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Rejection sensitivity and disruption of attention by social threat cues

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ABSTRACT

Two studies tested the hypothesis that Rejection Sensitivity (RS) increases vulnerability to disruption of attention by social threat cues, as would be consistent with prior evidence that it motivates individuals to prioritize detecting and managing potential rejection at a cost to other personal and interpersonal goals. In Study 1, RS predicted disruption of ongoing goal-directed attention by social threat but not negative words in an Emotional Stroop task. In Study 2, RS predicted attentional avoidance of threatening but not pleasant faces in a Visual Probe task. Threat-avoidant attention was also associated with features of borderline personality disorder. This research extends understanding of processes by which RS contributes to a self-perpetuating cycle of interpersonal problems and distress.

1. Introduction

Social relationships serve many essential human needs. Some people find the task of establishing and maintaining those relationships overwhelming, and cope in self-defeating ways that ultimately compromise both their relationships and other life goals. Heightened concern about the possibility of rejection is implicated in several maladaptive relational patterns, such as too readily becoming hostile, socially withdrawn, or over-accommodating of others (for review, see Romero-Canyas, Downey, Berenson, Ayduk, & Kang, in press). Extreme sensitivity to rejection and characteristic patterns of reacting to the possibility of rejection in daily life are also part of the defining criteria for several psychiatric diagnoses, including avoidant personality disorder/social phobia and borderline personality disorder (American Psychiatric Association, 2000).

In recognition of the central role of sensitivity to rejection in seriously maladaptive interpersonal patterns and in the resulting distress, much scholarship from the early psychoanalysts to the present has grappled with understanding how individuals with this vulnerability deal with the threat of rejection. In recent years, evidence that effective deployment of attentional resources underlies adaptive coping with challenging circumstances has motivated efforts to establish whether various psychological conditions and vulnerabilities are associated with general and specific forms of ineffective attention deployment in the face of threat (Mathews & MacLeod, 2005). Accordingly, the question addressed in this research is how individuals who are highly sensitive to rejection deploy their attention when they encounter rejection cues. The first goal is to test the basic prediction that rejection-relevant stimuli should divert attentional resources and thereby disrupt simultaneous processes in people who are highly sensitive to rejection. The second goal is to examine how people high in RS deploy their attention once social threat is detected and whether biases in attention deployment are associated with particular constellations of maladaptive behaviors characteristic of rejection-sensitive people. The two constellations on which we focus are captured in features of borderline and avoidant personality disorders.

1.1. Conceptualizing rejection sensitivity as a defensive motivational system

The phenomenon of rejection sensitivity has a long descriptive history in clinical psychology and psychiatry, as noted above, and is associated with many personality dispositions including low self-esteem, neuroticism, social anxiety and insecure attachment style. Building upon attachment, object relations, and cognitive social-learning theories of development, Downey and colleagues have developed a model of rejection sensitivity (RS) that defines the phenomenon in social-cognitive terms – as the disposition to anxiously expect, readily perceive, and intensely react to rejection. The RS model proposes that prior exposure to the pain of rejection (Downey, Khouri, & Feldman, 1997), perhaps in conjunction with a biological vulnerability, leads individuals to become sensitized to the possibility of future rejection by significant others and moti-

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vated to protect themselves from it. Despite its intended function, RS typically has maladaptive consequences, in that the self-protective behaviors it promotes both impede the formation of significant relationships and ultimately undermine the relationships that people enter, eliciting further feelings of rejection (e.g., Downey, Freitas, Michaelis, & Khouri, 1998).

There is considerable evidence to support the notion that RS contributes to this self-perpetuating cycle of interpersonal problems and distress by leading individuals to process information in ways that prioritize detecting and quickly responding to threats of rejection – that is, through activation of the defensive motivational system. When viewing images conveying rejection, RS predicts heightened startle responses (Downey, Mougios, Ayduk, London, & Shoda, 2004), indicating greater activation of physiological systems to prepare for defending against threat (Lang, Bradley, & Cuthbert, 1990). RS also predicts being conditioned to react to angry faces with a physiological threat response that is more resistant to extinction than conditioned responses to other stimuli (Olsson, Carmona, Remy, Downey, & Ochsner, 2007). In addition to heightened readiness for physiological threat responses, those high in RS also have preexisting expectations for rejection that are readily triggered and used to make sense of social interaction cues in the current situation (Downey & Feldman, 1996; Downey et al., 1998). For example, people high in RS interpret short videoclips of others' naturalistic emotional responses as expressing more interpersonal negativity, but not more positivity (Romero-Canyas, Downey, Franco, & Bolger, 2008). Although the processes that serve early detection and management of potential rejection threats in rejection-sensitive individuals are likely to include defensively motivated attention deployment, no previous research has directly examined this question.

