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Trauma, Binge Eating, and the "Strong Black Woman"

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Objective: The primary goal of this study was to test a culturally specific model of binge eating in African American female trauma survivors, investigating potential mechanisms through which trauma exposure and distress were related to binge eating symptomatology. ***Method:*** Participants were 179 African American female trauma survivors who completed questionnaires about traumatic experiences; emotional inhibition/regulation difficulties; self-silencing (prioritizing others' needs and adopting external self-evaluation standards); eating for psychological reasons; binge eating; and internalization of "Strong Black Woman" (SBW) ideology, an important cultural symbol emphasizing strength and self-sufficiency. ***Results:*** Structural path analysis supported the proposed model in which SBW ideology, emotional inhibition/regulation difficulties, and eating for psychological reasons mediated the relationship between trauma exposure/distress and binge eating. The proposed model provided better fit to the data than several competing models. ***Conclusions:*** These findings suggest that among African American trauma survivors, trauma exposure and distress predict greater internalization of SBW ideology, which is associated with emotional inhibition/regulation difficulties, eating for psychological reasons, and ultimately binge eating. Implications of these findings for assessment, treatment, and prevention efforts are discussed.

Keywords: trauma, binge eating, Strong Black Woman, sociocultural factors

During their lives, many people will experience a trauma, defined as an event where one experiences serious bodily injury or threat accompanied by intense fear, helplessness, or horror (American Psychiatric Association, 2000). After trauma exposure, a wide range of difficulties can occur, including symptoms of posttraumatic stress disorder (PTSD), depression, anxiety, substance abuse, and eating problems (American Psychiatric Association, 2000; Dansky, Brewerton, Kilpatrick, & O'Neil, 1997; Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004; Shipherd, Stafford, & Tanner, 2005). One common eating problem after trauma is binge eating, defined as consuming a considerable amount of food in a discrete time period accompanied by a sense of loss of control. Though rates of binge eating in African American trauma survivors are unknown, binge eating appears to be a widespread problem in African American women generally, with estimates ranging from 8% to 34% and prevalence estimates of binge eating disorder ranging from 2% to 5% (Smith, 1995; Striegel-Moore, Wilfley, Pike, Dohm, & Fairburn, 2000). Recurrent binge eating is associated with a host of adverse consequences, including comorbid psychological problems, impaired interoceptive awareness, and increased risk of/association with obesity and its medical sequelae (Crowther & Harrington, 2006). Given the high rates of trauma exposure (e.g., Breslau, Davis, & Andreski, 1995) and bingeing in African American women and the many negative effects on health and well-being, it is vital to understand how these problems may be interrelated.

Despite limited research on trauma and binge eating in African American women, a recent study by Harrington, Crowther, Henrickson, and Mickelson (2006) found trauma exposure/distress significantly predicted African American women's binge eating severity. However, trauma did not significantly predict the psychological function of eating (i.e., using eating to fulfill psychological needs), and despite the strong association between the function of eating and binge eating, other variables were not associated with the function of eating. These findings suggest that critical mediating variables relevant to African American women's binge eating were not accounted for in this model and that a culturally specific model comprising mediators of the relationship between trauma exposure/distress and binge eating might address this limitation. One potential mediator unique to African American women is "Strong Black Woman" ideology.

Strong Black Woman Ideology

The Strong Black Woman (SBW) is a salient cultural symbol that may be relevant to African American women's trauma recovery and binge eating. Historically, the symbol originated as a rationalization/justification for slavery, because African American women were touted as physically and psychologically stronger and more resilient than White women (Harris-Lacewell, 2001). Over time, the image was appropriated within Black communities in

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response to derogatory images of Black womanhood. By adopting the SBW ideal, African American women have defined themselves in a positive light. Indeed, the image encompasses many positive attributes, imbues pride steeped in a rich cultural and historical legacy, engenders self-efficacy for confronting challenges, and provides encouragement during adversity. One of the symbol's central tenets is that African American women are *inherently* strong and resilient, attributes seen as intrinsic, essential qualities of Black womanhood. Self-reliance and self-containment are also seen as gold standards (Jones & Shorter-Gooden, 2003). Underlying the image are dictates to be strong and capable of handling all challenges, as well as admonishments against weakness or vulnerability. The symbol also stresses African American women's caretaking role. Nurturing family and community are seen as responsibilities of utmost importance, above the individual SBW's own needs and goals (Romero, 2000). Through cultural socialization, African American girls are raised to strive for SBW ideals and to believe strength is imperative. Thus, strength has become an integral component of many Black women's racial identity and sense of authenticity (e.g., Morgan, 1999). Accordingly, the SBW image has become a cultural prescription and expectation used to dictate and evaluate African American women's behavior. Despite its many positive attributes, the image may become problematic if African American women internalize the symbol so strongly that its elements then serve as cultural mandates couched in ideal, excessive, and/or unrealistic terms (e.g., Mitchell & Herring, 1998).

Given pressures to live up to a "superwoman" ideal when the SBW image is highly internalized, shame, guilt, low self-esteem, and depression are posited to arise when African American women perceive themselves falling short of such unattainable goals (Chisholm, 1996). Further, the image's ideal form does not allow Black women to experience or express vulnerability or distress and may minimize or deny struggles they face. In this excessive form, the SBW image does not grant African American women permission to feel stress or pain, break down, or struggle (Mitchell & Herring, 1998). This situation may be especially salient for African American trauma survivors because the symbol's extreme form permits a very narrow range of responses to adversity. Women who have strongly internalized the image may cling even more firmly to its dictates as they struggle to find culturally sanctioned ways to cope with traumatic experiences (e.g., not admitting to vulnerability or to experiencing certain emotions). As such, the SBW symbol may provide a guidepost for women attempting to make meaning and move forward from traumatic experiences. Unfortunately, the path highlighted by the SBW image's excessive form encourages maladaptive coping strategies (e.g., avoidance, suppression) that are associated with poor posttrauma outcomes (Ehlers, Mayou, & Bryant, 1998; Gil, 2005).

