma-related distress.

Factors within the proposed operationalization of psychosocial vulnerability have also been associated with race differences in physical health conditions associated with PTSD. Pain catastrophizing (i.e., rumination and magnification) and anger are correlated with chronic pain, both of which may be higher among Black compared to White men and women (Burns et al., 2008; Forsythe et al., 2011; Hardt et al., 2008; Mabry & Kiecolt, 2005; McLaughlin et al., 2010; Meints et al., 2016). Greater catastrophizing and negative affect (i.e., anger) potentially reflect environmental differences in the appraisal and experience of stress, and in social as well as physical pain (Sullivan et al., 1995, 2001). A history of traumatic stress, exacerbated by environmental stress resulting from Black women's experiences with racial and social disadvantage, may be modulated by catastrophizing, anger and other psychosocial vulnerabilities. Thus, inner-city Black women's coping style may heighten their risk of significant psychological distress and physical malady, leaving them more susceptible to PTSD compared to their White counterparts.

In addition to trauma, stressors associated with inner-city Black women's disadvantaged status may also lead to social undermining - where close relationships are negative, prevent one from meeting goals, and sabotage effective coping (Finch et al., 1999; Lakey et al., 1994; Oetzel et al., 2014; Rohed & Woods, 1995). Social undermining is shown to be an independent construct from low social support *per se* (Creed & Moore, 2006; Vinokur & van Ryn, 1993). Undermining may be especially powerful because negative events are unpredictable and therefore more distressing (Cranford, 2004; Duffy et al., 2002; Vinokur & van Ryn, 1993). As such, social undermining can increase one's risk of psychological distress, perhaps more so for women with a history of trauma, and could lead to a poorer quality of life for Black women in particular (Brewin et al., 2000; Hepburn et al., 2013; Oetzel et al., 2014).

Other factors may protect against race differences in PTSD. Social support is a vital aspect of psychological resilience and is crucial for "buffering" against trauma, chronic stress, and psychosocial vulnerability across the lifespan (e.g., Cohen and McKay, 1984; Gaffey et al., 2018; Guay, Billette and Marchand, 2006). Individuals may overcome (or buffer against) psychosocial vulnerabilities using their social support network, resulting in better psychological wellbeing (i.e., lower symptoms of PTSD). There are also well-established negative associations between social support and PTSD (Brewin et al., 2000; Kaniasty & Norris, 2008; Ozer et al., 2003). Thus, social support may moderate the pathway between psychosocial vulnerability and PTSD, helping individuals compensate for other (potentially automatic) negative aspects of coping. In turn, women with greater psychosocial vulnerability and high social support would have less symptoms of PTSD compared to those with less support. Social support could, thus, be a particularly effective coping strategy for urban Black women to protect against PTSD (Alim et al., 2008).

Positive social interactions may be even more important for Black women in the inner-city who may depend more on their networks for instrumental and emotional resources to manage greater stress (Rhodes et al., 1994). Compared to White individuals, Blacks appear to maintain more extensive social networks, composed of a greater proportion of family and fictive kin, and report more frequent contact with members of their network (Ajrouch et al., 2001; Rhodes et al., 1994). Those unique social relationships may prevent individuals from deferring to cognitive, emotional or social resources that are maladaptive for managing stress and promote psychological distress instead of buffering against distress (Galovski & Lyons, 2004; Garnefski & Spinhoven, 2001). Thus, social support may be more pivotal for those who have other psychosocial vulnerabilities.

Given past findings and our hypotheses about a broader, integrated influence of race in inner-city women's chronic stress and social circumstances, the aggregate effects of catastrophizing, anger, and social undermining (i.e., psychosocial vulnerability) on psychological distress, and the potential role of social support in protecting against such vulnerability, we thought it was important to assess associations between inner-city women's race (i.e., Black vs. White [Hispanic and non-Hispanic]), psychosocial vulnerability and social support on symptoms of PTSD. To focus on distinctive pathways for Black women and to maximize statistical power, we collapsed across ethnicity. As part of an ongoing, longitudinal study examining trauma and physical pain, we studied a population of urban female residents presenting to the Rush University Medical Center (RUMC) Emergency Department (ED). We proposed the following hypotheses: 1) Greater psychosocial vulnerability would be associated with higher symptoms of PTSD; 2) Black women would have higher vulnerability (e.g., catastrophizing, anger, social undermining) and PTSD symptoms compared to White women; 3) Psychosocial vulnerability would mediate the association between race and PTSD symptoms such that Black women's greater vulnerability would account for their higher PTSD symptoms; 4) Social support would moderate the association between vulnerability and PTSD, with high support limiting the influence of race differences in vulnerability on PTSD; and 5) The moderating effect of social support would differ for Black and White participants.

