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Avoidant individuals may have muted responses to social warmth after all: An attempted replication of MacDonald and Borsook (2010)☆

Aviva Philipp-Muller [a,b,*], Geoff MacDonald [a]

[a] University of Toronto, 100 St. George St., Toronto, ON M5S 3G3, Canada
[b] The Ohio State University, 1826 Neil Avenue, Columbus, OH 43210, United States

HIGHLIGHTS

- MacDonald and Borsook (2010): avoidant participants responded positively to warmth.
- Replication attempt: how is attachment affected by a warm *vs.* cold confederate?
- Results not replicated; no effect of warmth for avoidant participants' feelings of closeness.
- Avoidant participants displayed neutral affect in response to a warm confederate.
- Avoidant individuals' responses to social reward and threat may be similar.

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ABSTRACT

Past research on individuals high in attachment avoidance has pointed to these individuals being relatively uninterested in intimacy. However, a small body of literature suggests that if presented with warmth and positive feedback, avoidant individuals will respond positively to intimacy to an even greater extent than secure individuals. The goal of the present study was to examine the replicability of the findings of one such study (MacDonald & Borsook, 2010), and additionally explore avoidant individuals' non-verbal responses to social warmth. After completing an attachment style questionnaire, participants completed a relationship closeness induction task with a confederate who was assigned to behave in either a warm or a cold manner. Participants then completed a closeness scale and filmed a video greeting for their "partner" (the confederate). The results did not replicate those of MacDonald and Borsook (2010), and instead suggested that highly avoidant participants felt less close to socially warm others than low avoidant individuals did. Possible reasons for the failure to replicate are discussed, as are the similarities in how avoidant individuals respond to social reward and attachment threat.

Social reward is defined broadly as social stimuli that individuals experience positively (Foulkes, Viding, McCroy, & Neumann, 2014). Examples of experiences that people tend to find socially rewarding include achieving a sense of belonging within one's social group (Baumeister & Leary, 1995), self-disclosure and intimacy (Fareri, Niznikiewicz, Lee, & Delgado, 2012; Izuma, Saito, & Sadato, 2008; Worthy, Gary, & Kahn, 1969), and viewing smiling faces (Spreckelmeyer, Krach, Kohls, Rademacher, Irmak, & Konrad, 2009). Research on the long-term effects of social reward corroborate that social reward is beneficial for health outcomes and wellbeing (Siegrist, 2000; Siegrist, Vond dem Knesebeck, & Pollack, 2004). When individuals experience a deficit in social reward, they search for socially rewarding relationships, suggesting that social reward may be crucial to fulfilling the need to belong (Spielmann, MacDonald, & Tackett, 2012).

Individuals high in avoidant attachment, however, have a more complex relationship with social reward than do secure individuals. According to attachment theory, in childhood, people develop an attachment style through their interactions with parents or guardians: their "primary attachment figures" (Ainsworth, 1979; Bowlby, 2005). When in the presence of threat or stress, individuals seek their attachment figures or conjure mental representations of their attachment figures (Mikulincer, Gillath, & Shaver, 2002; Mikulincer & Shaver, 2008). The type of feedback and support that children receive from these attachment figures as they develop, especially when they are in distress,

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* Corresponding author at: University of Toronto, 100 St. George St., Toronto, ON M5S 3G3, Canada.
E-mail address: aviva.philipp.muller@gmail.com (A. Philipp-Muller).

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informs the attachment style that emerges from the relationship (Ainsworth, Blehar, Waters, & Wall, 2015; Mikulincer & Shaver, 2010; Simpson, 1990). These attachment tendencies can be categorized along 2 dimensions: *anxious* and *avoidant* (Mikulincer & Shaver, 2010), with secure attachment being defined by the low ends of both dimensions.

High attachment anxiety is often characterized by a fear of abandonment and a preoccupation with relationships (Bowlby, 2005; Mikulincer & Shaver, 2010). Anxious individuals are often characterized as "clingy," and tend to seek more intimacy in relationships than others do. High attachment avoidance is characterized by a tendency to dismiss attachment-related feelings. These individuals value their autonomy over interpersonal closeness, and seek intimacy less than others do (Bartholomew, 1990; Collins & Feeney, 2000; Griffith & Bartholomew, 1994). The developmental history of avoidant individuals theoretically includes multiple trials of reaching out for closeness and experiencing frustration, disappointment, or loss (MacDonald, 2009).

Individual differences in attachment style become most apparent in times of attachment system activation. Typically, attachment system activation is discussed in the literature as a response to perceived threat, such as a threat to an attachment relationship (Mikulincer et al., 2002; Mikulincer, Birnbaum, Woddis, & Nachmias, 2000; Shaver & Mikulincer, 2002), which leads individuals to seek comfort in ways that vary according to their attachment style. For avoidant individuals, attachment system activation leads to distancing behaviors and blunted affect as they attempt to deactivate the attachment system (Mikulincer & Shaver, 2005) by suppressing attachment-related thoughts and feelings (Cassidy, 1994; Cassidy & Kobak, 1988; Fraley, Davis, & Shaver, 1998; Shaver & Mikulincer, 2007).