The ideal/excessive form of the SBW image may also be especially problematic for women prone to use eating as a coping strategy. For example, Beauboeuf-Lafontant (2003) posited that cultural pressures to embody strength and control and corollary prohibitions against weakness and vulnerability lead to an "erasure and denial of pain" (p. 115) that leaves many African American women susceptible to self-medicating with compulsive overeating. The idea that highly internalized SBW ideology may be connected to African American women's trauma recovery and binge eating is an intriguing possibility, but it has not yet undergone empirical investigation. Therefore, one purpose of this research was to examine whether SBW ideology mediated the relationship between trauma exposure/distress and binge eating symptomatology.

Emotional Inhibition and Regulation Difficulties, Self-Silencing, and Eating for Psychological Reasons as Potential Mediators

Despite extensive research documenting significant associations between trauma and eating pathology (Brewerton, 2004; Smolak & Murnen, 2002), there has been limited empirical examination of mechanisms for these associations. Mediators that have been identified (e.g., core beliefs [Waller et al., 2001]; impulsivity, body shame, and affect dysregulation [K. M. Thompson & Wonderlich, 2004]) stem from studies of primarily Caucasian women; thus, mechanisms of the trauma-disordered eating relationship for African American women remain unclear. Further, there has been no investigation of whether the strength of internalized SBW ideology is impacted by trauma exposure, whether it is associated with binge eating, and why these associations might exist. One predominant conceptualization of binge eating, the affect regulation model, may help explain connections among trauma, SBW ideology, and binge eating. According to this model, binge eating represents a maladaptive attempt at regulating and managing negative affect (e.g., Deaver, Miltenberger, Smyth, Meidinger, & Crosby, 2003). Specifically, binge eating is hypothesized to serve functions such as self-soothing, emotional numbing, avoiding negative affect, or escaping aversive self-awareness (e.g., Gershuny & Thayer, 1999). A related construct, self-silencing (prioritizing others' needs above one's own and adopting external standards of self-evaluation; Jack, 1991), may also play a key role. Because binge eating temporarily decreases the presence, level, or intensity of negative affect, the behavior is negatively reinforced.

Bingeing's affect regulation functions may be especially salient for trauma survivors who often struggle with regulating emotions (Linehan, 1993). Thus, binge eating in trauma survivors has been conceptualized as a maladaptive strategy for regulating negative affect through distraction, avoidance, or escape from trauma reminders (Harrington et al., 2006). Because coping with traumatic experiences by avoiding emotional distress and trauma reminders is consistent with the SBW image, African American women may hold more rigidly to these ideals following trauma. Within the constraints of rigid adherence to SBW, using binge eating to regulate emotions and self-silence can become one of the few emotion regulation strategies available to African American trauma survivors that is socially sanctioned (or, at the least, not culturally prohibited).

Extensive research with predominantly Caucasian samples provides support for an affect regulation model of binge eating. Functional analyses have repeatedly demonstrated that negative affect is a frequent, potent trigger for binge episodes and that negative affect's level or intensity decreases during binges (Crosby et al., 2009; Smyth et al., 2007). Similarly, self-silencing has been shown to predict emotional eating and eating disorder symptoms (Frank & Thomas, 2003). Further, there is support for binge eating being used as a coping strategy in people with emotion regulation difficulties (Whiteside et al., 2006); emotional inhibition (Zaitsoff, Geller, & Srikameswaran, 2002); and alexithymia (Troop, Schmidt, & Treasure, 1995). Thus,

binge eating can serve psychological functions, such as reducing aversive experiences or internal states.

Together, these findings provide a useful framework for conceptualizing African American trauma survivors' binge eating and identifying possible etiological and maintaining factors. When facing the challenge of trauma recovery, African American women are posited to further embrace the culturally sanctioned SBW dictates of strength and resilience coupled with minimized expressions of distress. Thus, trauma exposure is hypothesized to increase SBW ideology endorsement and ultimately binge eating, an avoidance-based coping strategy that is both intrinsically rewarding and socially sanctioned (i.e., consistent with SBW dictates). However, the extant literature has primarily examined binge eating in Caucasian women and has not conducted much direct examination of the role of trauma recovery and its interactions with other key variables. Hence, it is unclear whether prevailing models fit African American women and to what extent these constructs (trauma, affect regulation, and self-silencing) might represent shared risk factors between African American and Caucasian women. Further, unique risk factors specific to African American women's sociocultural contexts are not attended to in existing models of trauma recovery or binge eating. Thus, a second purpose of this study was to investigate mechanisms through which trauma exposure/distress and SBW ideology might lead to binge eating, examining emotional inhibition and regulation difficulties, self-silencing, and eating for psychological reasons as potential mediators of these relationships.