METHODS

Participants

The sample included women who were between the ages of 18-41 and fluent in English who presented to the RUMC ED with an acute pain complaint. Potential participants' eligibility was initially reviewed using electronic medical records. Research staff contacted patients within 72-hours following the ED visit to confirm eligibility with a brief screening. Participants were excluded if they had a history of chronic pain, were pregnant or trying to become pregnant, presented to the ED under the influence of drugs or alcohol, received psychiatric services during the ED visit, or had presenting pain related to a physical trauma. Overall, 1591 women were recruited between 2/1/2016 and 5/15/18 and 375 were immediately deemed ineligible. Of the remaining 1216 recruits, 683 did not answer follow-up phone calls to schedule and did not attend their baseline session, 162 refused to participate due to no longer being interested, and 3 declined to report race leaving $N = 371$.

See Table 1 for descriptive data across the sample and by race. The final sample averaged 28.46 years of age ($SD = 6.010$). The largest proportion of participants identified as Black (45.2%). About a third of the women possessed a high school education or less (37.7%) and many reported incomes less than \$39,999 (73.1%). Half of the sample was unemployed or held multiple jobs (52.8%), and reported their income was not enough to meet needs (53.4%). Overall, this group is representative of the racial and economic distribution within the Rush ED population.

Procedures

Participants completed informed consent at the baseline interview within 14 days of presenting to the ED. Trained research assistants administered the survey-interviews using Research Electronic Data Capture (REDCap). Information collected included demographic characteristics, psychosocial functioning, mental health, and trauma history. Participants then completed other tasks not relevant to this manuscript. The session took ~2.5 hours and participants received gift cards upon completion. The RUMC Institutional Review Board approved the study protocol.

Measures

Demographics questionnaire.—A structured demographics questionnaire was used to assess characteristics of the sample including age, race/ethnicity, marital status, educational attainment, income, whether income needs were met, and employment status.

Pain catastrophizing.—The Pain Catastrophizing Scale (Sullivan et al., 1995) consisted of 13-items characterizing thoughts and feelings that may occur while in pain. Using a 5-point scale (0 = “not at all” to 4 = “all the time”), participants rated the degree to which they experienced certain thoughts and feelings while in pain. Catastrophizing equaled the total score, with higher scores indicating more catastrophizing. The Scale has demonstrated strong internal consistency (Forsythe et al., 2011; $\alpha = 0.93$), including for Black individuals specifically ($\alpha = 0.89$; Chibnall & Tait, 2005), as our reference group of interest. Cronbach’s α for this study was .95.

Anger.—The PROMIS Anger scale (Pilkonis et al., 2011) assessed feelings of irritation, being grouchy, etc. over the past 14 days. The scale used 5-point ratings (0 = “never” to 4 = “always”), summing to a total score, with higher scores indicating greater anger. The measure has been shown to have high internal consistency ($\alpha = 0.96$), but has not been assessed in Black individuals specifically. Cronbach’s α was .90.

Social undermining.—The Social Undermining Scale (SUND; Abbey et al., 1985) examines the extent an individual believes they are victimized by members of their social network. Using a 7-item, 5-point scale (0 = “not at all” to 4 = “nearly all the time/all the time”), participants indicated how frequently they are targeted with negative behavior such as, “act(ing) in an angry or unpleasant manner.” Items were summed, with higher scores indicating greater undermining. Internal consistency has previously been .84-.91 (Cranford, 2004; Vinokur & van Ryn, 1993), and the measure has been consistent with Black individuals ($\alpha = .75$). Cronbach’s α was .89.

Social support.—Social support was assessed based on Weiss's (1974) Theory of Social Provisions. Participants responded to a 10-item, 5-point scale (1 = "none of the time" to 5 = "all the time"), assessing participants' number of confidants and whether they had others with whom to confide in, help with responsibilities, turn to for support, and who makes them feel loved. The sum indicated the total level of social support. Reliability for the scale has ranged from .81 to .91 (Weiss, 1974). Although there is no data for Black individuals alone, Cronbach's α was similarly .85 in this study.

