



Named Series: Health, Psychology and Immunity

Attachment avoidance predicts inflammatory responses to marital conflict[☆]Jean-Philippe Gouin^{a,b,*}, Ronald Glaser^{b,c,d}, Timothy J. Loving^e, William B. Malarkey^{b,c,d,g}, Jeffrey Stowell^f, Carrie Houts^a, Janice K. Kiecolt-Glaser^{a,b,g}^a Department of Psychology, The Ohio State University, USA^b Institute for Behavioral Medicine Research, The Ohio State University College of Medicine, 193 McCampbell Hall, 1581 Dodd Drive, Columbus, OH 43210, USA^c Department of Molecular Virology, Immunology, and Medical Genetics, The Ohio State University College of Medicine, USA^d Department of Internal Medicine, The Ohio State University College of Medicine, USA^e Department of Human Ecology, University of Texas at Austin, USA^f Department of Psychology, Eastern Illinois University, USA^g Department of Psychiatry, The Ohio State University College of Medicine, USA

ARTICLE INFO

Article history:

Received 28 May 2008

Received in revised form 4 September 2008

Accepted 26 September 2008

Available online 10 October 2008

Keywords:

Marital conflict
Attachment style
Interleukin-6
Inflammation
Marriage
Health

ABSTRACT

Marital stress has been associated with immune dysregulation, including increased production of interleukin-6 (IL-6). Attachment style, one's expectations about the availability and responsiveness of others in intimate relationships, appears to influence physiological stress reactivity and thus could influence inflammatory responses to marital conflict. Thirty-five couples were invited for two 24-h admissions to a hospital research unit. The first visit included a structured social support interaction, while the second visit comprised the discussion of a marital disagreement. A mixed effect within-subject repeated measure model indicated that attachment avoidance significantly influenced IL-6 production during the conflict visit but not during the social support visit. Individuals with higher attachment avoidance had on average an 11% increase in total IL-6 production during the conflict visit as compared to the social support visit, while individuals with lower attachment avoidance had, on average, a 6% decrease in IL-6 production during the conflict visit as compared to the social support visit. Furthermore, greater attachment avoidance was associated with a higher frequency of negative behaviors and a lower frequency of positive behaviors during the marital interaction, providing a mechanism by which attachment avoidance may influence inflammatory responses to marital conflict. In sum, these results suggest that attachment avoidance modulates marital behavior and stress-induced immune dysregulation.

© 2008 Elsevier Inc. All rights reserved.

1. Introduction

Marital strain is associated with poor health. Individuals reporting lower marital satisfaction experienced more non-specific physical illness symptoms over a 4-year period than individuals with higher marital satisfaction (Wickrama et al., 1997). Among healthy women, lower marital satisfaction was also associated with a more rapid progression of carotid atherosclerosis (Gallo et al., 2003; Wang et al., 2007). Furthermore, women who were initially dissatisfied in their marital relationship were more likely to develop metabolic syndrome over an 11-year period (Troxel et al., 2005). Among women hospitalized for an acute coronary event, those

who reported moderate to severe marital strain at baseline were 3 times more likely to experience a recurrent coronary event during a 5-year follow-up, compared to women reporting less marital stress (Orth-Gomer et al., 2000). Poor marital quality was also associated with a lower 3-year survival rate among end-stage renal disease patients (Kimmel et al., 2000), and a lower 8-year survival rate among congestive heart failure patients (Rohrbaugh et al., 2006). Collectively, these results from prospective observational studies provide evidence of an association between marital stress and negative health outcomes.

In laboratory marital interaction studies, negative and hostile behaviors during discussions of marital disagreements promote immune dysregulation. Among newlywed couples, participants who exhibited more hostile and negative behaviors during a 30-min marital conflict discussion had greater decrements over 24 h in immune cell function than participants who exhibited fewer negative behaviors (Kiecolt-Glaser et al., 1993). Similarly, older men and women who showed relatively poorer immunological responses across three immune assays displayed more negative behavior during a marital conflict than did participants who had

[☆] Work on this article was supported by a Fonds de la Recherche en Santé du Québec Doctoral Training Award, The Ohio State University Graduate Fellowship, NIH Grants AG16321, and R21 AG025732, General Clinical Research Center Grant MO1-RR0034, and Comprehensive Cancer Center Grant CA16058.

* Corresponding author. Address: Institute for Behavioral Medicine Research, The Ohio State University College of Medicine, 193 McCampbell Hall, 1581 Dodd Drive, Columbus, OH 43210, USA. Fax: +1 614 292 0038.

E-mail address: gouin.1@osu.edu (J.-P. Gouin).

relatively better immune responses (Kiecolt-Glaser et al., 1997). Furthermore, compared to couples who displayed fewer negative behaviors across two marital interaction tasks, more hostile couples had larger increases in the proinflammatory cytokines interleukin-6 (IL-6) and tumor necrosis- α (TNF- α), up to 18 h following a conflict resolution task, but not after a structured social support interaction (Kiecolt-Glaser et al., 2005).

Enhanced inflammation following negative marital interaction is a key mechanism by which marital stress may be associated with poor health outcomes (Black, 2006). Elevated serum IL-6 levels have been linked to the development of a host of age-related diseases including cardiovascular disorders, osteoporosis, arthritis, type 2 diabetes mellitus, certain cancers, frailty and functional decline, and even mortality (Black, 2006; Ershler and Keller, 2000). Negative behaviors during marital conflict may lead to frequent stress-induced immune dysregulation that promotes persistent elevations in serum IL-6 and subsequent poor health outcomes. Indeed, larger inflammatory responses to a laboratory stressor have been related to larger increases in ambulatory systolic blood pressure and carotid arterial stiffness over the course of a 3-year period (Brydon and Steptoe, 2005; Ellins et al., 2008).

