The Pennsylvania State University

The Graduate School

College of the Liberal Arts

THE INFLUENCE OF TRAUMA ON THREAT-REACTIVE AGGRESSION

A Thesis in

Psychology

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

May 2018

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ABSTRACT

Trauma exposure is consistently associated with men's perpetration of intimate partner violence (IPV), potentially due to trauma-related biased perception of threat. In this area of research, threat is typically defined in terms of physical danger or harm. To date, it is not well known if threat functionally motivates initiation of aggression or if the nature of threat extends beyond stimuli signaling physical danger/harm. However, theory and limited research suggest that threats of rejection/abandonment and threats of social dominance may reflect distinct functional precipitants of aggression perpetration among trauma-exposed men. This study was designed to assess men's aggressive responses in the context of their wives' rejection/abandonment and social dominance threats in order to better understand the circumstances in which aggression is used among men varying in degree of trauma exposure. Among 64 community couples selected for elevated symptoms of PTSD in either partner, husbands' aggressive behaviors and their wives' threats of rejection/abandonment and social dominance were objectively observed during couple conflict interactions. The severity of wives' rejection/abandonment threats predicted the severity of husbands' aggression perpetration among husbands with high ($\beta = .71$, $t = 3.68$, $p < .001$), but not low ($\beta = .03$, $t = .18$, $p = .854$), levels of trauma exposure. Likewise, the severity of wives' social dominance threats predicted the severity of husbands' aggression perpetration among husbands with high ($\beta = .67$, $t = 5.34$, $p < .001$), but not low ($\beta = .08$, $t = .54$, $p = .590$), levels of trauma exposure. Thus, men with relatively high trauma exposure may respond aggressively to women's threats of rejection/abandonment and social dominance. These findings are consistent with research suggesting that traumatized men's misperceptions of threat may motivate their aggression, and indicate that aggression may also be used in the context of accurately detected threat. Findings also suggest that men may respond aggressively to an array of objectively threatening behaviors, including those that reflect rejection/abandonment and social dominance.

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Acknowledgements

I would like to thank my committee members, Dr. Amy Marshall, Dr. Ginger Moore and Dr. James LeBreton, for their expertise and help with this manuscript.

Introduction

Current research indicates that a constellation of factors predicts intimate partner violence (IPV) perpetration among clinical and community samples of men (see Bell & Naugle, 2008; Delsol & Margolin, 2004; Marshall, Panuzio, & Taft, 2005; Shumacher, Feldbau-Kohn, Slep, & Heyman, 2001 for reviews). These factors largely reflect intra-individual as well as inter-individual processes that intersect to functionally precipitate aggression perpetration (Capaldi & Kim, 2007). Particularly consistent predictors of aggression perpetration include the experience of early life trauma (Dutton, 1995, 1999; Murphy, Meyer, & O'Leary, 1993; Shumacher, Feldbau-Kohn et al., 2001) and a variety of factors that represent the context in which aggression occurs (e.g., marital conflict, partner characteristics; Marshall, Jones, & Feinberg, 2011; Miller et al., 2013).

The experience of early life trauma appears to influence the development of interpersonal aggression (Cast, Schweingruber, & Berns, 2006; Dutton, 1995; 1999; Dutton & Hart, 1992; Ehresaft, et al., 2003; Taft, Schumm, Marshall, Panuzio, Holtzworth-Munroe, 2008). Relative to maritally nonviolent men, men who perpetrate IPV more often report histories of early life trauma (Bell & Naugle, 2008; Delsol & Margolin, 2004; Marshall, et al., 2005; Murphy et al., 1993; Shumacher, Feldbau-Kohn et al., 2001). Additionally, the severity of early life trauma is associated with the severity of aggression perpetration (Dutton & Hart, 1992; Milaniak & Widom, 2015). Although the experience of early life trauma increases the risk for aggressive behavior in general (Dodge, Pettit, Bates, & Valente, 1995; Ehrensaft, Moffitt, & Caspi, 2004), the experience of early life trauma is more strongly associated with perpetration of family violence, including IPV, than other forms of violence (Dutton & Hart, 1992; Milaniak & Widom, 2015).

Cognitive-affective dysfunction following the experience of trauma may explain why men with early life trauma exposure are at heightened risk to perpetrate IPV. In particular, trauma is associated with biased perception of threat (see Buckley, Blanchard, & Neill, 2000 for review; Elwood, Williams, Olatunji, & Lohr, 2007) to which the experience of fear is primarily salient (Birn, Patriat, Phillips, Germain, & Harringa, 2014; Shackman, Shackman, & Pollack, 2007; Suzuki, Poon, Kumari, & Cleare, 2015). Negative attributions following the experience of trauma (e.g., belief that the world is dangerous; Ehlers & Clark, 2000) may contribute to greater appraisals of threat in the environment and elicit fear responses such as distrust (Dutton, 1995) and anger (Chemtob, Novaco, Hamada, Gross, & Smith, 1997; Novaco & Chemtob, 2002). The experience of fear may also be implicated in IPV perpetration, as maritally violent men report greater fear of their wives than maritally nonviolent men (O'Leary & Curley, 1986). In fact, relative to nonviolent individuals, maritally violent men exhibited exaggerated fear responses as well as greater rage and behavioral dyscontrol following fear induction (George et al., 2000; George et al., 2004). IPV perpetration among traumatized men may therefore reflect a trauma-related fear-based response following perceptions of threat (Bitler, Linnoila, & George, 1994). Indeed, Marshall, Robinson, and Azar (2011) revealed that misappraisals of others' anger expressions mediated the association between trauma cognitions and IPV perpetration, suggesting that partner interactions are perceived as more threatening as a function of trauma. Notably, these cognitive-affective deficits among trauma-exposed men may be stronger for one's partner (Marshall & Holtzworth-Munroe, 2010), thus localizing the potentially most deleterious effects of maladaptive responses to threat to the intimate relationship.

Because trauma appears to be associated with the experience of shame (e.g., view of self as incapable, inadequate, and/or incompetent; Dutton, Van Ginkel, & Starzomski, 1995;

Lawrence & Taft, 2013), shame may further characterize threat responses among traumatized men. Threats of rejection and abandonment may elicit shame (Covert, Tagney, Maddux, & Heleno, 2003; Ehlers & Clark, 2000; Gilbert, Pehl, & Allan, 1994; Kubany & Watson, 2002), which may in turn facilitate maladaptive responses (e.g., blame externalization; Stuewig, Tagney, Heigel, Harty, & McCloskey, 2009) such as aggression (Dutton, Saunders, Starzomski, & Bartholomew, 1994; Walker & Knauer, 2011; Velotti, Elison, & Garofalo, 2014 for review). Aggression may be used as a means of mitigating ensuing negative affect (see Leary, Twenge, Quinlivan, 2006 for review). Supporting this notion, research suggests that trait shame and avoidance of shame mediate the relationship between trauma and frequency of IPV perpetration (Schoenleber, Sippel, Jakupcak, & Tull, 2015; Sippel & Marshall, 2011). Further, others reveal that men's IPV is predicted by men's misappraisals of their partners' expressions of fear as disgust (Marshall & Holtzworth-Munroe, 2010) and by women's insensitivity to men's expressions of vulnerability (e.g., sadness, anxiety), which may be interpreted as signaling rejection (Cohen, Schulz, Liu, Halassa, & Waldinger, 2015).

Aversive emotional experiences in response to threat may not be the only mechanism through which trauma leads to aggression perpetration. In the most frequently utilized typology of violent men, Holtzworth-Munroe and colleagues identified "borderline/dysphoric" and "generally violent/antisocial" groups of men whose violence is largely a function of either 1) borderline and dependent personality traits, jealousy, and fear of abandonment, or 2) antisocial and psychopathic personality traits and a general proclivity towards antisocial and aggressive behavior (Holtzwoth-Munroe & Stuart, 1994; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000; 2003). Holtzworth-Munroe and colleagues (2000; 2003) recognize the substantial conceptual and phenotypic overlap among these profiles, reflecting that the most severely violent

individuals, in general, exhibit elevations across a constellation of borderline and antisocial traits (Ehrensaft, Cohen, & Johnson, 2006; Ehrensaft et al., 2004). Moreover, some argue that dimensions may better reflect realistic phenotypic variation among individuals than do groups (Holtzworth-Munroe & Meehan, 2004; Langhinrichsen-Rohling, Huss, & Ramsey, 2000). As such, it may be more useful to consider functional motives for aggression than broad-based descriptive groups (Holtzworth-Munroe & Meehan, 2004). That is, dimensional traits among maritally violent men may interact with contextual factors to motivate their IPV.