Since intimacy is associated with punishment for avoidant individuals, attachment system activation may also occur in response to social reward. That is, closeness and social reward may trigger emotional pain in avoidant individuals, thus leading to attempts at attachment system deactivation (MacDonald, Borsook, & Spielmann, 2011). Social reward has been shown to elicit defensive responding in avoidant individuals (Spielmann, Maxwell, MacDonald, & Baratta, 2013), which can lead them to inhibit emotional expression, especially if these emotions are intimacy-related (Schachner, Shaver, & Mikulincer, 2005). This emotional inhibition can result in reduced expression of emotions such as anger or joy (Mikulincer & Shaver, 2005; Schachner et al., 2005). Indeed, avoidant individuals smile less and display fewer expressions of happiness than do secure individuals (Magai, Hunziker, Mesias, & Culver, 2000; Spangler & Zimmermann, 1999).

There is mounting evidence of avoidant individuals having an inhibited response to social reward. Avoidant individuals seemingly experience minimal reward from social experiences, even close relationships, gaining less pleasure from social interactions than do low avoidant individuals (Troisi, Alcini, Coviello, Croce Nanni, & Siracusano, 2010). Avoidant individuals are likely to perceive lower levels of reward as present in their relationships than do secure individuals (Gere, MacDonald, Joel, Spielmann, & Impett, 2013; Spielmann et al., 2013), even on a physiological level (Strathearn, Fonagy, Amico, & Montague, 2009; Vrtička, Andersson, Grandiean, Sander, Vuilleumier, 2008). They are also less likely to engage in the socially rewarding aspects of relationships and intimacy, such as non-sexual, physical intimacy (*e.g.*, hugging) (Fraley & Shaver, 1998).

Recent studies, however, have found that when presented with highly positive relationship cues, avoidant individuals sometimes seek intimacy even more than their anxious or securely attached counterparts. In one such study, participants were asked to rank their supposed "fellow participants" based on online profiles (the profiles of these participants were fabricated), and were told that their "fellow participants" would also be ranking their profiles (Carvallo & Gabriel, 2006). In the experimental group, the participants were told that they were ranked the highest out of all the other participants in the study. Following this manipulation, avoidant individuals reported an even higher level of positive affect and self-esteem than low avoidant controls did (Carvallo & Gabriel, 2006). Similarly, another study found that if avoidant individuals perceived that intimacy was welcomed, they actually sought greater intimacy with their partners than baseline (Slotter & Luchies, 2014).

One study within this body of research that is central to the present study found that when avoidant participants were presented with an unequivocally positive social interaction in a closeness induction task, they reported greater feelings of closeness with their partner than did low avoidant participants (MacDonald & Borsook, 2010). In that study, participants interacted with a confederate whom they were told was a fellow participant. The participants were told to ask each other a series of increasingly intimate questions (Sedikides, Campell, Reeder, & Elliot, 1999). Participants were randomly assigned to interact with a confederate who behaved either positively (warmly) or negatively (coldly) with them. The confederate was a trained actor, and she was either highly responsive and empathetic (the positive condition), or apathetic and aloof (the negative condition). Following the interaction, participants completed a connection scale where they rated how connected they felt to their "partner" (Sedikides et al., 1999). Attachment avoidance was a significant predictor of closeness in the positive condition, such that highly avoidant participants reported higher levels of closeness to their partner than low avoidant participants did. These results suggest that with large degrees of positive social feedback, it is possible to overcome avoidant individuals' barriers against intimacy.

However, there were several limitations to the MacDonald & Borsook (2010) study that suggest the results should be accepted with caution, pending replication. First, the study was low in power, with a total sample size of only 30 for a test of a condition by individual difference interaction. Second, given that the MacDonald & Borsook (2010) methodology required the same confederate to perform in all study sessions, any effects produced by the study could be due to idiosyncratic characteristics of that confederate. Finally, the MacDonald and Borsook study was embedded within a larger study on pain perception (Borsook & MacDonald, 2010), so the participants may have already experienced attachment system activation due to the potential stress of pain testing.

The present study therefore sought to replicate the MacDonald and Borsook study while addressing the potential shortcomings listed here. Further, given that the findings of the original study were somewhat anomalous (only a few other studies have found similar results), replication would be important to affirm the results found in MacDonald & Borsook (2010). To accurately test the results of the MacDonald & Borsook (2010) study, the present study attempted to mimic the methods of the original study as closely as possible. Specifically, the materials used, the training provided to the confederate, and the central statistical analyses were kept identical to the MacDonald & Borsook (2010) study. A few additional similarities exist in this study that are atypical of replications. First, the study was conducted in the identical laboratory space, with even the same computers as the original study. Second, since this study was conducted at the same university as the original study, the participant pool was also the same, albeit five years later. The few exceptions that do exist are noted, and explanations are provided for these differences.

Beyond replicating past research, the present study sought to ask additional questions not asked in the original study regarding effects of attachment and condition on how participants approached their "partner" both verbally and non-verbally following an intimate exchange. Given the tendency of individuals high in avoidant attachment to keep emotional experience from conscious awareness (*e.g.*, Mikulincer, Shaver, & Pereg, 2003), we reasoned that a measure of emotional experience that bypassed self-report may be of value. We asked participants to record a video message for their partner following the interaction. These videos were processed using *FaceReader 5.0* software from Noldus to examine non-verbal reactions, and they were additionally evaluated by trained coders to examine the overall messages communicated by participants. This portion of the study was largely