The Present Study

The goals of this study were to examine factors that may be related to African American trauma survivors' binge eating and to identify mechanisms of the associations among trauma, SBW ideology, and binge eating. We tested a culturally specific model of binge eating in trauma survivors (Figure 1), investigating potential mechanisms through which trauma exposure/distress was related to binge eating symptomatology (i.e., the mediational influences of SBW ideology, emotional inhibition/regulation difficulties, self-silencing, and eating for psychological reasons). Specifically, we posited that high rates of trauma exposure/distress would be associated with strong internalization of SBW ideology, because these trauma survivors would be turning to the image for guidance in making sense of their traumatic experiences and coping in a culturally sanctioned manner. Further, we hypothesized that African American trauma survivors strongly internalizing this image would respond to their traumatic experiences by inhibiting and failing to accept negative emotions, self-silencing, and continuing to prioritize others' needs. These responses were posited to be associated with an increased likelihood of using eating for psychological reasons and, in turn, a greater susceptibility to binge eating. Thus, binge eating was hypothesized to serve as a socially sanctioned coping strategy for dealing with traumatic experiences, negative affect, and the pressure to attain unrealistic SBW ideals for African American trauma survivors.

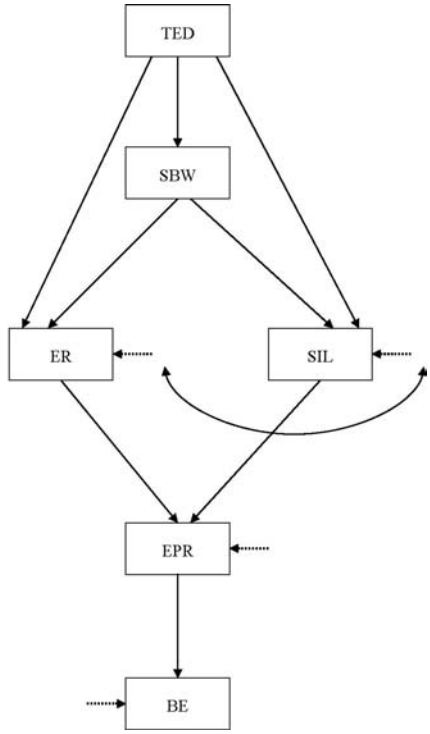

Figure 1. Proposed model. TED = Trauma Exposure/Distress; SBW = Strong Black Woman Ideology; ER = Emotional Inhibition and Regulation Difficulties; SIL = Self-Silencing; EPR = Eating for Psychological Reasons; BE = Binge Eating.

Method

Participants

Participants were 179 African American female trauma survivors (age: $M = 29.6$ years, $SD = 12.8$, range = 17–63; body mass index = 28.0, $SD = 7.4$, range = 17.6–50.8) selected from a larger sample of 200 African American women volunteering to participate in a study of African American women's life experiences and eating behavior. To be included in this study, participants had to report experiencing at least one traumatic event in their life. Participants in this sample were recruited from a mid-sized urban hospital internal medicine clinic (27.7%), undergraduate courses at a Midwestern university (52.0%), faculty/staff mailings (14.1%), and word of mouth (6.2%). Most participants reported attending some college or earning a trade school certificate or associate's degree (77.4%) and had never been married (68.0%). Almost half (46.6%) reported annual household incomes below $25,000. Approximately a quarter (24.5%) reported household incomes between $25,000 and $50,000; another quarter (24.6%) reported incomes between $50,000 and $100,000; and 4.3% reported incomes above $100,000. The average number of traumatic events reported by participants was 6.02 ($SD = 4.62$, range = 1–22). The most common exposures were witnessing family violence before age 16 (44.1%), sexual harassment (34.1%), emotional abuse/neglect (27.4%), serious accident or accident-related injury (26.8%), and abuse/physical attack by an acquaintance (24.0%).

Measures

Table 1 displays internal consistency estimates for each scale in this sample.

Table 1
Descriptive Statistics for Measured Variables

Variable	*M* (*SD*)	Internal consistency	No. of items
Life Stressors Checklist–Revised			
Event total	5.31 (3.78)	—	30
Distress total[a]	16.82 (14.74)	—	30
Sexual Experiences Survey			
Event total[a]	0.71 (1.36)	—	10
Distress total[a]	2.20 (5.16)	—	10
Binge Eating Scale	9.31 (7.95)	.87	16
Binge Eating Symptom Composite	5.59 (5.73)	.71	8
Efficacy of Help-Seeking Scale	17.19 (2.97)	.62	6
Stereotypic Roles for Black Women Scale			
Mammy stereotype	15.41 (3.67)	.64	5
Superwoman stereotype	36.89 (8.26)	.77	11
Courtauld Emotional Control Scale total	51.18 (11.32)	.84	21
Difficulties in Emotion Regulation Scale			
Nonacceptance of Emotional Responses	12.60 (5.26)	.88	6
Limited Access to Emotion Regulation Strategies	2.14 (0.73)	.82	8
Silencing the Self Scale			
Externalized Self-Perception	15.42 (5.39)	.83	6
Care as Self-Sacrifice	25.24 (5.00)	.73	9
Silencing the Self	23.58 (6.23)	.52	9
Divided Self	18.34 (4.83)	.57	7
Eating Expectancies Inventory			
Eating Helps Manage Negative Affect	46.51 (20.38)	.91	18
Eating Leads to Feeling Out of Control	10.86 (5.20)	.61	4
Eating in Response to Trauma	17.60 (10.59)	.93	9
Emotional Eating Scale total	−0.04 (0.88)	.95	25

[a] Denotes log transformed value.

Demographic form. Participants reported their age, household composition, marital status, education level, employment status, and personal and household incomes. They also provided their height and weight, which were used to calculate body mass index.

Trauma. The Life Stressors Checklist–Revised (LSC-R; Wolfe & Kimerling, 1997) assessed exposure to 30 potentially traumatic stressors and emotional response during the event (i.e., Criterion A2 of PTSD diagnosis). Participants also used a 5-point scale (*not at all* to *extremely*) to rate past-year event-related distress. The LSC-R yields an event total representing the number of traumatic events experienced, and a distress total representing past-year trauma-related distress. The LSC-R has exhibited good test–retest reliability (McHugo et al., 2005), high convergent validity with structured PTSD interviews (Wolfe & Kimerling, 1997), and construct and predictive validity (Kimerling, Clum, & Wolfe, 2000).

The Sexual Experiences Survey (SES; Koss & Oros, 1982) assessed 10 types of sexual victimization experiences. We added questions regarding respondents' emotional response during the event and past-year event-related distress to each SES item, using a format similar to the LSC-R. This modified SES also yielded two scores (paralleling those for the LSC-R): the sexual victimization event total and the sexual victimization distress total for the past year. The SES has demonstrated excellent test–retest reliability and good convergent validity with structured interviews (Koss & Gidycz, 1985). The LSC-R was used to assess for a broad range of traumatic experiences, whereas the SES was used for a more fine-grained assessment of sexual victimization specifically. For both the LSC-R and the SES, only events that participants endorsed as life threatening and accompanied by intense fear, helplessness, or horror (i.e., meeting PTSD Criterion A requirements) were included in the event and distress totals.

Binge eating. The Binge Eating Scale (Gormally, Black, Daston, & Rardin, 1982) assessed affective, behavioral, and cognitive components of binge eating. This scale comprises 16 questions with three or four response options; participants indicated which statement best described them. Higher scores indicated more severe binge eating symptomatology. The Binge Eating Scale has good psychometric properties and is a very widely used measure for assessing binge eating severity (Marcus, Wing, & Lamparski, 1985).

The Eating Disorder Diagnostic Scales (Stice, Telch, & Rizvi, 2000) assessed eating pathology with 22 items measuring eating disorder symptoms from the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM–IV*; American Psychiatric Association, 2000). Response format varied by item; participants provided *yes–no* responses, indicated the frequency of specific behaviors, or used a 7-point scale (*not at all* to *extremely*) to indicate endorsement of cognitive symptoms. The Eating Disorder Diagnostic Scales generate probable *DSM–IV* eating disorder diagnoses and also yield an overall symptom composite. The instrument has demonstrated good temporal stability, internal consistency, and concurrent and predictive validity (Stice, Fisher, & Martinez, 2004). Only the binge symptom composite was used in these analyses.

SBW ideology. To assess SBW ideology's caretaking and strength components, the five-item Mammy stereotype subscale

(e.g., "I often put aside my own needs to help others") and the 11-item Superwoman stereotype subscale (e.g., "If I fall apart, I will be a failure") of the Stereotypic Roles for Black Women Scale (Thomas, Witherspoon, & Speight, 2004) were used. Respondents used a 5-point scale (*strongly disagree* to *strongly agree*) to rate agreement with each item. Scores range from 5 to 25 on the Mammy stereotype subscale and from 11 to 55 on the Superwoman stereotype subscale; higher scores denoted greater endorsement of that stereotypical image. The Stereotypic Roles for Black Women Scale subscales are moderately intercorrelated, suggesting that they assess related but distinct constructs. Further, there is evidence for the measure's internal consistency and construct validity (Thomas et al., 2004). The Efficacy of Help-Seeking Scale (Eckenrode, 1983) assessed internalization of the SBW image's self-sufficiency component. This scale is a six-item scale measuring attitudes toward help seeking. Participants used a 4-point scale (*strongly agree* to *strongly disagree*) to indicate their agreement with each item (e.g., "Admitting hardships to others is a sign of weakness"); lower scores denoted less belief in the efficacy or benefits of seeking and accepting help. The Efficacy of Help-Seeking Scale has evidenced modest internal consistency (e.g., Wright, 2000) and concurrent and predictive validity (Eckenrode, 1983).

Because the present study is among the first empirical examinations of the SBW ideology construct, we have included initial construct validity information. Preliminary research (Harrington & Crowther, 2007) demonstrated this measure's predictive validity, given that SBW ideology was significantly associated with depressive symptoms and worry ($\beta = .32$ and .34, respectively; $p < .001$). These findings held even after controlling for demographic factors. Because the extreme form of the SBW image emphasizes minimizing or denying unacceptable emotions and caretaking others as an utmost priority, strongly internalized SBW ideology should be associated with inhibiting and failing to accept negative emotions and prioritizing others' needs. In the present study, SBW ideology significantly predicted emotional inhibition/regulation difficulties and self-silencing ($\beta = .40$ and .43, respectively; $p < .001$), findings that held after controlling for demographics. Conceptually, SBW ideology is posited to be a salient cultural symbol for African American women that cuts across socioeconomic and other demographic boundaries. Thus, SBW ideology would not be expected to be significantly associated with any demographic factors. This discriminant validity was supported in the current sample, given that SBW ideology was not significantly related to any demographics (age, education, income; *r*s ranging from $-.01$ to .13, $p > .05$) or with religious affiliation ($r = -.04$, $p > .05$).

Emotional inhibition and emotion regulation difficulties. The Courtauld Emotional Control Scale (Watson & Greer, 1983) assessed emotional inhibition. This scale consists of 21 items measuring respondents' maladaptive efforts to control reactions to specific emotions. Each item consisted of an emotion stem (e.g., "When I feel unhappy . . .") and a reaction (e.g., "I bottle it up"). Participants used a 4-point scale (*almost never* to *almost always*) to indicate how often they responded to the specified emotion with the reactions listed. The Courtauld Emotional Control Scale yielded three subscale scores (Anger, Depressed Mood, and Anxiety) and a total score of maladaptive inhibition of negative emotion. This scale has demonstrated good internal consistency and temporal stability (Watson & Greer, 1983).