Considering that men who exhibit borderline personality traits as well as those who exhibit antisocial personality traits both report elevated rates of early life trauma (Dutton et al., 1994; Ehrensaft, et al., 2006; Holtzworth-Munroe et al., 2000; Murphy et al., 1993), these constructs may be used to propose functional motives for how trauma leads to IPV perpetration. As described, trauma has previously been conceptualized as leading to IPV perpetration via trauma-related increased sensitivity to threats of rejection and abandonment in association with blame externalization following the experience of shame (Dutton et al., 1994; Dutton, 1995; Holtzworth-Munroe & Hutchinson, 1993; Holtzworth-Munroe, Stuart, & Hutchinson, 1997; Schoenleber et al., 2015; Sippel & Marshall, 2011; Stuewig, Tangney, Heigel, Harty, & McCloskey, 2010; Walker & Knauer, 2011; Velotti et al., 2014). However, this mechanism does not adequately capture how trauma and antisocial personality traits may lead to IPV perpetration. It may be that the field needs to additionally consider how threats of social dominance, which can be especially salient to highly antisocial individuals (Chase, O'Leary, & Heyman, 2001; Johnson, 1995; Johnson, Leedom, & Muhtadie, 2012 for review; Johnson & Leone, 2005; Mager, Bresin, & Verona, 2014), may also precipitate IPV perpetration among trauma-exposed individuals.

Dominance-based aggression is well studied in the non-human animal literature and is associated with predatory attack as well as resource protection and competition (see Veenema, 2009 for review). Similar to increased aggression following trauma among humans, some have found that rodents traumatized (i.e., socially deprived or socially subjugated) early in life display greater dominance-based aggressive behaviors and less submissive behaviors in dyadic and group-based interactions relative to non-traumatized rodents (Ferris, Messenger, & Sullivan, 2005; Veenema, 2009; Wommack & Delville, 2007 for review). Notably, rodents traumatized during adolescence demonstrated submissive behavior when in the presence of (and thus socially dominated by) larger, older rodents, but demonstrated excessive aggression under relatively benign conditions; namely, in the presence of smaller, younger rodents (Delville, Melloni, & Ferris, 1998; Ferris, 2000). These disparate behavioral displays suggest sensitivity to social hierarchical changes among traumatized rodents. Inappropriate displays of aggression among traumatized rodents prevent adaptive integration within the social hierarchy, including development of social relationships with other conspecifics (Veenema, 2009). As such, they are often relegated to low positions in the social hierarchy (Veenema, 2009). Presumably, under such conditions, continuous attempts to gain higher status may require the use of aggression. Although it is not yet known whether lower status is correlated with greater aggression among rodents, there is reason to believe such a relationship exists among humans.

Among humans, individuals of low perceived social power may be especially sensitive to dominant behavior from others, such as attempts to undermine opportunities for power and control (Johnson et al., 2012; Overall, Hammond, McNulty, & Finkel, 2016). Possession of social dominance may be particularly salient among maritally violent men as research suggests that they are more likely to interpret their partners' behaviors as more controlling, to perceive

themselves as being controlled, and to perceive their own sense of control as threatened (Ehrensaft, Langhinrichsen-Rohling, Heyman, O'Leary, & Lawrence, 1999). In addition, trauma-exposed men may possess strong motives to gain or exert social dominance given their perceptions of powerlessness and lack of control following the experience of trauma (Ozer, Best, Lipsey, & Weiss, 2003). As such, these individuals may engage in greater efforts to assert social dominance (e.g., dominant communication; Dunbar & Bargoon, 2005), echoing theorized motives for aggression among highly antisocial individuals whose violence is characterized by higher order goals of manipulation, power, and coercive control (Johnson, 1995; Johnson & Leone, 2005; Johnson et al., 2012; Mager et al., 2014).

Notably, such dominance-based behaviors are potentially ineffective as research suggests that martially violent men lack appropriate social skills with which to assert themselves effectively during conflict interactions relative to maritally distressed and maritally non-violent men (Dutton & Strachan, 1987). Failed attempts to exert social dominance may prompt aggressive tactics (Babcock, Waltz, Jacobson, & Gottman, 1993). Indeed, lower perceptions of control are associated with greater self-reported IPV among men (Babcock et al., 1993; Sagrestano, Heavey, & Christensen, 1999). Moreover, the development of pathological interpersonal dominance among trauma-exposed individuals may serve to protect against further victimization (Podubinski, Lee, Hollander, & Daffern, 2015). In fact, hostile dominance mediated the relationship between early life trauma and aggression perpetration (Podubinski et al., 2015). Threats of social dominance may therefore pose strong catalysts for aggression among maritally violent, trauma-exposed men who are prone to misappraisals of control from others and aversive experiences of powerlessness.

Taken together, among men exposed to early life trauma, behaviors signaling rejection/abandonment threat and social dominance threat appear to serve as two maladaptive means of navigating intimate relationships. These two types of threat are theorized to reflect distinct functional precipitants of aggression perpetration among trauma-exposed men. Although a substantial body of research documents that trauma and misattributions of threat independently predict IPV perpetration among couples, whether or not these factors immediately precede or functionally motivate the initiation of aggression is not well understood (Bell & Naugle, 2008). By measuring predictors of aggression immediately prior to actual incidents of aggression, we may better understand the context in which aggression is used among men varying in degree of trauma exposure. Assessment of contextual threat is therefore warranted, with attention to whether instances of threat precede aggression perpetration. One means to do this is to examine men's aggressive responses to threat during laboratory based couple conflict interactions.

Behavioral coding schemes utilized during observation of couple interactions can be used to characterize maladaptive behavioral processes theorized to facilitate IPV perpetration (Filsinger, 1983 for review; Gottman, 1993). Research reveals that the size of the relation between behaviors observed during laboratory-based couple conflict interactions and aggression perpetration is moderate-to-strong (Schumacher, Feldbau-Kohn et al., 2001; Schumacher, Slep, & Heyman, 2001). Moreover, laboratory-based couple conflict behaviors are ecologically valid (Gottman, 1979; Foster, Caplan, & Howe, 1997), correlated with aggression perpetration (Sagrestano et al., 1999), and more prevalent among maritally violent than maritally distressed non-violent couples (Heyman, 2001; Murphy & O'Farrell, 1997). A variety of observed interpersonal behaviors identified in the couples literature such as demand-withdrawal, blaming, criticism, and hostility (Filsinger, 1983; Heyman, 2004) may broadly implicate the role of threat.

However, traditional coding methods alone often do not provide a unified theoretical framework with which to understand motivations for behaviors. For example, descriptive interaction patterns such as negative escalation (Burman, Margolin, & John, 1993; Cordova et al., 1993; Malik & Lindahl, 2004) may capture the occurrence of hostility from one partner met by the occurrence of hostility from the other partner, but does not explain why such a pattern initially occurs. It is possible that aggression may follow contextual threats embedded within these interaction patterns. Assessment of various forms of two theoretically meaningful types of threat may elucidate contextual motivations for aggression perpetration in response to partner behavior. In line with this proposal, coding of these two constructs using preexisting coding systems serves as an initial step toward establishing the validity of the nature of such threats. Moreover, establishing convergent validity between these threat constructs and trait-level measures of the constructs of rejection/abandonment and social dominance further serves to characterize the nature of threat present within the context of aggression.