Attachment style is an individual difference that may modulate partners' physiological responses to marital conflict. Bowlby (1982) proposed that attachment is a behavioral system that evolved to regulate an infant's proximity with his or her primary caregiving parent in times of danger or distress, in order to promote survival. Different attachment styles develop in response to parents' availability and responsiveness. Securely attached children exhibit distress upon separation from their mothers, but are quickly comforted when reunited. In contrast, anxious children exhibit intense distress upon separation, and are not easily soothed following their mother's return. Avoidant children do not display signs of distress upon separation, and refrain from seeking contact upon reunion with their mothers (Ainsworth et al., 1978).

Bowlby (1982) suggested that infants develop expectations about their parents' availability and responsiveness in times of need. These mental representations influence the individual's expectations and behaviors in intimate relationships. Infants are also thought to learn to regulate their negative affect on the basis of their interaction with their primary caregivers (Crittenden, 1994). Hazan and Shaver (1987) argued that in adulthood, the attachment bond established between long-term romantic partners is similar to that of the parent–child relationship, albeit both partners serve reciprocally as attachment figures for one another. Adulthood attachment style is defined along two dimensions. Attachment anxiety reflects fear of the partner's rejection, separation or abandonment, while attachment avoidance represents difficulties in relying upon and opening up to others, and avoidance of intimacy with and dependency on one's romantic partner (Brennan et al., 1998). Prototypically anxious individuals worry about being rejected in their close relationships and are overly dependent on others for support and self-esteem; avoidant individuals become uncomfortable and pull away when their partners get too close and prefer being self-reliant rather than asking others for help (Brennan et al., 1998).

During threatening or stressful events, attachment style influences the perception and interpretation of social information, and shapes the individuals' cognitive, emotional, and behavioral responses to stressful events (Collins and Read, 1994). Indeed, differences in attachment style leads to behavioral differences during marital interactions. Individuals with secure attachment (i.e., low in both attachment anxiety and avoidance) are better able to seek and provide support in anxiety-producing situations, and are less likely to show rejection during the discussion of a marital disagreement than anxious and avoidant individuals (Kobak and Hazan, 1991; Simpson et al., 1992). Conversely, individuals with higher

levels of either attachment avoidance or anxiety exhibited more negative behavior during marital conflict than secure individuals (Creasey, 2002). Moreover, during marital conflict resolution, anxiously attached women display greater distress than secure women, whereas avoidant men showed less warmth and support than secure men (Simpson et al., 1996).

Attachment style is also thought to impact emotion regulation patterns and, as such, may influence physiological stress responses (Crittenden, 1994). Both attachment avoidance and anxiety predicted heightened cardiovascular reactivity to a mental arithmetic task (Carpenter and Kirkpatrick, 1996; Feeney and Kirkpatrick, 1996). Maunder et al. (2006) found that attachment anxiety was associated with self-reported distress, but not cardiovascular responses to mental arithmetic, while attachment avoidance was associated with cardiovascular responses, but not self-reported distress to the same laboratory stressor. Attachment avoidance has also been associated with higher skin conductance reactivity in response to both interpersonal and non-interpersonal stressors (Diamond et al., 2006). Moreover, in a cross-sectional study among healthy women, attachment avoidance was also associated with lower natural killer (NK) cell cytotoxicity but was unrelated to perceived stress, while attachment anxiety was associated with perceived stress, but unrelated to the immune measure (Picardi et al., 2007).

Bowlby (1982) argued that any stressful or threatening experience can potentially activate the attachment system. However, situations that induce threat in romantic relationships, such as the discussion of marital disagreements, provide a relevant model to study the impact of attachment on stress responses (Mikulincer et al., 2002). Among dating college students engaged in a conflict negotiation task, women's cortisol responses were associated with their own attachment avoidance, while men's cortisol responses were related to their own attachment anxiety (Powers et al., 2006). This study provided evidence that attachment styles influence cortisol responses to conflict in romantic relationship. However, because the sample comprised college students in uncommitted relationships between the ages of 18–21, the generalizability to older married couples is unclear.

In order to investigate how attachment style might modulate IL-6 responses to marital conflict, married couples participated in two marital interaction tasks during two visits in a hospital-based research unit. We hypothesized that attachment anxiety and avoidance would influence individuals' IL-6 responses to the marital interaction tasks. Given that the conflict resolution task is more likely to create threat in the romantic relationship than the social support interaction, we hypothesized that impact of attachment style on inflammatory responses would be stronger during the conflict visit than the social support visit. We also hypothesized that attachment avoidance and anxiety would be associated with individuals' positive and negative behaviors during marital conflict.

2. Methods

2.1. Participants

Forty-two heterosexual, married couples were recruited as part of a larger study on marital stress and wound healing through newspaper and radio ads, notices posted on campus and in the community, and referrals from other participants. Thirty-five couples who provided attachment data were included in this study. Exclusion criteria included (1) health problems or related medications that had an obvious immunological or endocrinological component or consequences for wound healing (e.g., cancer, recent surgeries, strokes, diabetes mellitus, peripheral vascular disease,

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات