

Disorganized Attachment in Adulthood: Theory, Measurement, and Implications for Romantic Relationships

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Disorganized attachment has been studied extensively in the developmental attachment literature, particularly with regard to infants and children. It has not been studied from a social psychological perspective in adulthood. In this article we contribute to the social psychology literature by beginning to explore the meaning and consequences of disorganized attachment for adults. Based on the literature on disorganization in infants, childhood, and adolescence, we develop a dimensional measure for assessing disorganization in adults and demonstrate that it predicts similar internalizing symptoms and externalizing behaviors to those observed in children and adolescents. Thus, this scale instrument should provide social psychologists with a means to assess disorganization in adulthood and begin to look at its consequences for romantic relationships. We discuss some of those potential consequences, thereby providing avenues for future research.

Keywords: attachment styles, disorganization, disorganized attachment, romantic relationships

Understanding the central role of fear in attachment theory is critical to the theoretical framework of attachment disorganization.

—(Lyons-Ruth & Jacobvitz, 2008, p. 667)

The attachment system has been well-studied in adults by social psychologists, with much contemporary research focusing on correlates and outcomes of adult attachment style as measured along two continuous dimensions: anxiety and avoidance. This research stems from Bowlby's (1969, 1973, 1980) work on an innate attachment system that motivates infants to seek close proximity to caregivers, particularly in times of distress. Although this evolutionary adaptation is particularly important in infancy and childhood, the attachment system remains important over a person's lifetime, from "the cradle to the grave" (Bowlby, 1973, p. 203), allowing individuals to generate thoughts, feelings, and behaviors that help them to maintain proximity to attachment figures (Bowlby, 1988).

The attachment system is shaped, in part, by experiences with attachment figures (parents or other dominant caregivers). As seen in the Strange Situation paradigm, in which infants are separated and reunited with their caregivers to "activate" the infants' attachment systems (Ainsworth, Blehar, Waters, & Wall, 1978), caregivers who are consistently responsive to their infants in times of distress produce infants who have a secure attachment system. These infants use their attachment figures as a base from which

they explore the environment and as a source of security to which they may return in times of distress. When attachment figures consistently reject their infants' bids for comfort in times of distress, infants develop an avoidant attachment to them. These infants explore the environment freely but do not turn to their attachment figures when distressed. Instead, they actively ignore them and seek to cope with distress through their own efforts. Finally, caregivers who are inconsistent in their caregiving, sometimes responsive and sometimes unresponsive, produce infants with an anxious (sometimes referred to as either anxious-ambivalent or resistant) attachment to them. Compared with secure infants, those infants rarely use their attachment figures as a base for exploration and are not easily comforted by them.

These three primary types of attachment are considered to be "organized" because they provide coherent working models that allow infants to select strategies that are most adaptive within the constraints of their relationships with their attachment figures. Main and Solomon (1990) identified a fourth category of infants, labeled as disorganized (Type D), who did not demonstrate an organized secure, anxious, or avoidant strategy for dealing with distress during the Strange Situation. Upon reunion with their attachment figures, these infants engaged in fearful, conflicted, disorganized, apprehensive, disoriented, or other odd behaviors with their attachment figures. Approximately 19% of infants seen in the Strange Situation are placed in the disorganized category (van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999). Infant disorganization is understood to coexist with organized strategies, and is not a complete replacement for them. This is because disorganized behavior is often seen only momentarily within a sequence of behaviors that otherwise would have been coded into one of the organized types. An infant might engage in clearly avoidant behavior, for example, which is interrupted only briefly by the intrusion of disorganized behavior. Thus, researchers coding the Strange Situation must place infants into a secondary,

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organized category if the infants are coded as Type D. A meta-analysis has shown that 46% of the secondary category classifications are anxious-ambivalent, 34% are avoidant, and 14% are secure (van IJzendoorn et al., 1999).

The disorganized attachment category has sparked a large quantity of work in developmental psychology, which has sought to understand the etiology and assessment, correlates, and consequences of early disorganized attachment. The developmental literature suggests that adult disorganized attachment exists, because it has shown that disorganization in infancy is predictive of behaviors in childhood, adolescence, and early adulthood. Additionally, a category known as “unresolved,” as measured on the Adult Attachment Interview (the AAI, a developmental attachment measure; Main, Kaplan, & Cassidy, 1985; George, Kaplan, & Main, 1985) was designed to correspond conceptually to the disorganized attachment category as seen in the Strange Situation (Madigan et al., 2006; van IJzendoorn, 1995). However, social psychological research has not addressed the potential meaning of disorganized attachment in adulthood, how it might be assessed, or whether its correlates may be similar to those seen in childhood and adolescence. In particular, it has not considered the role adult disorganization may play in romantic relationships, a focal area of interest for adults and a primary area of study for social psychologists.

In this article we begin to explore what disorganized attachment means for adults from a social psychological perspective, drawing from the developmental literature to discuss its implications and to develop a scale for its assessment. We empirically demonstrate that the scale has good predictive validity, again drawing from the developmental literature to examine adult behaviors that would be expected for individuals experiencing disorganization. Finally, we theorize about the implications for romantic relationships, examining a variety of constructs of interest to attachment researchers in social psychology.

Our article is organized as follows. First, we briefly review the developmental literature on disorganization in infancy and childhood, focusing on the etiology of disorganization. Second, we indicate the types of internalizing and externalizing behaviors that it is associated with in childhood and adolescence. Third, we explain attachment style in adulthood from a social psychological perspective and develop the corresponding notion of disorganization in adulthood. Consistently with the preference for dimensional measures of attachment style in social psychology, we develop a scale to assess adult disorganization that draws from the features commonly assessed in infancy and childhood. Fourth, we provide results to demonstrate some of the predictive properties of the scale that indicate its relevance for assessing adult disorganization. Fifth, we discuss how assessing disorganization in adulthood could be critical to obtaining a better understanding of a variety of variables commonly assessed in close relationships research involving attachment style, while making suggestions for future research.

Development of Disorganization in Infancy and Childhood

Researchers have viewed disorganization in infancy as arising as a result of the simultaneous activation of two competing responses to the attachment figure. According to Main and Solomon (1990), infants in the disorganized category develop a fear of their

attachment figures because these figures display frightening behaviors in their daily interactions with their children. This fear could encourage infants to avoid their attachment figures. This response, however, is opposed by the biologically based attachment system that compels infants to seek proximity to their attachment figures when afraid. In other words, the attachment system paradoxically encourages infants to approach the sources of their fear to relieve their fear. This so-called fear or fright without solution (Main & Solomon, 1990) is considered to be the essence of disorganization and is the most proximal cause of the disorganized infant’s failure to mount an organized avoidant, anxious, or secure pattern of behavior with the attachment figure.¹

In the Strange Situation, disorganized infants may engage in behaviors such as screaming for the mother, then moving away with apprehension when she returns. They may become disoriented or dazed, as if in a trance (dissociative behaviors). Or, they may begin to approach the mother, then “freeze” their movement (Lyons-Ruth & Jacobvitz, 2008). All fearfully disorganized infants appear to have two major forms of behavior in common. First, they show contradictory approach and avoidance behaviors toward the attachment figure (e.g., approaching the parent with their head averted). Second, their behavior involves fearfulness (e.g., fearful facial expressions, trance-like expressions, freezing their movement when the parent approaches; Lyons-Ruth & Jacobvitz, 2008). These confused or contradictory behaviors are not seen in avoidant or anxious-ambivalent classifications.

Frightening caregiver behavior has been proposed as the most proximal cause or risk factor for disorganization in infants. Main and Hesse (2006) identified six potential types of frightening parental behavior that could lead to disorganization in infants: threatening expressions or gestures toward the infant, inexplicably frightened behavior by the parent, dissociative behavior, submissive behavior to the infant, sexualized or romantic behavior directed toward the infant, or parental disorganized behavior of the type shown by disorganized infants in the Strange Situation. Several studies have found support for associations between these behaviors and infant disorganization (e.g., Lyons-Ruth, Bronfman, & Parsons, 1999). Lyons-Ruth et al. (1999) developed a complementary set of parental communicative behaviors that they proposed to be related to infant fear of the attachment figure and disorganization. As described by Lyons-Ruth and Jacobvitz (2008), these behaviors include: “(a) negative-intrusive behavior (e.g., mocking or teasing the infant); (b) role confusion (e.g., seeking reassurance from the infant); (c) withdrawal (e.g., silent interaction with the infant); (d) affective communication errors (e.g., eliciting approach from the infant, then withdrawing from him or her); and (e) disorientation (e.g., unusual changes in intonation when interacting with the infant).” When parents exhibited these behaviors more frequently, their infants displayed more disorganization in the Strange Situation (Lyons-Ruth et al., 1999),

¹ Recent research has suggested that there may be a subgroup of disorganized infants who are not characterized by fright of their caregiver, but may instead have been born with a compromised emotional regulation system (Padrón, Carlson, & Sroufe, 2014). Our study is concerned only with disorganization resulting from fear.

and this effect has been replicated by other studies (e.g., Madigan, Moran, & Pederson, 2006).²

Disorganization and its effects continue beyond infancy. Although the Strange Situation is only relevant for assessing disorganization in infants, other approaches have been developed for measuring child-caregiver attachment in young children. These methods tend to be either observational (e.g., Main & Cassidy, 1988) or representational (e.g., story completion, Verschueren & Marcoen, 1999). For example, Main and Cassidy (1988) developed a behavioral observation method based on separations and reunions with the caregiver for assessing attachment at age 6. Their method places 6-year-olds into one of the following categories: secure, avoidant, anxious, or disorganized/controlling. When children were disorganized as infants, they fell disproportionately into the disorganized/controlling category at age 6. Disorganized/controlling strategies can involve one of two controlling types: (a) punitive, where the child is hostile to the parent and seeks to punish, challenge, or humiliate him or her; and (b) caregiving, where the child takes on the role of the parent and engages in soothing behaviors or takes charge of interactions, even to the extent of subjugating his or her own desires (Bureau, Easterbrooks, & Lyons-Ruth, 2009). Not all children appear to fall into these two subcategories, however. Bureau et al. (2009) developed a scale to assess disorganization that is not controlling, which included the following characteristics: manifestations of fear in the presence of the parent, lack of consistent strategy for interacting with the parent, confused behavior after conflict with the parent, behavior that invades parental intimacy, difficulties in addressing the parent, a negative self with possible self-injuring behaviors, markers for dissociation, and preferences for strangers over attachment figures. All three types (two controlling, one noncontrolling) can be viewed as pathological, and many researchers do not distinguish among them in their work.