The current study is designed to 1) determine if the severity of men's aggression perpetration is correlated with the severity of women's rejection/abandonment threat as well as the severity of women's social dominance threat, 2) determine if these two relationships are each moderated by men's trauma history severity, and, finally, 3) establish partial construct validity of rejection/abandonment and social dominance threats as measured in couples interactions by correlating them with trait-level measures of these constructs. Given these aims, it is predicted that 1) both the severity of women's rejection/abandonment threat and the severity of women's social dominance threat will be correlated with the severity of men's aggression perpetration, and that 2) both of these relationships will be more pronounced among men with greater trauma history severity relative to men with less trauma history severity. It is also predicted that the

construct of rejection/abandonment threat measured in couple interactions will correlate positively with trait-level measures of this construct (i.e., relationship satisfaction, fearful & dismissing attachment, husband demand/wife withdrawal communication) and less strongly with trait-level measures of social dominance. Similarly, it is predicted that social dominance measured in couple interactions will correlate positively with trait-level measures of this construct (i.e., behavioral activation, fearless dominance, narcissism) and less strongly with trait-level measures of rejection/abandonment.

To examine the role of threat on aggression perpetration among a range of individuals, overall trauma history is considered rather than early life trauma history or PTSD diagnosis. This broader scope allows for assessment of individuals whose trauma exposure occurs later in life as well as those who demonstrate adverse posttraumatic sequelae but do not meet full PTSD diagnostic criteria (Marshall, Robinson et al., 2011). Moreover, consideration of overall trauma rather than PTSD diagnosis reduces the likelihood of unintentional conflation of multiple mechanisms associated with the broad construct of PTSD related to aggression perpetration, including misperception of threat as well as emotional numbing (Kerig, Bennett, Chaplo, Modrowski, & McGee, 2016), cognitive avoidance, and hyperarousal (see Birkley, Eckhardt, & Dykstra, 2016 for review).

The current study examines responses to threat among men. This decision is informed by research suggesting that gender differences exist with respect to reasons for IPV perpetration. For example, men's IPV is often characterized as instrumental aggression whereas women's aggression is often characterized as self-defense (Ross, 2011). Similarly, gender differences exist with regard to reactions to trauma (Olff, 2007) such that internalizing symptomatology (Miller & Resick, 2007) and affiliative behavior predominate trauma sequelae of women relative to men

(Taylor, 2006; Taylor et al., 2000). Contextual precipitants of aggression perpetration may also differ between men and women (Ross, 2011), meriting separate investigations by gender.

Methods

Participants

Participants were recruited from local rural or semi-rural communities using newspaper and Internet advertisements (76%), flyers in local businesses (20%), and flyers in a local outpatient mental health clinic (4%) targeting heterosexual married or cohabitating couples in which at least one partner had experienced a stressful life event. Interested couples contacted the lab and each partner was screened via telephone for probable PTSD using the PTSD Checklist-Civilian Version (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993). Recruited couples included at least one partner who met criteria for probable PTSD (i.e., PCL-C cutoff score of 44; Blanchard, Jones-Alexander, Buckley, & Forneris, 1996). Couples were excluded from participation because: 1) neither partner met screening criteria for probable PTSD (n = 122 couples), 2) lack of interest (n = 8 couples), 3) partners' combined income exceeded $100,000 per year and/or either partner had more than six years of post-high school education (n = 3 couples), or 4) partners ended their relationship (n = 1 couple). Income and education restrictions were used to produce a sample roughly representative of those served by rural community mental health clinics.

Participants were 64 heterosexual couples (128 individuals) with a mean age of 37.16 (SD = 12.64) years, an average individual monthly income of $1733.00 ($SD$ = $1529.00), and an average of 14.31 (SD = 2.31) years of education. The majority (68.6%) of participants were employed. Participants self-identified as Caucasian (85.9%), African-American (6.3%), Hispanic/Latino (3.9%), or biracial/multiracial (3.9%). Couples had been together for an average

of 11 years and 11 months (*SD* = 11 years, 10 months; range = 4 months – 45 years), and most were married (72%). At least one partner met full or sub-threshold DSM-IV PTSD diagnostic criteria in 48 couples, while neither partner met such criteria in 8 couples and both partners met criteria in another 8 couples.

Procedures

Participants completed the study, including procedures not contained herein, during one 8-hour session or two 4-hour sessions. Participants independently completed a series of questionnaires, including a questionnaire that required identifying, in order of importance, the five most distressing aspects of, or problems in, their relationship. The highest rated topic common to both partners was selected for a 10-minute video-recorded conflict discussion. The most common topics included communication or problem solving (30%), finances (16%), childrearing and household responsibilities (12%), and physical health problems (10%). Couples were observed by research assistants during conflict discussions to ensure safety and partners were separated following conflict discussions. Partners completed all procedures separately, with the exception of the relationship discussion. Five female undergraduate research assistants and one female graduate student separately coded all relationship discussions for behavioral variables. Coders were trained on similar videos from a separate study until they achieved reliability with an intraclass correlation (ICC) above .80 for each code. During the coding period, 15% of husbands' videos (n = 10) and 15% of wives' videos (n = 10) from the current study were coded for reliability.

Measures

Measures to assess construct validity for rejection/abandonment threat. To examine the construct validity of the measure of observed rejection/abandonment threats, three global

measures were used to assess individuals' propensity toward engaging in rejection and abandonment behaviors. The Dyadic Adjustment Scale (DAS; Spanier, 1976) was used to assess rejection and abandonment as a function of relationship dissatisfaction and the likelihood of relationship dissolution. The Fearful and Dismissing subscales of the Relationship Styles Questionnaire (RSQ; Griffin & Bartholomew, 1994) were used to assess rejection and abandonment as a function of maladaptive relationship schema. The Husband Demand/Wife Withdrawal subscale of the Communication Patterns Questionnaire (CPQ; Christensen & Sullaway, 1984) was used to assess rejection and abandonment as a function of relationship conflict avoidance.

Relationship satisfaction. The Dyadic Adjustment Scale (DAS; Spanier, 1976) is a 32-item self-report measure used to assess relationship functioning and satisfaction among married or cohabiting couples. In addition to evaluating their level of satisfaction in their relationship and the frequency with which they consider terminating their relationship, respondents are asked to indicate the frequency with which they and their partners agree on various aspects of their relationship (e.g., finances, interests, major decisions) and engage in various relationship behaviors (e.g., argument, affection, discussion). Items are rated on a series of different (e.g., 2-point, 7-point) Likert scales. The DAS has demonstrated high content, construct, and criterion validity as well as scale reliability (Spanier, 1976). In this sample, coefficient alpha was .93.

Attachment. The Relationship Styles Questionnaire (RSQ; Griffin & Bartholomew, 1994) is a 30-item self-report measure of adult attachment styles in romantic relationships. Respondents are asked to indicate the extent to which various items describe the way they generally feel in romantic relationships, corresponding to four theoretically and empirically distinct attachment styles: secure (e.g., "I find it easy to get emotionally close to others"), fearful

(e.g., "I find it difficult to depend on other people"), preoccupied (e.g., "I want to be completely emotionally intimate with others"), and dismissing (e.g., "I prefer not to have other people depend on me;" Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). Items are rated on a 5-point Likert scale from 1 (*not at all like me*) to 5 (*very much like me*). The RSQ has demonstrated good convergent and discriminant validity with other measures of self-concept (e.g., self-esteem, self-acceptance) and interpersonal functioning (e.g., sociability; interpersonal problems; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994). In this sample, coefficient alpha was .70 and .64 for the Fearful (4 items) and Dismissing (5 items) subscales, respectively.

Demand/Withdrawal. The Communication Patterns Questionnaire (CPQ; Christensen & Sullaway, 1984**)** is a 35-item self-report measure assessing typical relationship conflict management strategies. Respondents are asked to indicate the likelihood that they and their partners use various conflict-management strategies to manage relationship problems across three stages: when a problem arises (e.g., engagement, avoidance), during problem discussion (e.g., demand, withdrawal), and after problem discussion (e.g., reconciliation, withdrawal). Items are rated on a 9-point Likert scale from 1 (*very unlikely*) to 9 (*very likely*). The CPQ has demonstrated good convergent and discriminant validity with measures assessing relationship satisfaction and marital adjustment, high interpartner concordance, and moderate to high concordance with observational measures of couple conflict (Hahlweg, Kaiser, Christensen, Fehm-Wolfsdorf, & Groth, 2000; Heavy, Larson, Zumtobel, & Christensen, 1996; Noller & White, 1990). In this sample, coefficient alpha was .68 and .65 for Husband Demand/Wife Withdrawal (3 items) and Wife Demand/Husband Withdrawal (3 items) subscales, respectively.

Measures to assess construct validity for social dominance threat. To examine the construct validity of the measure of observed social dominance threat, three global measures were used to assess individuals' propensity toward engaging in social dominance behaviors that occur as a function of dominance motivation (e.g., social influence, goal pursuit) and desire for power and control over material and social resources (Johnson et al., 2012). The Behavioral Activation subscale of the Behavioral Inhibition/Behavioral Activation Scales (BIS/BAS; Carver & White, 1994) was used to assess dominance motivation based on research suggesting that dominance and approach behavior frequently co-occur (Johnson et al., 2012). The Fearless Dominance subscale of the Psychopathic Personality Inventory–Revised (PPI–R; Lilienfeld & Andrews, 1996) was used to assess dominance motivation as well as power based on research indicating that these personality traits are correlated with interpersonal dominance behavior (Benning, Patrick, Blonigen, Hicks, & Iacono, 2005; Patrick, Edens, Poythress, Lilienfeld, & Benning, 2006; Vitacco & Kosson, 2010) and that threats to power may be salient triggers for aggression among those with psychopathic features (Johnson et al., 2012). The Narcissism subscale of the Millon Clinical Multiaxial Inventory–Third Edition (MCMI–III; Millon et al., 2006) was used to assess personality traits of individuals high in desire for interpersonal power and control (Johnson et al., 2012).

Behavioral Activation. The Behavioral Inhibition/Behavioral Activation Scales (BIS/BAS; Carver & White, 1994) is a 24-item self-report measure used to assess individual differences in aversive (BIS) and appetitive (BAS) behavioral motivation systems. Items of the BIS subscale reflect inhibition of behavior associated with punishment and non-reward (e.g., "I worry about making mistakes," "I feel pretty worried or upset when I think or know somebody is angry at me") whereas items of the BAS subscale reflect approach behavior associated with

reward (e.g., "when I see an opportunity for something I like, I get excited right away") and goal pursuit (e.g., "when I want something, I usually go all-out to get it"). Items are rated on a 4-point Likert scale from 1 (*very true*) to 4 (*very false*). The BIS/BAS scales have demonstrated satisfactory convergent (e.g., self-reported anxiety and extroversion, respectively) and discriminant (e.g., self-reported optimism and harm avoidance, respectively) validity and good test-retest reliability (Carver & White, 1994). In this sample, coefficient alpha was .83 and .77 for Behavioral Activation (13 items) and Behavioral Inhibition (7 items) subscales, respectively.

Fearless Dominance. The Psychopathic Personality Inventory–Revised (PPI–R; Lilienfeld & Andrews, 1996) is a 154-item self-report measure used to assess psychopathic personality traits in community populations. The PPI–R includes items, rated on a 4-point Likert scale from 1 (*false*) to 4 (*true*), assessing interpersonal and affective features (e.g., social potency, fearlessness) as well as antisocial features (e.g., blame externalization, impulsivity) of psychopathy that cohere along three distinct factors (i.e., Fearless Dominance, Impulsive Antisociality, and Coldheartedness; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). The PPI–R has demonstrated good convergent validity with relevant self-report measures of personality syndromes (e.g., Antisocial Personality Disorder, Narcissistic Personality Disorder) and traits (e.g., aggression, assertiveness, self-centeredness, disagreeableness) as well as discriminant validity with unrelated personality syndromes (e.g., schizotypy/psychosis) and traits (e.g., harm avoidance; Benning et al., 2003; Benning et al., 2005; Lilienfeld & Andrews, 1996). In this sample, coefficient alpha was .90 for the Fearless Dominance subscale (45 items).

Narcissism. The Millon Clinical Multiaxial Inventory–III (MCMI–III; Millon et al., 2006) is a 175-item true-false self-report measure used to assess personality traits and clinical syndromes, including features of narcissistic personality pathology (e.g., interpersonal

exploitativeness, expressive haughtiness, cognitive grandiosity). The MCMI has demonstrated high test-retest reliability (Millon, 1994). The MCMI Narcissism subscale has demonstrated convergent validity with other measures of narcissism (Glover, Miller, Lynam, Crego, & Widiger, 2012; Samuel & Widiger, 2008) and associated traits (e.g., confidence and forcefulness), as well as discriminant validity from theoretically unrelated traits such as inhibition, introversion, and cooperativeness (Strack, 1991). In this sample, coefficient alpha was .46 for the Narcissism subscale (24 items).

Severity of exposure to potentially traumatic events. The Traumatic Life Events Questionnaire (TLEQ; Kubany et al., 2000) consists of 22 types of potentially traumatic events (e.g., natural disaster, warfare or combat, physical threat or harm, sexual abuse) and asks respondents to indicate if they experienced each event, and if so, the number of times. The TLEQ has demonstrated adequate levels of test-retest reliability and good content validity (Kubany et al., 2000). In this sample, coefficient alpha was .93.

Coding of couples' interactions.

Men's aggression. Men's behavior was coded for aggression using adapted versions of the Rapid Marital Interaction Coding System (RMICS; Heyman, 2004; Heyman et al., 2001a) Psychological Abuse code as well as the System for Coding Interactions in Dyads (SCID; Malik & Lindahl, 2004) Verbal Aggression code. Psychological aggression is defined as communication intended to cause psychological harm to another person and is conveyed with hostility, condescension, and/or cruelty (Heyman, 2004). The RMICS Psychological Abuse code is characterized by verbal behaviors of disgust (e.g., "You make me sick"), contempt (e.g., sarcasm), belittling (e.g., "You couldn't balance a checkbook even if you tried"), mockery (e.g., "Blah, blah, blah"), belligerence (e.g., "What are you going to do about it? Huh? Huh?"), threat

(e.g., “Don’t push me, you know what happens when you push my buttons”), domineering (e.g., playing district attorney), devaluing or negating partner’s opinions or ideas (e.g., “That’s a stupid idea”), and gaslighting (i.e., making the partner think he or she is going crazy as if his or her perceptions or instincts are wrong), as well as nonverbal behaviors of glowering (e.g., steady gaze with chin down and eyebrows raised), physical intimidation, and talking quietly through (i.e., gritting) one’s teeth in a threatening or menacing manner (Heyman, 2004). The SCID Verbal Aggression code is characterized by verbal behaviors of insults, put-downs, patronizing or blaming statements, swearing, name-calling, and critical comments stated with tones of disgust, condescension, mockery, spite, cruelty, or hostility (Malik & Lindahl, 2004). Notably, behaviors of belittling and devaluing of the partner’s opinions or ideas listed in the RMICS are made more explicit in the SCID, listed as insults, put-downs, and patronizing or blaming statements. Additionally, the function (indicating that the partner is defective or stupid), tone (jarring, forceful), and delivery (“almost seeming like a slap in the face”) of aggressive behaviors are stated explicitly in the SCID, facilitating identification of aggression and distinguishing aggression from anger (e.g., negativity). Using these coding systems, aggression was coded globally on a 10-point Likert scale from 1 (*very low*) to 10 (*very high*) based on the severity of behaviors across the interaction. Severity was defined by the possible implications the behaviors have on the well-being and safety of the partner. Acceptable interrater reliability for husbands’ aggression was achieved (ICC = .98).

Women’s aggression. Women’s behavior was coded for aggression with the same adapted coding scheme used to code men’s aggression. This decision is informed by research documenting a relationship between aggression and avoidance behavior (Sommer, Babcock, Sharp, 2016) as well as research suggesting that aggression and dominance behavior frequently

co-occur (Graham-Kevan & Archer, 2008; Winstok, 2009). Aggression may therefore characterize women's rejection/abandonment and social dominance threats, with some threats delivered aggressively based on content and certain non-verbal behaviors, and other threats delivered non-aggressively (e.g., non-verbal withdrawal). Acceptable interrater reliability for wives' aggression was achieved (ICC = .95).

Women's rejection/abandonment threat. Women's behavior was coded for rejection/abandonment threat using adapted versions of the Specific Affect Coding System (SPAFF; Coan & Gottman, 2007) Criticism code and the RMICS Withdrawal code (Heyman, 2004). Rejection/abandonment threat is defined as communication intended to elicit shame or fear of abandonment due to risk of relational loss in another person, effectively lowering his/her status. The SPAFF Criticism code is characterized by verbal behaviors of blame (e.g., "the reason the engine blew up is that you never put oil in it"), character attacks (e.g., "you never care about my feelings;" "you always put yourself first"), kitchen sinking (i.e., stating a long list of complaints), betrayal statements (e.g., "how could you?") and negative mind reading (e.g., "you just don't like Tom because he smokes"; Coan & Gottman, 2007). Such behaviors are defined as global assessments or accusations of a partner's abilities and value as a person, but in a manner that is not obviously insulting (i.e., aggressive), as well as accusations that a partner is not committed to the relationship or is untrustworthy. The Criticism code was adapted for the current study to exclude negative mind reading so as to limit the scope of behaviors to those implying rejection and abandonment of one's partner. Whereas the SPAFF mainly captures behaviors eliciting shame, the RMICS mainly captures behaviors eliciting fear of abandonment. The RMICS Withdrawal code is characterized by attempts to disengage one's self, or distance one's partner, from the interaction and includes both verbal (e.g., "I don't want to discuss it anymore;"

"I can't listen to this anymore;" "Sure…you're right…you're right [to block discussion or to "shut up" partner];" "I give up") and non-verbal (e.g., refusing to participate in discussion by remaining silent; closed-off body language [e.g., arms folded, slumped back posture]; poor eye contact) behaviors (Heyman, 2004). The current study elaborates on this definition of withdrawal to include withdrawal of positive aspects of the relationship, such as attention, affection, or support, as well as relational devaluation, such as minimization of the relationship (e.g., "we don't have to do everything together") and relational exclusion (i.e., excluding partner from activities or information). Notably, the RMICS's explicit acknowledgment of withdrawal as a process, apparent when considering the flow of the conversation, facilitates its identification. Rejection/abandonment threat was coded globally, rated on a 10-point Likert scale from 1 (*very low*) to 10 (*very high*) based on the severity of behaviors across the interaction. Severity is defined by the possible implications the behaviors have on the well-being and safety of the partner. The SPAFF has demonstrated high interrater reliability and has been used to discriminate between distressed and non-distressed couples (Gottman et al., 1995; Johnson & Leone, 2005) and to predict relationship dissolution (Gottman & Levenson, 2000; Lavner & Bradbury, 2012). Acceptable interrater reliability for wives' rejection/abandonment threat was achieved (ICC = .92).

Women's social dominance threat. Women's behavior was coded for social dominance threat using adapted versions of the Specific Affect Coding System (SPAFF; Coan & Gottman, 2007) Domineering code and the Coding Scheme for Interpersonal Conflict (CSIC; Raush, Barry, Hertel, & Swain, 1974) Coercive Acts code. Social dominance threat is defined as communication intended to elicit submission and compliance from another person, thereby elevating or affirming one's own status (Raush et al., 1974). The CSIC Coercive Acts code is

characterized by the use of aversive/negative stimuli to get one's way (e.g., "we're obligated to do this;" "I've had a hell of a day"), recognition of a partner's behavior as a strategy or calling a partner's bluff (e.g., "you keep running away from this issue;" "you won't win like that"), rejection, commanding, demands for compensation, inducing guilt or attacking one's motives, disparagement, and threat (Raush et al., 1974). The SPAFF Domineering code is characterized by invalidation (e.g., "that's just wrong"), lecturing and patronizing, low balling (e.g., "You want me to be happy, don't you?;" "Do you want your children to achieve their potential?"), incessant speech, and glowering. Notably, the SPAFF Domineering code expands behaviors representing interpersonal challenges to include invalidation and rigid maintenance of speaking turn as well as behaviors representing manipulative control to include use of external stimuli. The current study also includes changing the subject and stone-walling as indicative of social dominance threat. The current study excludes two items of the CSIC, rejection and inducing guilt or attacking one's motives, as these reflect behaviors believed relevant to rejection/abandonment threat. Social dominance threat was coded globally, rated on a 10-point Likert scale from 1 (*very low*) to 10 (*very high*) based on the severity of behaviors across the interaction. Severity is defined by the possible implications the behaviors have on the well-being and safety of the partner. The CSIC has demonstrated high interrater reliability and has been used to discriminate between distressed and non-distressed couples (Billings, 1979; Raush et al., 1974). Acceptable interrater reliability for wives' social dominance threat was achieved (ICC = .96).

Data analysis

Analyses were conducted using SPSS. All statistical analyses were conducted using the full sample of 64 men and 64 women. Forty-seven women had partial data on self-report measures. Expectation maximization (EM) was used to address missing data (Little & Rubin,

2002). This method provides less biased estimates than listwise deletion, pairwise deletion, or regression substitution (Schafer & Graham, 2002). Little's χ^2 test established that the data were missing completely at random, χ^2 (501) = 330.81, p = 1.00. Bivariate correlations were computed among study variables and comparisons of correlation strengths were used where appropriate. Tests of moderation were run using multiple regression methods. Simple slopes analyses were run to examine the nature of moderation effects at high (+1 *SD* above mean) and low (–1 *SD* below mean) levels of trauma severity.

Results

Descriptive Statistics

Descriptive statistics and bivariate correlations among study variables are reported in Tables 1 and 2. Tests of skew and kurtosis as well as an analysis of residual diagnostics revealed that scores of husbands' aggression, wives' aggression, husbands' trauma history severity (defined as the total number of potentially traumatic events husbands have been exposed to), and wives' rejection/abandonment threat were positively skewed. To decrease skew, husbands' and wives' aggression scores were log-transformed and two husbands' trauma scores were truncated. Because wives' social dominance scores were normally distributed and wives' rejection/abandonment scores were minimally skewed, adjustments were not applied to wives' rejection/abandonment scores to maintain similar scales and facilitate comparisons between these constructs. All (100%) husbands endorsed exposure to at least one potentially traumatic event (PTE) in their lifetimes. The mean number of PTEs experienced was 16.61 (*SD* = 12.15, range = 1 to 47). Two husbands had extreme trauma exposure scores (i.e., 58 and 67) that were truncated to the next highest score (i.e., 47). Twenty-two (34.4%) husbands engaged in aggression during couples' interactions and, on average, men engaged in very low severity aggression. Twenty-two

(34.4%) wives engaged in rejection/abandonment threat and 49 (76.7%) wives engaged in social dominance threat. On average, wives engaged in very low severity rejection/abandonment threat and low severity social dominance threat.

Table 1. Descriptive Statistics

Variable	*M*	*SD*	Range
Severity of Husbands' Aggression Perpetration	2.02	1.79	1 - 8
Husbands' History of Trauma Exposure	16.61	12.15	1 – 47
Severity of Wives' Aggression Perpetration	2.03	1.83	1 – 8
Severity of Wives' Rejection/Abandonment Threat	1.58	1.05	1 – 5
Severity of Wives' Social Dominance Threat	2.94	1.62	1 – 7
Wives' Relationship Satisfaction	104.48	18.99	23 - 154
Wives' Fearful Attachment	13.73	4.10	6 – 26
Wives' Dismissing Attachment	17.28	4.21	9 – 29
Wives' Demand/Husbands' Withdrawal	16.44	5.14	6 – 27
Husbands' Demand/Wives' Withdrawal	13.05	5.75	3 – 27
Wives' Behavioral Activation	37.85	5.95	23 - 51
Wives' Behavioral Inhibition	22.84	4.02	10 - 29
Wives' Fearless Dominance	83.64	16.10	45 - 127
Wives' Narcissism	11.61	5.19	2 – 37

Note. $N = 64$ couples. Statistics on husbands' aggression and wives' aggression are based on non-transformed scores. Husbands' history of trauma exposure scores include two truncated scores.