Traumatic Events.—The *Trauma History Questionnaire* (THQ; Hooper et al., 2011) was used to measure the experiences of traumatic events across the lifespan. The 24-item measure assesses if participants ever experienced trauma across crime-related events, general disaster, as well as physical and sexual assault (yes/no). The number of events endorsed was totaled. Although the THQ cannot be assessed by traditional psychometrics it has sound properties (Hooper et al., 2011).

PTSD Symptoms.—The PTSD Checklist for DSM-5 (PCL-5; Weathers et al., 2013) was used to measure PTSD symptoms. Before completing the PCL-5, participants were asked to reflect on a lifetime trauma they considered to be the worst or most distressing event. Participants then completed the PCL-5, rating the degree to which they experienced PTSD symptoms of re-experiencing, avoidance, hyperarousal, and negative alterations in cognition and mood in the last month. The PCL-5 has excellent psychometric properties (Blevins et al., 2015), but has not been assessed in Black individuals alone. Cronbach's α in this study was .94.

Data Analysis

Descriptive statistics were calculated for demographics, psychosocial variables, trauma, and PTSD symptoms. Regression was used to assess collinearity between social support and social undermining (tolerance $> .2$, variance inflation factor [VIF] < 10). T-tests and zero-order correlations between hypothesized predictor, mediator, and criterion variables were examined to determine the criteria for testing mediation and moderation (see Table 2 for a correlation matrix; Baron and Kenny, 1986). Overall, p -values < 0.05 were interpreted as significant.

Structural equation modeling (SEM) was conducted using Mplus 8 (Muthén & Muthén, 2017). Pain catastrophizing, anger, and social undermining scales were integrated to create a latent variable representing psychosocial vulnerability. Other continuous variables were measured as described above. Analyses were conducted using 10,000 iterations (Klein & Moosbrugger, 2000). A sample of >200 participants is appropriate for testing SEM, and was exceeded (Kline, 2005). The models were evaluated based on chi-square ($p < .05$ required; Hu and Bentler, 1999), the root mean square error of approximation (RMSEA; $< .08$ acceptable, $< .05$ excellent) and its relevant 90% confidence interval, the comparative fit index (CFI; $> .90$ acceptable, $> .95$ excellent), and the standardized root mean square residual (SRMR; $< .08$ acceptable, $< .05$ excellent).

SEM analyses were planned in three stages. First, a mediation model controlling for social support was used to determine whether psychosocial vulnerability mediated the independent

pathway between race and PTSD symptoms. A second moderated mediation model was used to assess if social support moderated the pathway between psychosocial vulnerability and PTSD symptoms, thus reducing potential race-associated effects of vulnerability on PTSD. For the moderation portion of the model, the PTSD symptoms variable was regressed on psychosocial vulnerability and social support separately, as well as an interaction term, 'psychosocial vulnerability' X 'social support,' that was generated using the Mplus XWITH command. Finally, to assess race differences in the moderation effect, race was removed from the model and the moderation effect of social support was assessed separately within Black and White samples.

RESULTS

There was no missing data and all variables were normally distributed. Additionally, there was no collinearity between social undermining and social support (tolerance: .744, VIF: 1.344). Based on t-tests and zero-order correlations, Black participants reported higher levels of PTSD symptoms ($t(348) = -2.341, p = .020$), suggesting there were effects to be mediated. There were no significant differences in trauma between Black women and those in the comparison group ($t(369) = -1.213, p = .226$). Compared to other participants, Blacks exhibited significantly greater psychosocial vulnerability (i.e., pain catastrophizing [$t(369) = -2.270, p = .024$], anger [$t(369) = -2.257, p = .025$], and social undermining [$t(369) = -2.321, p = .021$]). Across all participants and when examining the racial groups separately, pain catastrophizing, anger, and social undermining were correlated with greater PTSD symptoms (all $p < .001$). To assess the moderating role of social support in protecting against psychosocial vulnerability, we determined that Blacks had significantly less social support and that social support was negatively correlated with symptoms of PTSD ($t(369) = 4.433, p < .001; r = -.463, p < .001$). Overall, criteria for the proposed paths were met for PTSD.

