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Mindfulness during romantic conflict moderates the impact of negative partner behaviors on cortisol responses

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ABSTRACT

This study was designed to test whether romantic partners' mindfulness—present moment, nonjudgmental awareness—during a conflict discussion could buffer the effects of negative partner behaviors on neuroendocrine stress responses. Heterosexual couples ($n = 88$ dyads) provided 5 saliva samples for cortisol assay during a laboratory session involving a conflict discussion task. Conflict behaviors were coded by outside observers using the System for Coding Interactions in Dyads, and partners rated their mindfulness during the task using the Toronto Mindfulness Scale. Interactions tested using multilevel modeling revealed that participants with higher levels of mindfulness during the conflict showed either quicker cortisol recovery or an absence of slowed recovery in the presence of more negative partner behaviors. Whereas the attitudinal component of mindfulness (curiosity) moderated effects of negative partner engagement in the conflict (i.e., attempts to control, coerciveness, negativity and conflict), the attentional component of mindfulness (decentering) moderated the effect of partner disengagement (i.e., withdrawal). These findings lend support to the idea that mindfulness during a stressful interaction can mitigate the physiological impacts of negative behaviors.

Although close interpersonal relationships are known to confer a host of benefits, conflict in these relationships can compromise partners' well-being at both subjective and physiological levels (e.g., Cramer, 2002; Kiecolt-Glaser et al., 2005). In particular, conflict involving aggressive or withdrawn behaviors and high levels of negative affect appears harmful (e.g., Gottman and Levenson, 1992; Kiecolt-Glaser et al., 1998; Robles and Kiecolt-Glaser, 2003). One way of regulating stress, including stress within close relationships might be found in mindfulness, often defined as present-centered attention characterized by nonjudgmental openness. Despite promising indications that mindfulness training can help couples better negotiate conflict, little is known about how it may do so (i.e., which aspects of mindfulness in an actual conflict situation can buffer against which negative behaviors). Furthermore, most previous research has been limited to psychological outcomes, leaving open questions about possible impacts on neuroendocrine physiology. The current study aims to address these gaps by investigating romantic partners' state mindfulness during conflict as a moderator of conflict behavior effects on hypothalamic–pituitary–adrenal (HPA) axis responses to conflict stress.

A likely path by which destructive conflict disrupts couples' functioning is activation of the HPA axis, often measured by salivary cortisol. There is broad agreement that conflict behaviors involving negative engagement (i.e., hostile or aggressive behaviors) or disengagement (i.e., withdrawal) result in dysregulated cortisol responses, though the direction of these effects varies across studies. For example, studies have associated negative interactions with both partners' lack of a cortisol response to conflict and elevated cortisol responses (Fehm-Wolfsdorf et al., 1999; Heffner et al., 2006; Kiecolt-Glaser et al., 1997). A more consistent marker of HPA regulation may be the dynamics—how long it takes partners to react and recover—rather than average level of response. Indeed, research has related more negative and/or less positive conflict behaviors to impairments in partners' post-stress recovery (Robles et al., 2006). Given the harmful mental health implications of such extended cortisol responses (Burke et al., 2005), this work underlines the importance of identifying factors that could help couples engage more constructively in conflict and/or mitigate harmful impacts of negative behaviors when they occur.

Mindfulness has often been conceptualized as an intrapersonal phenomenon, yet it is increasingly being applied in relationship contexts to enhance interpersonal functioning. Several studies of a mindfulness-based relationship enhancement program have shown improvements in relationship satisfaction and subjective well-being, which in turn appear related to changes in the way partners approach conflict (Carson et al., 2004; Gambrel and Piercy, 2015a, 2015b). In particular, these studies found increases in partners' acceptance of one another, as well as in their perspective-taking, conflict communication, and resolution skills. Based on this and other research highlighting mindfulness effects on couples' emotion recognition and regulation (Kemeny et al., 2012;

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Wachs and Cordova, 2007), it is likely that mindfulness helps not only by changing the actual behaviors partners use during conflict, but also by enhancing skills that allow them to understand and withstand negative partner behaviors with greater equanimity. This literature provides a foundation for hypothesizing mindfulness-related benefits in couples' conflict situations; however, it suffers from notable gaps in the areas of physiological effects and the role of state mindfulness during the conflict itself.