Table 2. Bivariate Correlations Between Behavioral and Self-Report Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. H Aggression	--													
2. H Trauma	.29*	--												
3. W Aggression	.48*	-.06	--											
4. W R/A Threat	.27*	-.04	.15	--										
5. W SD Threat	.43**	-.04	.60**	.12	--									
6. W Rel. Sat.	-.42**	.02	-.31*	-.11	-.32*	--								
7. W Fear Attach.	.24	-.17	.08	.31*	-.00	-.24	--							
8. W Dis. Attach.	.15	.12	.04	.40**	.13	.27*	.44**	--						
9. WD/HW	.30*	.12	.18	.19	.38**	-.20	.16	.07	--					
10. HD/WW	.10	-.11	.31*	-.05	.26**	-.48**	.08	-.19	-.16	--				
11. W Beh. Activ.	-.16	-.00	-.37**	.31*	-.22	-.00	.16	.02	.13	-.19	--			
12. W Beh. Inhib.	-.23	-.16	-.15	-.35*	-.14	-.18	-.37**	-.56**	-.35**	.26**	.05	--		
13. W Fear. Dom.	-.16	-.02	.01	.38**	.01	.25	.11	.29*	.11	-.10	.34**	-.57**	--	
14. W Narcissism	.04	.06	.02	.32**	.05	.44**	.05	.58**	.08	-.07	.17	-.44**	.61**	--

Note. N = 64 couples. H = Husbands; W = Wives; Trauma = history of exposure to potentially traumatic events; R/A Threat = rejection/abandonment threat; SD Threat = social dominance threat; Rel. Sat. = relationship satisfaction; Fear Attach. = fearful attachment; Dis. Attach. = dismissing attachment; WD/HW = Wives' demand/Husbands' withdrawal communication pattern; HD/WW = Husbands' demand/Wives' withdrawal communication pattern; Beh. Activ. = behavioral activation; Beh. Inhib. = behavioral inhibition; Fear. Dom. = fearless dominance. All variables were scored continuously such that higher scores on each measure represent greater presence and/or higher levels of each construct. * $p < .05$, ** $p < .01$.

Bivariate Correlations

Husbands' aggression was positively correlated with their history of exposure to PTEs (r = .29, p = .023) as well as wives' rejection/abandonment threat (r = .27, p = .031) and social dominance threat (r = .43, p < .001). The strength of the correlations between husbands' aggression and wives' rejection/abandonment threat and social dominance threat did not differ significantly (z = -1.05, p = .296). Notably, wives' rejection/abandonment threat was not significantly correlated with wives' social dominance threat (r = .12, p = .329).

As predicted, wives' rejection/abandonment threat was positively correlated with their scores on the Fearful Attachment (r = .31, p = .012) and Dismissing Attachment (r = .40, p = .001) subscales. Exploratory analyses revealed that it was negatively correlated with their scores on the Behavioral Inhibition subscale (r = -.35, p = .005). Unexpectedly, wives' rejection/abandonment threat was not correlated with their Relationship Satisfaction scores (r = -.11, p = .405) or their scores on the Husband Demand/Wife Withdrawal communication pattern subscale (r = -.05, p = .68) and it was positively correlated with their scores on the Behavioral Activation subscale (r = .31, p = .013), Fearless Dominance (r = .38, p = .002), and Narcissism (r = .32, p = .009) subscales.

Exploratory analyses revealed that wives' social dominance threat was positively correlated with their scores on the Wife Demand/Husband Withdrawal communication pattern subscale (r = .38, p = .002) and not significantly correlated with their scores on the Behavioral Inhibition subscale (r = -.14, p = .278). Notably, wives' social dominance threat was positively correlated with the severity of wives' aggression perpetration (r = .60, p < .001). It was also negatively correlated with their Relationship Satisfaction scores (r = -.32, p = .011). Unexpectedly, wives' social dominance threat was not correlated with their scores on the

Behavioral Activation (r = -.22, p = .08), Fearless Dominance (r = .01, p = .948), or Narcissism (r = .05, p = .677) subscales, and was positively correlated with their scores on the Husband Demand/Wife Withdrawal communication pattern subscale *(*r = .26, p = .04).

Wives' scores on the Behavioral Activation (z = -3.27, p = .001) and Fearless Dominance (z = -2.29, p = .021) subscales were more strongly correlated with wives' rejection/abandonment threat than wives' social dominance threat. Wives' scores on the Fearful Attachment (z = 1.89, p = .059) and Dismissing Attachment (z = 1.70, p = .088) subscales were marginally more strongly correlated with wives' rejection/abandonment threat than wives' social dominance threat. Wives' aggression was more strongly correlated with wives' social dominance threat than wives' rejection abandonment threat (z = -3.12, p = .001) and wives' scores on the Husband Demand/Wife Withdrawal communication pattern subscale was marginally more strongly correlated with wives' social dominance threat than wives' rejection abandonment threat (z = -1.87, p = .061). The strength of the correlations with the two forms of wives' threat did not differ for their scores on Relationship Satisfaction (z = 1.29, p = .196), Narcissism (z = 1.65, p = .098), Wife Demand/Husband Withdrawal communication pattern (z = -1.20, p = .23), or Behavioral Inhibition (z = -1.30, p = .191) scales.

Moderation Analyses

Results of moderation analyses are presented in Table 3. Severity of husbands' aggression perpetration was predicted by the main effects of wives' rejection/abandonment threat (p = .002) and husbands' history of exposure to PTEs (p = .01). Additionally, the interaction between wives' rejection/abandonment threat and husbands' history of exposure to PTEs was significant (p = .008). That is, wives' rejection/abandonment threat significantly predicted the severity of husbands' aggression perpetration in the context of high (β = .71, t = 3.68, p < .001)

but not low (β = .03, t = .18, p = .854) levels of husbands' history of exposure to PTEs. These results are presented in Figure 1. Exploratory logistic regression analyses revealed that the moderation effect held when collapsing husbands' aggression scores into a dichotomous outcome (i.e., presence/absence of aggression perpetration). These results are presented in Table 4.

Similarly, the severity of husbands' aggression perpetration was predicted by the main effects of wives' social dominance threat (p = .001) and husbands' history of exposure to PTEs (p = .019). Additionally, the interaction between wives' social dominance threat and husbands' history of exposure to PTEs was significant (p = .002). That is, wives' social dominance threat significantly predicted the severity of husbands' aggression perpetration in the context of high (β = .67, t = 5.34, p < .001) but not low (β = .08, t = .54, p = .59) levels of husbands' history of exposure to PTEs. These results are presented in Figure 2. Exploratory logistic regression analyses revealed that the moderation effect held when collapsing husbands' aggression scores into a dichotomous outcome. These results are presented in Table 4.

Table 3. Multiple Regression Analysis Predicting the Severity of Husbands' Aggression Perpetration.

Variable	*B*	*SE*	β	*t*	R^2	*F*
Model 1					.25	6.77**
Constant	0.19***	0.03		6.01		
Wife R/A Threat	0.11**	0.03	0.37	3.18		
Husband Trauma	0.09**	0.03	0.30	2.67		
Wife R/A Threat * Husband Trauma	0.10**	0.04	0.32	2.72		
Model 2					.38	12.15***
Constant	0.19***	0.03		6.55		
Wife SD Threat	0.11**	0.03	0.37	3.55		
Husband Trauma	0.07*	0.03	0.25	2.41		
Wife SD Threat * Husband Trauma	0.08**	0.03	0.34	3.20		

Note. $N = 64$ couples. Husband Trauma = husbands' history of exposure to potentially traumatic events; Wife R/A Threat = wives' rejection/abandonment threat; Wife SD Threat = wives' social dominance threat; *B* = unstandardized regression coefficient; SE = standard error; β = standardized regression coefficient; *t* = t-statistic; R^2 = coefficient of multiple determination. *$p < .05$, **$p < .01$, ***$p < .001$.