Addressing the first set of analyses, the hypothesized mediation model controlling for social support is presented in *Figure 1*. The model had good fit ($\chi^2(6) = 14.543, p = 0.024$; CFI = 0.983; RMSEA = 0.062, 90% C.I. [0.021-0.103]; SRMR = 0.024). Race was a significant predictor of psychosocial vulnerability ($\beta = 0.173, p = 0.003$) and vulnerability significantly predicted PTSD ($\beta = 0.860; p < 0.001$). When examining standardized direct effects, the association between race and PTSD was not significant, indicating that the path was mediated ($\beta = -0.010$; see Table 3). Psychosocial vulnerability mediated the association between race and PTSD ($\beta = 0.149, 95\% \text{ CI } (1.536, 9.114), p = 0.009$), with 14.9% of the variance explained.

The second aim was to test the moderating role of social support in the pathway between psychosocial vulnerability and PTSD (Stride et al., 2016; Figure 2). Of note, fit statistics were unavailable when specifying the required model parameters for the interaction as the model was saturated. The psychosocial vulnerability X social support interaction term was significant ($\beta = -0.046, 95\% \text{ CI } (-0.067, -0.025), p < 0.001$), suggesting that the effect of psychosocial vulnerability on PTSD symptoms was lower for those with greater social support (Preacher et al., 2007).

Finally, additional analyses examined the moderating effect of social support separately in Black and White women. The interaction was significant for Black ($\beta = -0.231$, 95% CI $(-0.284, -0.178)$, $p < 0.001$), but not for White individuals ($\beta = -0.063$, 95% CI $(-0.146, 0.020)$, $p = 0.448$).

DISCUSSION

Urban, low income, Black women's sociocultural environment, including experiences of trauma and disadvantage, uniquely and appreciably increases their risk of trauma-related psychopathology (Jackson et al., 2010). In this study of inner-city women, Black participants exhibited higher symptoms of PTSD compared to White Hispanic and non-Hispanic participants. Interestingly, there were no racial differences in trauma. Together these findings add to other studies reporting greater PTSD symptoms in Black compared to White women (e.g., Brewin et al., 2000; Frueh et al., 1998; Kaczurkin et al., 2016). As Black men and women are less likely to seek psychological treatment compared to their White counterparts, potential racial differences in the incidence and severity of PTSD symptoms could have far-reaching clinical consequences (e.g., Roberts et al., 2011).

A lifetime of social disadvantage, chronic and traumatic stress could alter Black women's cognitive, affective, and social resources, contributing to differential effects in their symptoms of PTSD and comorbid health problems such as pain (Olatunji et al., 2007; Qureshi et al., 2011). Our investigation is singular for using pain catastrophizing, anger, and social undermining to measure psychosocial vulnerability. Compared to White women, Black women reported higher vulnerability, which mediated the association between race and PTSD. If psychosocial vulnerability is produced by Black women's environmental and personal stress, the contributing factors may also heighten the group's sensitivity to further stress and thwart adaptation to additional negative events in a recurrent and harmful pattern. Studies examining psychosocial mediators are frequently hindered by assessing single resources rather than integrating across multiple factors, a conceptual and statistical choice essential for developing a more realistic representation of vulnerability toward understanding racial differences in health outcomes (Hobfoll et al., 2003; Hummer, 1996; Rini et al., 1999). Yet, psychosocial vulnerability only explained 14.9% of the variance in PTSD symptoms and we merely assessed three psychosocial factors. Other cognitive and affective strategies (e.g., desire for personal control, engagement, aggression, reappraisal, guilt; Blair et al., 2013; Greenberg, 1995; Lillis et al., 2018; Lincoln et al., 2003; Roemer et al., 2001) or health behaviors (e.g., alcohol, nicotine or other substance use; Hakimi et al., 2016; Jackson et al., 2010) are maladaptive ways to cope with stress and could also underlie vulnerability to PTSD. Exploring additional factors with Black women in an urban setting together with the psychosocial factors from this study could further explain race differences in PTSD symptoms and the broader physical impact of environmental stress.