Two subscales from the Difficulties in Emotion Regulation Scale (Gratz & Roemer, 2004) assessed difficulties in two domains of emotion regulation. The Nonacceptance of Emotional Responses subscale included six items (e.g., "When I'm upset, I feel like I am weak"), and the Limited Access to Emotion Regulation Strategies subscale included eight items (e.g., "When I'm upset, my emotions feel overwhelming"). Participants used a 5-point scale (*almost never* to *almost always*) to indicated how often each item applied to them; higher scores denoted greater difficulty with emotion regulation in that domain. The Difficulties in Emotion Regulation Scale has demonstrated adequate internal consistency, test–retest reliability, and concurrent validity (Gratz & Roemer, 2004).

Self-silencing. The Silencing the Self Scale (Jack & Dill, 1992) contains 31 items comprising four subscales: (a) Externalized Self-Perception (e.g., "I tend to judge myself by how I think other people see me"); (b) Care as Self-Sacrifice (e.g., "Caring means putting the other person's needs before my own"); (c) Silencing the Self (e.g., "I don't speak my feelings in an intimate relationship when I know they will cause disagreement"); and (d) the Divided Self (e.g., "I find it harder to be myself when I am in a close relationship than when I am on my own"). Participants used a 5-point scale (*strongly disagree* to *strongly agree*) to indicate their degree of agreement with each statement; higher scores indicate greater endorsement of the measured construct. The Silencing the Self Scale has demonstrated high test–retest reliability, good internal consistency, and construct validity (e.g., Jack & Dill, 1992).

Eating for psychological reasons. Four measures assessed eating for psychological reasons. Two subscales from the Eating Expectancies Inventory (Hohlstein, Smith, & Atlas, 1998) measured expectations that eating leads to specific consequences or reinforcement: Eating Helps Manage Negative Affect (18 items) and Eating Leads to Feeling Out of Control (four items). Participants used a 7-point scale (*completely disagree* to *completely agree*) to indicate the degree of agreement with each Eating Expectancies Inventory item; higher scores indicated greater endorsement of the measured construct. The subscales for this inventory have demonstrated acceptable internal consistency as well as concurrent and predictive validity (Hohlstein et al., 1998).

The Eating in Response to Trauma scale (Harrington et al., 2006) assessed use of eating to cope with traumatic events. Participants used a 7-point scale (*completely disagree* to *completely agree*) to indicate their agreement with each of the nine items (e.g., "I eat to get away from intrusive thoughts or images"). Higher scores indicated greater endorsement of eating in response to trauma. Preliminary data suggest that the Eating in Response to Trauma scale has high internal consistency and that its scores are significantly related to traumatic events experienced and to trauma-related distress (Harrington et al., 2006).

The Emotional Eating Scale (Arnow, Kenardy, & Agras, 1995) assessed coping with negative affect by eating. Participants used a 5-point scale (*no desire to eat* to *an overwhelming urge to eat*) to rate 25 emotions as potential triggers to eat; higher scores indicated greater urges to eat in response to negative affect. This scale yielded scores on three subscales (Anxiety, Anger/Frustration, and Depression) and a total score. The measure has demonstrated acceptable test–retest reliability, internal consistency, and predic-

tive validity, given that changes in the Emotional Eating Scale correspond to treatment-related changes in binge eating (Arnow et al., 1995).

Procedure

After informed consent, participants completed questionnaires individually or in small groups; average completion time was approximately 1 hr. On completion, women received either $10 or credit for their psychology course research requirement.

Statistical Analyses

Table 1 presents descriptive statistics for the measured variables. Log transformations were performed on the LSC-R distress total, SES event total, and SES distress total because they exhibited nonnormal distributions. To prepare the data for analysis, six factors derived from six separate exploratory factor analyses were created to represent key constructs (Table 2; Tabachnick & Fidell, 2001).[1] The scales included in each factor analysis were selected a priori on the basis of theoretical and conceptual expectations (e.g., the scales designed to measure binge eating were included in the Binge Eating factor analysis). Only one factor emerged for each set of analyses; these factors were used in all subsequent analyses. Next, structural path analysis was used to test a model investigating mechanisms through which trauma exposure/distress was related to binge eating symptomatology.

Results

Relationships Among the Variables

Most of the bivariate correlations among the factors were statistically significant; exceptions were the correlations between Trauma Exposure/Distress and Eating for Psychological Reasons, between Trauma Exposure/Distress and Binge Eating, and between SBW Ideology and Binge Eating (see Table 3).

Analysis of Structural Model

Structural path analysis was used to test a model investigating mechanisms through which Trauma Exposure/Distress, SBW Ideology, and Binge Eating are related (Figure 2). The model converged after six iterations. Goodness-of-fit statistics suggested that the model provided an excellent fit to the data, $\chi^2(6) = 3.77$, $p > .05$; nonnormed fit index (NNFI) = 1.03, comparative fit index (CFI) = 1.00, standardized root-mean-square residual (SRMR) = .03, root-mean-square error of approximation (RMSEA) = .00, 90% confidence interval (CI) [.00–.08]. Neither the Wald nor LaGrange multiplier tests suggested modifications to the model because of its excellent fit. With two exceptions, all direct paths in the model were significant (the Trauma Exposure/Distress to Emotional Inhibition/Regulation Difficulties path and the Self-Silencing to Eating for Psychological Reasons path did not reach significance; respectively, $B = .12$ and .16; $t = 1.39$ and 1.77, ps $> .05$). With respect to indirect effects, results indicated that SBW Ideology mediated the relationship between Trauma Exposure/Distress and Emotional Inhibition/Regulation Difficulties (Sobel test statistic = 3.36, $p < .001$) and the relationship between Trauma Exposure/Distress and Self-Silencing (Sobel = 3.27, $p < .01$). Further, Emotional Inhibition/Regulation Difficulties mediated the relationship between SBW Ideology and Eating for Psychological Reasons (Sobel = 2.34, $p < .05$). Finally, Eating for Psychological Reasons mediated the relationship between Emotional Inhibition/Regulation Difficulties and Binge Eating (Sobel = 2.53, $p < .05$).

Tests of Competing Models

Next, three competing models were tested and compared with the proposed model (Figure 3). In Model 1, SBW Ideology was not hypothesized to be related to any other model variables, but the same relationships among the remaining variables were hypothesized. As such, Model 1 represents a less culturally specific version of the originally proposed model. Goodness-of-fit statistics suggested that Model 1 provided a poor fit to the data, $\chi^2(9) = 50.05$, $p < .001$; NNFI = .68, CFI = .81, SRMR = .16, RMSEA = .18, 90% CI [.13–.22]. In Model 2, Trauma Exposure/Distress was not hypothesized to predict SBW ideology directly but rather through its effects on Emotional Inhibition/Regulation Difficulties and Self-Silencing. Goodness-of-fit statistics suggested that Model 2 provided a marginal fit to the data, $\chi^2(7) = 24.65$, $p < .01$; NNFI = .82, CFI = .92, SRMR = .10, RMSEA = .13, 90% CI [.08–.19]. In Model 3, SBW ideology was hypothesized to fully (rather than partially) mediate the relationships between Trauma Exposure/Distress and Emotional Inhibition/Regulation Difficulties and Self-Silencing. Goodness-of-fit statistics suggested that Model 3 provided a marginal fit to the data, $\chi^2(8) = 8.58$, $p > .05$; NNFI = 1.00, CFI = .90, SRMR = .11, RMSEA = .13, 90% CI [.08–.09]. Thus, goodness-of-fit statistics for all three models suggested that they provided a poorer fit than that provided by the originally proposed model.

Discussion

This study tested a culturally specific model explaining the co-occurrence of trauma exposure and binge eating in African American women, highlighting SBW ideology's pivotal role. Trauma exposure/distress appears to influence how strongly SBW ideology is internalized, which in turn influences binge eating through its effects on emotion regulation and eating for psychological reasons. Specifically, the results suggest that emotion regulation difficulties and using eating to fulfill psychological needs are crucial mechanisms through which SBW ideology impacts African American trauma survivors' binge eating. These women appear to use binge eating to manage negative affect associated

[1] The factor analytic procedure was selected over summing the components because it allows for the weighted contribution of each item, an advantage relevant when factors comprise more than two components (when factors comprise only two components, the factor analysis procedure is equivalent to summing the components). Exploratory factor analyses were used to create all factors, whether factors comprised two or three components, to maintain consistency. In all factor analyses, items were considered to load on a factor if the factor loading exceeded .40; items were considered to load on more than one factor if the difference in factor loadings was less than .10.

Table 2
Summary of Factor Analyses

Factor	Factor loading	Eigenvalue	Percentage variance
Trauma Exposure and Distress		2.95	73.84
LSC-R Event total	.86		
LSC-R Distress total	.85		
SES Event total	.87		
SES Distress total	.87		
Binge Eating Symptomatology		1.60	79.78
BES	.89		
Binge Eating Symptom Composite	.89		
SBW Ideology		1.82	60.73
EHSS	−.53		
Mammy stereotype	.86		
Superwoman stereotype	.89		
Emotional Inhibition and Regulation Difficulties		1.96	65.37
CECS total	.62		
DERS–Nonacceptance	.89		
DERS–Strategies	.89		
Self-Silencing		2.45	61.26
Externalized Self-Perception	.82		
Care as Self-Sacrifice	.67		
Silencing the Self	.82		
Divided Self	.82		
Eating for Psychological Reasons		2.75	68.78
Eating Helps Manage Negative Affect	.91		
Eating Leads to Feeling Out of Control	.73		
ERT	.87		
EES total	.80		

Note. LSC-R = Life Stressors Checklist–Revised; SES = Sexual Experiences Survey; BES = Binge Eating Scale; SBW = Strong Black Woman; EHSS = Efficacy of Help-Seeking Scale; CECS = Courtauld Emotional Control Scale; DERS = Difficulties in Emotion Reguation Scale; ERT = Eating in Response to Trauma; EES = Emotional Eating Scale.

with their traumatic experiences (B. Thompson, 1996), an interpretation consistent with the extensive literature documenting associations between emotion regulation difficulties and binge eating (e.g., Troop et al., 1995), and use binge eating as a maladaptive affect regulation strategy (e.g., Deaver et al., 2003). Prior research has been conducted with predominantly Caucasian samples; thus, the applicability of the findings and underlying conceptual model to African American trauma survivors was previously unclear.