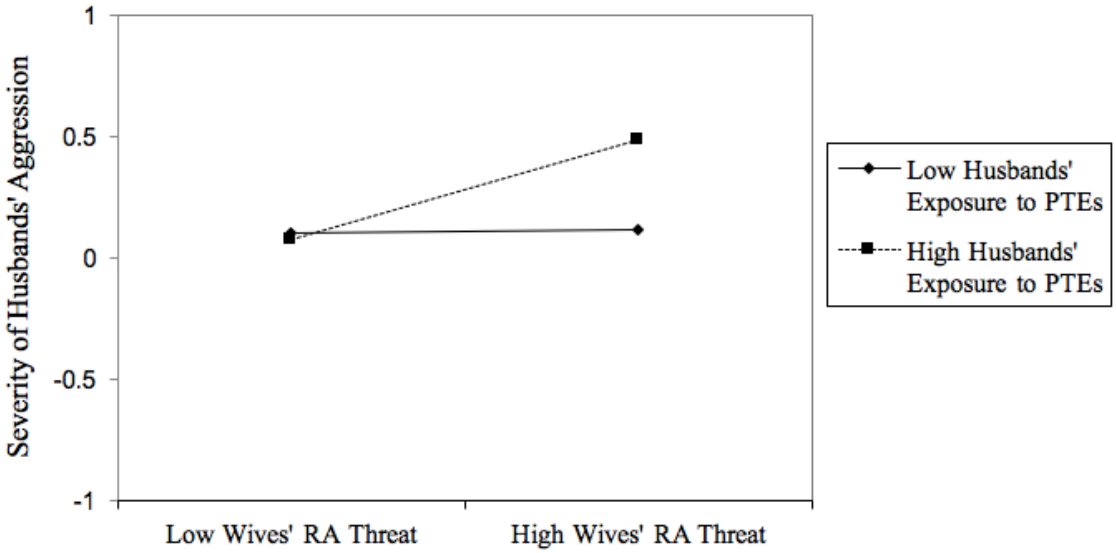

Figure 1. This figure illustrates that husbands' history of exposure to potentially traumatic events (PTEs) moderates the relationship between the severity of wives' rejection/abandonment threat and the severity of husbands' aggression perpetration.

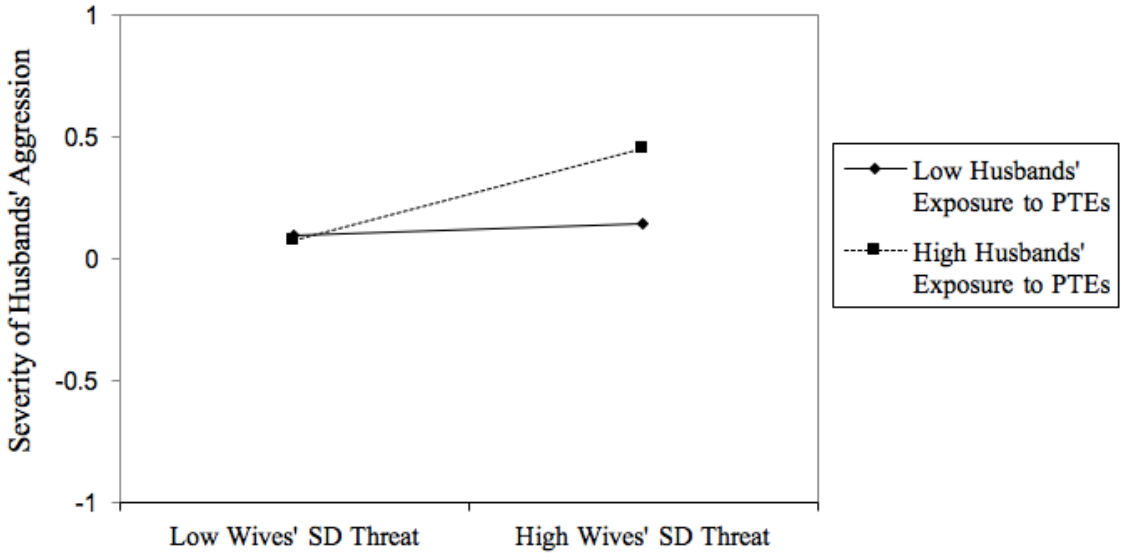

Figure 2. This figure illustrates that husbands' history of exposure to potentially traumatic events (PTEs) moderates the severity of wives' social dominance threat and the severity of husbands' aggression perpetration.

Table 4. Logistic Regression Analysis Predicting the Occurrence of Husbands' Aggression Perpetration.

Variable	*B*	*SE*	*Nagelkerke R²*	χ^2
Model 1			.37	20.02***
Wife R/A Threat	1.60**	0.59		
Husband Trauma	0.91	0.47		
Wife R/A Threat * Husband Trauma	1.97*	0.79		
Model 2			.45	25.38***
Wife SD Threat	1.52**	0.58		
Husband Trauma	0.82	0.51		
Wife SD Threat * Husband Trauma	2.47*	0.99		

Note. $N = 64$ couples. Husband Trauma = husbands' history of exposure to potentially traumatic events; Wife R/A Threat = wives' rejection/abandonment threat; Wife SD Threat = wives' social dominance threat. All threat and trauma variables were scored continuously. Husbands' aggression scores were dichotomized such that scores of 0 indicated 'no aggression' and scores of 1 indicated 'aggression'. *$p < .05$, **$p < .01$, *** $p < .001$

Discussion

Research suggests that trauma is a consistent predictor of aggression perpetration (Dodge, et al., 1995; Ehrensaft et al., 2004) and a strong predictor of IPV perpetration in particular (Dutton & Hart, 1992; Milaniak & Widom, 2015). Aberrant threat perception may explain the trauma-aggression link (Buckley, Blanchard, & Neill, 2000), such that contextual threat may motivate IPV perpetration among trauma-exposed men (Bitler et al., 1994). Couples' conflict discussions represent one context in which threat may occur in light of research revealing a

significant, positive relationship between conflict behaviors and aggression perpetration (Schumacher, Feldbau-Kohn et al., 2001; Schumacher, Slep et al., 2001 for reviews). However, the nature of such threat and whether it functionally motivates men's aggression has been unclear (Bell & Naugle, 2008). As such, we developed an observational coding system with which to evaluate the functional influence of two theoretically-derived types of threat on men's aggression perpetration given research suggesting that some men may be sensitive to behaviors signaling rejection/abandonment (Covert et al., 2003; Velotti et al., 2014) and social dominance (Babcock et al., 1993; Ehrensaft et al., 1999). Specifically, we predicted that the severity of wives' rejection/abandonment threat and social dominance threat predicts the severity of husbands' aggression perpetration, and that this relationship may be especially strong for husbands' with more severe trauma histories relative to husbands' with less severe trauma histories. Correlations between observed forms of wives' rejection/abandonment and social dominance threats and husbands' aggression as well as existing measures of these two constructs were examined to guide interpretations of results.

Overall, wives' rejection/abandonment and social dominance threats were uncorrelated with each other and differentially correlated with existing measures of these constructs, validating the ability to code these distinct threat types. As expected, compared with wives' social dominance threat, wives' rejection/abandonment threat was significantly more strongly correlated with wives' fearful attachment and dismissing attachment. Unexpectedly, it was not correlated with wives' relationship satisfaction or couples' demand-withdrawal communication pattern. Additionally, wives' rejection/abandonment threat was unexpectedly significantly correlated with wives' behavioral activation, fearless dominance, and wives' narcissism and low behavioral inhibition. Together, this pattern of results in which wives' use of

rejection/abandonment threats is associated with nearly all of the examined measures of psychological characteristics suggests that women's rejection/abandonment threat may reflect a breadth of internal processes that are relatively stable across contexts. Indeed, self-report measures of broad personality constructs are intended to reflect long-standing attitudes and tendencies of the individual (Griffin & Bartholomew, 1994; Lilienfeld & Andrews, 1996; Millon et al., 2006). It may be that wives' use of rejection/abandonment threats is primarily a function of fearful and dismissing attachment styles (as intended), but a relatively high degree of behavioral activation and fearless dominance is also necessary for women to engage in such behaviors, particularly during video-recorded laboratory observation where social desirability concerns may constrain behavior (Sugarman & Hotaling, 1997; Vincent, Friedman, Nugent, & Messerly, 1979). Importantly, the lack of association between wives' use of rejection/abandonment threats and wives' use of aggression suggests that this type of threat may be distinguished from aggression, consistent with research suggesting that rejecting and abandoning behaviors may not be characterized by hostility (Gallo & Smith, 2001). Because women's rejecting or abandoning behaviors may not always be aggressive in nature, conflation of rejection/abandonment and aggression constructs when observing women's behaviors may preclude more nuanced examinations of precursors of men's aggression.

In contrast, and unexpectedly, wives' use of social dominance threat was significantly more strongly correlated with wives' use of aggression than was wives' use of rejection/abandonment threat. Unexpectedly, it was also significantly correlated with both types of couples' demand-withdrawal communication patterns as well as wives' low relationship satisfaction. Together, this pattern of results in which wives' use of social dominance threats is associated with contextual processes suggests that women's social dominance threat may reflect

the broader construct of aggression as well as demandingness in the context of dyadic communication. Indeed, women's aggression appears to be largely a function of dyadic factors (e.g., relationship conflict, partners' aggressive behavior; Hughes, Stuart, Gordon, & Moore, 2007; Marshall, Jones et al., 2011; O'Leary, Malone, & Tyree, 1994; Ross, 2011) and aggression and other domineering behaviors have been found to characterize the construct of social dominance (Veenma, 2009; Vogel, Murphy, Werner-Wilson, Cutrona, & Seeman, 2007). Additionally, research suggests that uncooperative withdrawal behaviors (Heyman, 2004) may reflect active opposition rather than passive avoidance in response to partners' demands, potentially as a means of asserting dominance and, thus, serving as a social dominance threat (Vogel et al., 2007). Exclusive examination of individual difference variables, as opposed to contextual and dyadic factors, may thus preclude examination of how women's social dominance may impact aggressive processes.

Consistent with cognitive-affective accounts of increased threat sensitivity following trauma exposure (Buckley, Blanchard, & Neill, 2000; Ehlers & Clark, 2000; Elwood et al., 2007), husbands' trauma history severity moderated the relationships between the severity of wives' rejection/abandonment threat as well as the severity of wives' social dominance threat on the severity of husbands' aggression perpetration. That is, relative to husbands with less severe trauma histories, husbands with more severe trauma histories responded more aggressively to wives' threats of rejection/abandonment and social dominance. This is consistent with research suggesting that the threatening and fear-provoking nature of women's behaviors may be exacerbated among men with relatively more severe trauma histories (Marshall, Robinson et al., 2011). Moreover, to the extent that men experience feelings of shame (Dutton et al., 1995; Lawrence & Taft, 2013) and powerlessness (Ozer et al., 2003) following repeated exposure to

traumatic events, responses to their partners' displays of rejection/abandonment and social dominance may be exaggerated (i.e., aggressive). Aggression perpetration among these men may be especially motivated by attempts to mitigate readily experienced negative affect or regain power and control (Dunbar & Bargoon, 2005; Johnson, 1995; Johnson & Leone, 2005; Johnson et al., 2012; Mager et al., 2014). Overwhelming feelings of shame and powerlessness may further deplete the already deficient conflict management abilities documented among these individuals (Covert et al., 2003; Dutton & Strachan, 1987) and thus contribute to amplification of aggressive tactics to which they tend to resort (Babcock et al., 1993).

Given that threats of rejection/abandonment and threats of social dominance appear to be distinct, and that both types of threat predicted the severity of husbands' aggression perpetration for those with relatively more severe trauma histories, diverse processes may motivate relationship aggression among highly trauma-exposed men. Moreover, current findings suggest that these threats can be reliably identified during couple conflict discussions and, thus, this study provides the first documentation that observable threat occurs during couple interactions. Consequently, the results of the current study suggest that the presence of actual threat, as opposed to the misperception of threat that has been the focus of prior literature (e.g., Marshall, Robinson et al., 2011), may facilitate the occurrence and severity of relationship aggression among highly trauma-exposed men. Their aggression, therefore, is likely a function of both accurate detection of threat as well as misperception and/or biased appraisal of threat. Thus, it may be most helpful to consider threat sensitivity rather than solely misperception and/or biased appraisal of threat (Babcock et al., 1993; Marshall & Holtzworth-Munroe, 2010; Marshall, Robinson et al., 2011; Sagrestano et al., 1999). Additionally, although cognitive-affective literature largely defines threat according to physical danger and/or harm (e.g., Pineles, Shipherd,

Welch, & Yovel, 2007), the current results suggest that threat may reflect a broad, multidimensional construct. Consideration of multiple, distinct forms of contextual threat, beyond those that represent physical danger, may clarify motives for trauma-exposed men's aggression perpetration.

Interventions that prevent or reduce IPV are largely ineffective (Armenti & Babcock, 2016; Babcock, Green, & Robie, 2004). This may be explained, in part, because such interventions fail to comprehensively target factors that motivate aggression perpetration. The current work builds upon efforts to consider contextual factors that facilitate aggression perpetration (Bell & Naugle, 2008; Stover, Meadows, & Kaufman, 2009). Because men's sensitivity and reaction to women's rejection/abandonment and social dominance threats appear to influence the severity of their aggression perpetration, conjoint, rather than individually-based, interventions may be better poised to remediate maladaptive contextual processes that facilitate IPV perpetration (Epstein, Werlinich, & LaTailllade, 2015; Stith & McCollum, 2011; Stover, et al., 2009). Indeed, it is suggested that attention to the challenging contexts in which maladaptive behaviors occur may maximize treatment gains (Baucom, Belus, Adelman, Fischer, & Paprocki, 2014; Fals-Stewart & Clinton-Sherrod, 2009; Monson et al., 2012). Consistent with current couples treatment approaches (Baucom, Epstein, Kirby, & LaTaillade, 2015; Christensen, Dimidjian, & Martell, 2015), implementation of strategies that immediately minimize risk of aggression perpetration, such as the "time out" method, following these behaviors may be effective. Additionally, strategies specifically aimed at changing men's responses may include development of alternative conflict management skills and cultivation of expression, rather than acting out, of emotions. Further, efforts to empower women to get their needs met in ways that do not put them in harm's way may additionally prove beneficial. Of course, not all couples may

be appropriate for conjoint treatment and safety considerations must always be paramount when working with violent couples.

Limitations of the current study bear note. First, although unique and functionally important, wives' social dominance threat was not correlated as predicted with theoretically corresponding measures of this social dominance. This may be a function of a high degree of missing data on women's self-report measures and resultant low reliability of the measures. Alternatively, this construct may truly be different from that on which the hypotheses were based, potentially requiring a revised conceptual model of wives' dominance. To this end, non-behavioral markers of social dominance, such as discrepant testosterone levels between partners, may clarify how aggression and social dominance may be similar or different (Kaiser & Powers, 2006). Second, a global coding system was used to measure participants' behaviors during couple interactions. Because of the lack of continuous assessment of behaviors throughout these interactions, the data do not allow for sequential information necessary to make stronger causal inferences regarding temporal relations among behaviors. Third, sample characteristics limit generalizability of findings. The study utilized a relatively small sample of men who engaged in relatively low severity aggression in the laboratory and women who engaged in relatively low severity threat. Therefore, results may not generalize to individuals who engage in more severe forms of aggression and threat. For example, it is possible that severe (e.g., physical) forms of husbands' aggression may reduce the severity of wives' threats, or vice versa. Relatedly, aggression in the laboratory may not generalize to aggression in more naturalistic settings (e.g., at home), though existing research suggests that behaviors observed during laboratory-based couple conflict interactions are typical of those occurring in the context of relationship aggression at home (Gottman, 1979; Foster, Caplan, & Howe, 1997; Margolin, John, &

Gleberman, 1988). Additionally, findings cannot be generalized to women's aggression, racial/ethnic minority populations, urban settings, or individuals of higher income and education. For example, existing research suggests that women with a history of trauma exposure may engage in affiliative rather than aggressive behaviors following threat (Taylor, 2006; Taylor et al., 2000). Additionally, relatively high education and income may serve as protective factors for aggressive and threatening behaviors.

In the current study, the use of a novel methodology that includes direct observation of aggression in response to actual threat suggests that men often respond aggressively to threat. This is particularly the case for men with relatively more severe trauma histories. Detectable threat may therefore reflect the context of aggression. Findings support a wealth of research demonstrating that men's perceptions of threat motivate their aggression, especially among traumatized men, thus allowing for greater casual inference. Additionally, threat may be a multidimensional construct that is not restricted to behaviors signaling physical danger and/or harm. Indeed, some men may respond aggressively to an array of threatening behaviors, including those that reflect rejection/abandonment and social dominance. Convergence of diverse methodologies that support the notion that threat facilitates men's aggression may therefore continue to guide clinical interventions.

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