For over 30 years, social support has been touted as a protective factor for buffering against stressors, adversity, and hardship (Cohen and McKay, 1984). In this study, social support moderated the association between Black women's heightened psychosocial vulnerability and symptoms of PTSD although the moderation effect was not found for White women. Our results contrast with findings that social support protects against PTSD for White

women, but is less effective for Black women (Lipsky et al., 2016). Yet our findings align with numerous studies illustrating the benefits of social support for marginalized or disadvantaged groups of women and trauma survivors (e.g., Anderson et al., 2003; Schumm et al., 2006). Conservation of Resource (COR) Theory's extension, social resource theory, offers one potential explanation concerning the unique utility of social support for disadvantaged groups (Hobfoll et al., 1988). Hobfoll and colleagues (1990) theorized that although beneficial, support systems are limited and are modified by stress so that support resources may become depleted by time and circumstances. Adding to that theory, perhaps disadvantaged individuals with *fewer* resources may also yield a *greater benefit* from social support, such as buffering against vulnerability and lowering psychological distress. Despite reporting lower social support, the cumulative effects of psychosocial vulnerability and social disadvantage were outweighed by the benefits of Black women's social support, even though those resources were limited. Although White women exhibited lower vulnerability, it appears inner-city White women could become more overwhelmed by their vulnerability when managing stress.

Social support is a paramount resource for Black women (Mays et al., 1996). Williams et al. (2003) theorized that aspects of Black women's expectations and their overall supportive network could inoculate them against stress-related psychopathology. Social relationships can also exacerbate psychological distress, particularly when individuals anticipate help but do not receive it (Brewin et al., 2000; Hepburn et al., 2013). Negative social interactions might be especially potent for those exposed to social disadvantage and chronic stress as well as trauma, such as Black women in urban settings. Our sample also reported a high level of trauma, which is shown to engender alienation or estrangement from social networks (Coker et al., 2003). Compared to White women, Black trauma survivors have endorsed more negative reactions from their social network following sexual assault (Hakimi et al., 2016). An individual's assessment of negative interactions shapes their response to the events, including whether events are viewed as negative, and effects on psychological health (Crossley, 2009). If people feel greater sympathy and compassion toward perpetrators of negative social behavior, than they may be more likely to attempt reconciliation (Coker et al., 2003; Crossley et al., 2008). When attempts to appeal for positive social support fail, it could increase one's perception of unreliable support, fueling additional maladaptive social interactions, and promoting social withdrawal or isolation. Thus, it may be as important to evade negative interactions as to engage in positive ones (Oetzel et al., 2014).

Our investigation has several limitations. First, the findings may be specific to this sample. We did not possess statistical power to concurrently examine differences in PTSD symptoms based on race and ethnicity. Other literature reporting higher PTSD symptoms in Blacks had greater proportions of White individuals (e.g., Ndao-Brumblay & Green, 2005; Ullman & Filipas, 2001), and it will be valuable to examine these processes with more racially balanced samples as well as women in non-urban settings. Second, causality cannot be determined due to using cross-sectional data. When testing alternate models reversing psychosocial vulnerability and social support, the models had poor fit (Kline, 2005) and did not align with relevant theoretical background. Additional data collection within this study will enable us to examine longitudinal trajectories between these factors. In another limitation, social support resources could take other forms not assessed in this investigation

but more relevant to Black women, such as community cohesion, neighborhood disorder, or involvement in a religious community (Gapen et al., 2011; Gallup, 1984; Johns et al., 2012; Sampson, 2003). Black women might also use different types of support depending on their needs. In a study of intimate partner violence, women indicated that emotional support (e.g., empathy) is more beneficial than instrumental support (e.g., tangible services or assistance; Coker et al., 2003). Each type of support could yield different effects, with some mechanisms protecting against women's distress while others (e.g., social undermining) could prolong stress.

This study offers additional insight into associations between race, trauma, and PTSD within an urban context. Race defines one's personal and social resources and begets exposure to socioeconomic disadvantage, as well as experiences of conflict and traumatic stress (Gillespie et al., 2009; Roberts et al., 2011). It appears that urban, low income Black women exhibit greater symptoms of PTSD, that the distinct association between race and PTSD is partially explained by psychosocial vulnerability, but may be buffered by Black women's social support. Although social support is widely viewed as an asset, for this group especially, support resources may become strained and depleted due to constant stress, limiting the value of those networks (Hobfoll et al., 1990; 2003). Altogether, our study outlines potential mechanisms explaining vulnerability to PTSD symptoms in the context of the stressors inherent in low income, urban environments, and indicates that these factors may differentially impact Black women in particular. As each of the factors studied may be given to intervention, they also provide critical information about potential intervention strategies.

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Figure 1. Results of the mediation model including standardized β weights. The mediated pathway and relevant manifest and latent variables are highlighted in bold. Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 2.

Results of the moderated mediation model including standardized β weights. The moderated pathway and relevant latent and manifest variables are highlighted in bold. Note. $*p < .05$, $**p < .01$, $***p < .001$.

Table 1

Demographic Characteristics, Psychosocial Variables, and Pain Ratings

	All Participants (N=371)		Black (N=221)		White (N=150)		
	N	%	N	%	N	%	p-value
Demographic Variables							
Relationship Status							.01
Single	140	37.7	100	45.2	40	26.7	
In a relationship	161	43.4	89	40.3	72	48.0	
Married	56	15.1	23	10.4	33	22.0	
Divorced	4	1.1	3	1.4	1	.7	
Other	10	2.7	6	2.7	4	2.7	
Education							.001
High school or Less	140	37.7	96	43.4	44	29.3	
Some college	156	42.0	102	46.2	54	36.0	
College degree or higher	75	20.2	23	10.4	52	24.7	
Annual Income							.001
< \$10,000	129	34.8	101	45.7	28	18.7	
\$10,000-\$39,999	142	38.3	83	37.6	59	39.3	
>\$40,000	92	24.8	31	14.0	61	40.7	
Unknown	8	2.2	6	2.7	2	1.3	
Employment							.05
Full-Time	175	47.2	98	44.3	77	51.3	
Part-Time/Multiple jobs	99	26.7	53	24.0	46	30.7	
Unemployed	97	26.1	70	31.7	27	18.0	
Income Needs Met							.001
Not Enough	198	53.4	142	64.3	56	37.3	
Enough	146	39.4	74	33.5	72	48.0	
More Than Enough	27	7.3	5	2.3	22	14.7	
Trauma	M	SD	M	SD	M	SD	Range
Crime-Related Events	0.78	0.95	.84	.99	.69	.88	0-4
General Disaster	2.76	1.86	2.90	1.84	2.55	1.87	0-13
Sexual Abuse	0.51	0.78	.48	.79	.54	.77	0-3
Physical Abuse	0.53	0.75	.52	.71	.56	.82	0-3
Total	4.58	3.05	4.74	3.04	4.35	3.05	0-23
	M	SD	M	SD	M	SD	Range
Age	28.46	6.10	28.47	6.27	28.45	5.87	18-41
Psychosocial Variables							
Social Support***	15.11	4.30	14.34	4.48	16.25	3.76	0-20
Social Undermining*	15.47	5.97	16.03	6.56	14.65	4.87	0-28

	All Participants (N=371)		Black (N=221)		White (N=150)		
Pain Catastrophizing *	28.78	12.40	29.97	12.58	27.01	11.94	0-52
Anger *	13.88	5.14	14.34	5.63	13.19	4.23	0-20
<i>Psychological Distress</i>							
PTSD symptoms **	11.40	5.59	10.79	5.75	12.30	5.23	0-32

*
 $p < .05$;

**
 $p < .01$;

 $p < .001$ (2-tailed tests)

Table 2

Zero-Order Correlations Among Trauma, Social Support, Factors of Psychosocial Vulnerability, PTSD and Race

Variable	1	2	3	4	5	6	7
1. Trauma	--						
2. Social Support	-.278 ***	--					
3. Pain Catastrophizing	.078	-.243 ***	--				
4. Anger	.302 ***	-.472 ***	.281 ***	--			
5. Social Undermining	.302 ***	-.501 ***	.227 ***	.498 ***	--		
6. PTSD Symptoms	.350 ***	-.459 ***	.387 ***	.563 ***	.463 ***	--	
7. Race, 1=Black	.063	-.218 ***	.117 *	.111 *	.114 *	.118 *	--

Note: $N = 371$,

* $p < .05$,

** $p < .01$,

*** $p < .001$

Table 3

Total and Unique Direct and Indirect Effects from the Mediation Model

Model: Race to PTSD	<i>B</i>	<i>SE_B</i>	<i>β</i>	<i>SE_β</i>	<i>p-value</i>
Direct Effects					
Race	.322	1.469	.010	.045	.827
Indirect Effects					
Psychosocial vulnerability	4.849	1.924	.149	.057	.009
Social support	-.432	.367	-.013	.011	.238
Psychosocial vulnerability and support [/]	-.486	.484	-.015	.015	.309
Total Effects	4.254	1.624	.130	.048	.007
Total Indirect	3.932	1.682	.120	.050	.016

Notes: Total effects equal the sum of direct and indirect effects.

[/] The indirect pathway in which both psychosocial vulnerability and then social support are mediators is automatically estimated by the model but is not an interaction