Therefore, this study's results provide the first empirical support for an affect regulation model of binge eating in African American trauma survivors. As such, they suggest that the *function* of binge eating may be similar for African American and Caucasian women—namely, that binge eating provides a strategy for regulating, managing, escaping, or avoiding negative affect. However, critical differences appear to exist in the sociocultural contexts and pathways through which binge eating occurs. For African American women, strongly internalizing the SBW image may provide socially sanctioned guidance for coping with traumatic exposure and distress. Specifically, binge eating can serve an affect regulation function among individuals who overinternalize the SBW image and are seeking acceptable ways to deal with affect and traumatic

Table 3
Correlation Matrix—Factors

Factor	TED	SBW	ER	SIL	EPR	BE
TED	—					
SBW	.38*** (178)	—				
ER	.20** (171)	.40*** (170)	—			
SIL	.32*** (172)	.43*** (171)	.61*** (165)	—		
EPR	.10 (165)	.22** (164)	.42*** (161)	.36*** (159)	—	
BE	.08 (168)	.11 (167)	.29*** (163)	.28*** (162)	.58*** (160)	—

Note. Sample size appears in parentheses beside the correlation coefficient. TED = Trauma Exposure/Distress; SBW = Strong Black Woman Ideology; ER = Emotional Inhibition and Regulation Difficulties; SIL = Self-Silencing; EPR = Eating for Psychological Reasons; BE = Binge Eating Symptomatology.
** $p < .01$. *** $p < .001$.

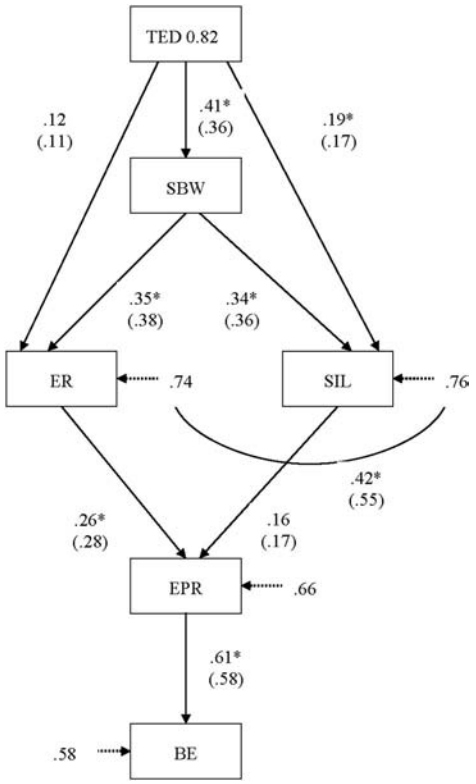

Figure 2. Structural model. Values represent raw path coefficients with standardized path coefficients in parentheses. TED = Trauma Exposure/Distress (0.82 = variance of TED); SBW = Strong Black Woman Ideology; ER = Emotional Inhibition and Regulation Difficulties; SIL = Self-Silencing; EPR = Eating for Psychological Reasons; BE = Binge Eating. * $p < .05$.

experiences that do not violate the idealized symbol's expectations.

Our results also provide the first empirical support for ideas advanced by theorists such as Harris-Lacewell (2001) and Mitchell and Herring (1998), who argued that extreme SBW ideology prescribes a narrow range of acceptable responses to adversity and denies African American women the right to experience and express certain emotions or vulnerabilities. As such, the results are consistent with Beauboeuf-Lafontant's (2003) hypothesis that internalizing an idealized/excessive form of the SBW image and its dictates can lead to emotional avoidance or suppression and ultimately eating problems as a means of self-medication. This process may be analogous to what is known about how perfectionism confers risk for eating pathology (e.g., Bardone-Cone et al., 2007; Sherry & Hall, 2009). Another interesting parallel to the SBW image may be John Henryism, a cultural ideology that in its extreme form calls for excessive displays of strength at the cost of health. High levels of John Henryism have been linked to adverse health outcomes among African American men (James, 1994). Thus, with both SBW ideology and John Henryism, extreme internalization of an originally positive cultural symbol can have detrimental effects if striving for unbalanced or unrealistic ideals is expected.

Limitations

Whereas this study's results can potentially enhance researchers' understanding of African American women's trauma recovery and binge eating, there are some methodological limitations that may impact generalizability. First, despite a sample of 179 participants, we were underpowered to reject model fit hypotheses. A sample of over 1,000 participants would be needed to achieve power = .80 for tests of close and not-close fit for this model (MacCallum, Brown, & Sugawara, 1996). These concerns about power can be tempered somewhat by the fact that the proposed model garnered support (e.g., fit indices in the desired range, did not reject close and not-close fit hypotheses), whereas alternative models did not (close and not-close fit hypotheses rejected). Another limitation relates to some measures' validity and cultural relevance, given that some scales (e.g., Difficulties in Emotion Regulation Scale, Emotional Eating Scale) were developed and normed on primarily Caucasian samples. Further, the SBW Ideology factor's construct validity is unclear because this study represents one of the first attempts to measure and empirically investigate this construct. Initial validity evidence is encouraging, but further research is needed to determine how adequately SBW Ideology is measured with this study's approach. An additional limitation is that the sample comprised volunteers who may not be representative of African American women in general, thus limiting the results' generalizability. Offsetting this concern, however, is that participants were fairly heterogeneous in terms of age, socioeconomic status, and other key variables, which may temper some concerns about the study's external validity. Additionally, because the model associations are cross-sectional, prospective research is needed to further validate the findings. Further research will also be important in establishing the replicability of these findings. Finally, the specificity of this model remains unclear; the degree to which the model fits better for African American women than for other groups of women should be examined in future research.