1.2. Rejection sensitivity and attentional interference in response to social threat

If, as both theory and research on the RS model suggests, the ability to quickly detect rejection threat is of particularly high priority for rejection-sensitive individuals, cues signaling potential for rejection should interfere with the successful completion of ongoing tasks by diverting attention from them. We test this prediction in Study 1 using a standard interference task, the Emotional Stroop (see Williams, Mathews, & MacLeod, 1996, for review). In this task, participants are asked to process one dimension of a stimulus (i.e., to name the ink color a word is printed in) while ignoring an irrelevant aspect of the same stimulus (the emotional content of the word). Words with emotionally significant content typically lead to slower color naming than other words, indicating that the task-irrelevant emotional dimension is interfering with attention to the task-relevant dimension (McKenna & Sharma, 2004; Phaf & Kan, 2007). That is, threat stimuli "ensnare attentional resources" to cause interference with goal-directed activity (Williams, Watts, MacLeod, & Mathews, 1988; Williams et al., 1996).

Research using the Emotional Stroop task has shown interference effects of threat-related words in social anxiety (Grant & Beck, 2006; Spector, Pecknold, & Libman, 2003), generalized anxiety (Taghavi, Dalgleish, Moradi, Neshat-Doost, & Yule, 2003), posttraumatic stress disorder (Foa, Feske, & Murdock, 1991) and insecure attachment style (Edelstein & Gillath, 2008). Additionally, unpopular, rejected children have shown attentional disruption in response to rejection words (Martin & Cole, 2000), as have people low in self-esteem (Dandeneau & Baldwin, 2004), a construct consistently found to have a moderate inverse association with RS. In the present study we hypothesized that RS should be associated with longer color-naming latency when processing rejection cues, but not when processing negative information in general.

1.3. Rejection sensitivity and direction of attention deployment in response to social threat

While the Emotional Stroop task can reveal whether RS leads rejection threat to disrupt goal-directed attention, the task does not reveal the direction of attentional bias. The predicted interference effect could be due to increased attentional resources being allocated to the threat cues, and/or efforts to avoid processing them, which in turn disrupt task performance (de Ruiter & Brosschot, 1994). Study 2 aims to extend Study 1 by identifying the direction of attentional bias associated with RS, as either persistent vigilance toward or vigilance followed by avoidance of rejection cues, using another standard attentional paradigm, the Visual Probe task.

The Visual Probe (sometimes called Dot Probe or Attentional Probe) typically presents emotional and neutral stimulus pairs (e.g., a word or picture with emotional content, which is paired with a neutral word or picture) followed by a visual probe (e.g. small dot or arrow). The probe appears in the location which had been previously occupied by either the emotional stimulus (e.g. angry face), or by the neutral stimulus (e.g. neutral face). The direction of attention deployment is measured in terms of how quickly an individual responds to the visual probe. A persistent vigilant pattern of attention deployment, characterized by faster responses to probes that appear in the location of threat (relative to neutral) stimuli, has typically been found among people with a wide range of anxiety-related concerns, including trait anxiety and generalized anxiety disorder, social anxiety and clinical social phobia (see review by Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg, & van IJzendoorn, 2007). However, some Visual Probe studies have found the opposite pattern, indicating deployment of attention away from the location where the threat stimulus was presented for example, in maltreated children with posttraumatic stress disorder (Pine et al., 2005) and in adults with insecure romantic attachment styles involving a combination of high anxiety and high avoidance (Dewitte, Koster, DeHouwer, & Buysse, 2007).

While no comprehensive model yet accounts for the differences in experimental and participant variables contributing to one pattern of attentional bias versus the other, a consideration of the motivations involved in threat processing may help clarify the form, function, and consequences of such attentional biases to the extent that they arise for self-protective reasons. That is, whereas persistent vigilance toward threat may serve to increase preparedness to avert danger through flight, attentional avoidance following initial threat detection may serve to reduce distress when it is impossible or undesirable to flee. Indeed, when separated from such overlapping constructs as trait anxiety and anxiety in broad social/performance domains, the distinctive element of RS is that it is a processing disposition developed and practiced in the context of investment in maintaining relationships with the perceived sources of threat. Based on this reasoning we predict that RS will be distinctively associated with a vigilant-avoidant pattern of attentional bias, characterized by an initial attentional bias towards threat to facilitate early detection of potential danger, followed by attentional avoidance strategies (Mogg & Bradley, 1998). We further expect that this type of bias will be associated more specifically with features of borderline personality disorder (characterized by dysregulated responses to managing the dilemma posed by desperately wanting to connect to others while intensely threatened by the prospect of rejection by them), than with features of avoidant personality disorder (characterized by avoidance of exposure to rejection or criticism). Indeed, a disorder closely related to avoidant personality disorder (social phobia) has been previously associated with persistent vigilance toward social threats in the Visual Probe task.