Mindfulness has often been conceptualized as a broad dispositional capacity—a trait-like construct that can be cultivated through training—but it may also be important to distinguish ways that mindfulness manifests in specific situations. Based on the few studies examining the latter phenomenon, there is evidence that state mindfulness exerts unique effects on well-being that cannot be explained by trait mindfulness (Brown & Ryan, 2003; Jislin-Goldberg, Tanay, & Bernstein, 2012), and ongoing work within the current sample validates this point more particularly in the context of romantic conflict (Laurent et al., under review). It may further be useful to distinguish effects of different aspects of mindfulness; researchers have proposed that a mindful state involves (1) "the intentional self-regulation of attention to facilitate greater awareness of bodily sensations, thoughts, and emotions" and (2) "a specific quality of attention characterized by endeavoring to connect with each object in one's awareness …with curiosity, acceptance, and openness to experience" (see Lau et al., 2006). This work revealed both common and distinct psychological correlates of these attentional ("decentering") vs. attitudinal ("curiosity") components of mindfulness, but there is as yet no information about how these aspects of state mindfulness might shape physiology during acute stress.

Training in mindfulness has been shown to impact HPA reactivity to a standardized psychosocial stress task (Creswell et al., 2014). To our knowledge, only two papers (analyses conducted within the present study sample) have addressed mindfulness effects on HPA axis responses to romantic conflict. One paper showed that trait mindfulness related to better regulated cortisol responses for both men and women (as indexed by relations with mental health; Laurent et al., 2013a). The other paper highlighted an indirect path from trait mindfulness to cortisol levels during conflict via partners' romantic attachment (Hertz et al., 2015). However, these analyses did not address conflict behaviors, nor—like the bulk of mindfulness research to date—the potential role of state mindfulness during the conflict stressor. One study that did examine mindfulness during couple's conflict revealed an association with better conflict communication (i.e., less verbal aggression, negativity and conflict; Barnes et al., 2007). While such direct paths from mindfulness to conflict behaviors are plausible, relatively small effects in this study leave open the possibility that mindfulness may also influence how an individual perceives and responds to partner conflict behaviors (i.e., mindfulness may act as a moderator of partner behavior effects).

There is some evidence that mindfulness buffers against potentially harmful effects of stressful situations, including both reminders of and exposure to stressors. One study showed better physical and psychological health outcomes following expressive writing about traumatic stress for participants higher in mindfulness (Poon and Danoff-Burg, 2011), and another demonstrated attenuated effects of unavoidable distressing events on psychological health in more mindful individuals (Bergomi et al., 2013). As of yet, this mindfulness-as-buffer lens has not been applied to acute interpersonal stress.

The current study draws together these different strands of research to shed light on the mechanisms by which mindfulness may impact couples' neuroendocrine regulation. Specifically, we set out to test state mindfulness during romantic conflict as a moderator of the effects of negative partner behaviors on cortisol responses. To better specify the source of such effects, we considered different aspects of both mindfulness (i.e., attentional decentering from inner experience and attitudinal curiosity about the unfolding of such experience) and conflict behavior (i.e., attempts to control, coerciveness, negativity and conflict, verbal aggression, and withdrawal). Based on the research reviewed above, we hypothesized that mindfulness during conflict would buffer against the impacts of negative partner behaviors, resulting in quicker cortisol recovery for both men and women.

Method

Participants

Healthy heterosexual couples ($n = 114$) were recruited through an online student research participant pool and community flyers to participate in a 2-part study of romantic relationships. All procedures were approved by the university Institutional Review Board, and all participants gave informed consent. To be eligible, participants had to be at least 18 years old and in a romantic relationship for at least 2 months. Table 1 offers further demographic and psychological health information about the sample. The current study is based on the subset of participants ($n = 88$ couples) for whom complete behavior coding data were available (excluded couples did not have codeable conflict data, either because they did not complete the second study session or because of technical problems with the audiovisual recording). A comparison of these participants with those not included in the final sample revealed no significant differences on demographic and study variables.

Procedure

Couples completed questionnaire measures of trait-like constructs (none of which were used in the current study) during an initial hour-long lab session. During the second session, scheduled approximately one week later and lasting 1.75 h, couples completed the conflict discussion task and responded to questionnaires assessing their state directly after the conflict (including mindfulness). Except for during the conflict discussion, partners completed questionnaires in separate rooms.

To minimize extraneous sources of salivary cortisol variability, all sessions began at the same time (16:00) and participants were

Table 1
Sample descriptives.

Continuous variables	*M*	*SD*
Age	21.31	6.11
Relationship length (years)	2.22	4.84
Time spent together per week (hours)	58.50	40.12
Relationship satisfaction (Dyadic Adjustment Scale total)	106.31	19.41
Depressive symptoms (Center for Epidemiologic Studies Depression total)	12.05	8.74
Anxiety symptoms (Beck Anxiety Inventory total)	8.36	9.04
Categorical variables		**Percent**
Race		
White		83.8
Black		2.6
Asian		1.3
Native American		3.9
Other		8.4
Ethnicity		
Latino/a		10.5
Relationship status		
Casual/non-exclusive dating		7.0
Exclusive dating		59.6
Living together		20.2
Engaged		3.5
Married		9.6
Education		
College student		86.8
Post-baccalaureate		4.0
Graduate student/other		9.2