Future Directions and Implications

Our results stress the importance of considering the interface among trauma history, trauma-related distress, SBW ideology, and binge eating in African American women. Beyond theoretical and conceptual implications, this study can inform assessment, treatment, and prevention. First, endorsement of the SBW image could affect African American women's willingness to seek treatment and clinical presentation if services are sought. Internalizing an extreme SBW image may make African American women reluctant to seek services because doing so essentially entails admitting failings or shortcomings given the belief that Strong Black Women don't go to therapy (e.g., Danquah, 1998). When African American women do present for therapy, highly internalized SBW ideology may contribute to reluctance acknowledging emotional distress or concerns about binge eating. Thus, they may underreport, minimize, or attempt to portray themselves as keeping it all together—a front belying their actual internal experience. It is important to note, however, that some African American women strongly endorsing the SBW symbol might see therapy as a welcome respite from pressures to maintain the SBW image. In fact, working with African American clients to help create a refuge

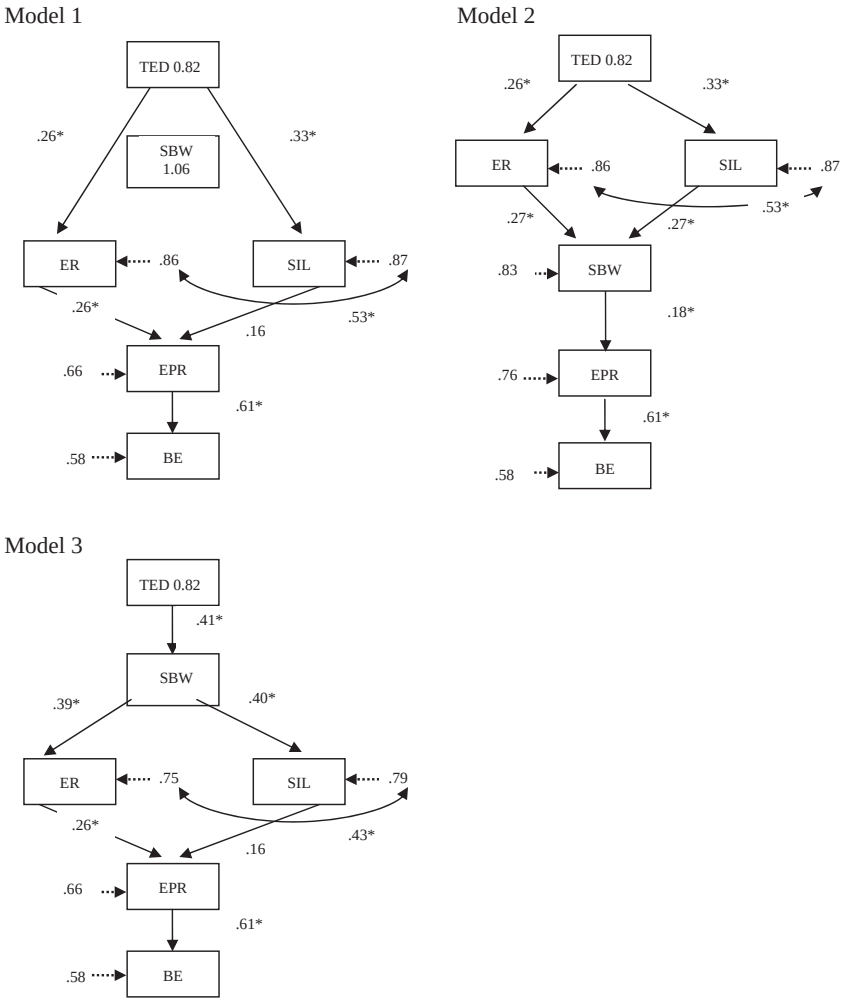

Figure 3. Alternative models. TED = Trauma Exposure/Distress; SBW = Strong Black Woman Ideology; ER = Emotional Inhibition/Regulation Difficulties; SIL = Self-Silencing; EPR = Eating for Psychological Reasons; BE = Binge Eating. * $p < .05$.

from these kinds of pressures in therapy could be an important element for successful therapy.

These findings also suggest specific intervention strategies and targets for African American trauma survivors with binge eating. For example, cognitive restructuring can help address SBW over-internalization with a goal of adopting more balanced beliefs that are still consistent with this important cultural symbol. In this way, it may be possible to maintain connections to the image's positive aspects without being vulnerable to its negative aspects. Because emotion regulation difficulties appear to play a salient role, employing mindfulness and acceptance-based interventions and targeting emotion regulation specifically through skills-based interventions (e.g., dialectical behavior therapy; Linehan, 1993) would likely be beneficial in helping clients move away from overly relying on emotional avoidance and suppression. Providing clients with a broader repertoire of adaptive strategies for coping with negative affect would ideally decrease reliance on eating to fulfill psychological needs. In this way, African American women who binge eat can increase distress tolerance and emotion regulation strategies as an important step toward preparing them for trauma-focused evidence-based treatments. Finally, directly addressing trauma-related distress through empirically supported treatments (Resick, Nishith, Weaver, Astin, & Feuer, 2002; Foa, Hembree, & Rothbaum, 2007) could also assist in broadening approach-based coping strategies for the trauma-related distress that underlies the binge eating.

This study is a good first step in developing useful conceptualizations and interventions for African American trauma survivors' binge eating. However, researchers are still in the earliest stages of understanding these difficulties from a culturally competent framework. Future research should replicate the model in a large, diverse sample of African American trauma survivors and examine the role of socioeconomic status. Culturally accepted buffering factors (spirituality, religious coping, social support, etc.) should be examined. Finally, investigating functional relationships among trauma-related distress, PTSD symptoms, and binge eating will be a valuable next step in building a more thorough understanding of African American trauma survivors' binge eating.

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