Disorganized Attachment and Childhood Psychopathology

Studies of disorganized attachment in children have focused on two major categories of potentially associated psychopathology: internalizing symptoms or behaviors, and externalizing behaviors (see Carlson, 1998). Although these two forms of behaviors frequently manifest as comorbid, there is support for the notion that they are conceptually distinct (Achenbach, 1992). Both likely stem from the experience of anger toward the attachment figure (Bowlby, 1973). For example, the frustration of attachment needs caused by rejection leads to the experience of anger in childhood, with angry behavior serving as a “reproach” to the rejecting attachment figure. Rejection of attachment needs is experienced to varying degrees by persons who develop attachment anxiety, avoidance, and disorganization. Having received perhaps more rejection than others, disorganized persons may exhibit anger as an especially prominent feature. This anger may motivate hostile and aggressive behaviors toward both the offending attachment figure and through displacement to other people as well (Bowlby, 1973). To the extent that anger becomes part of the attachment working model, it may produce a range of externalizing behaviors (e.g., hostility, aggression) which have been extensively studied in childhood and adolescence. These general findings are summarized below.

Externalizing Behaviors

Children may exhibit a variety of externalizing behavioral problems, including aggression, oppositional problems, conduct-related problems, or general hostility. A recent meta-analysis analyzed studies in which these forms of externalizing psychopathology were examined in conjunction with insecure attachment in children (Fearon, Bakermans-Kranenburg, van IJzendoorn, Lapsley, & Roisman, 2010). In particular, this meta-analysis considered whether disorganized attachment is associated with a greater number of externalizing problems. In 34 studies including 3,778 participants, there was a significant combined effect size of $d = 0.34$ for this association, thus indicating that early disorganized attachment is associated with a higher risk for externalizing behavior later in childhood. Because of the presence of publication bias, a trim-and-fill correction was used to yield a revised effect size of $d = 0.18$, which was still significant (95% CI [0.01, 0.34]). Further, child gender was a significant moderator of this effect. Female-only samples demonstrated a relationship between disorganized attachment and externalizing behaviors that was not only significantly different from the samples with boys only or samples with mixed gender, but was, in fact, negative ($d = -0.20$; $N = 702$ across 6 female studies). In the 24 total studies in which disorganized attachment was assessed in the Strange Situation ($N = 3,161$ participants), there was a combined effect size of $d = 0.27$, which was significant and similar to the effect across all studies. There were no significant moderators for this particular subset of the studies.

In this meta-analysis the authors did not consider how disorganization was assessed (as an insecure category itself vs. as part of an organized strategy), so it was impossible to determine whether there were differential effects for coding. However, when all four attachment groupings (secure, resistant, avoidant, disorganized) were available, and pairwise comparisons were possible, secure children scored lower on externalizing problems than disorganized children ($d = 0.27$), with disorganized children demonstrating larger effects than the other insecure categories. Thus, it appears that there is some support for the notion that disorganization is a better or stronger predictor of externalizing behavioral problems than other forms of attachment.

In addition to externalizing behaviors that may result from anger, internalizing behaviors would be expected as well. When

² More distal factors have also been examined as contributing to the development of disorganization. One such factor is parental state of mind, as reflected by the Adult Attachment Interview (AAI; Main, Kaplan, & Cassidy, 1985). Among other things, the AAI assesses a category of behaviors called “unresolved with respect to loss or trauma.” Persons who are placed in this category (a) have experienced either trauma (e.g., child abuse) or the death of an attachment figure or close person, and (b) have not, as adults, been able to come to terms fully with their loss or trauma. Hesse and Main (2006) argue that persons who have not resolved such losses or traumas are likely to engage in behavior—particularly dissociative behavior—that frightens infants and causes them to develop a disorganized attachment. Consistent with this argument, meta-analyses discussing unresolved parents found that this status significantly predicted disorganization in their infants (Madigan et al., 2006). Another important distal factor is child abuse. Like the frightening behaviors discussed above, child abuse should produce the “fear without solution” that is regarded as the proximal cause for disorganization. At least one study has shown that more than 80% of maltreated children show a disorganized pattern of attachment (Cicchetti & Barnett, 1991).

attachment needs are frustrated, not only do individuals become angry, but they experience general anxiety in their efforts to maintain proximity to their attachment figure. The combination of anger and anxiety leads to failure to form stable and secure attachment relationships (Bowlby, 1980), which in turn may encourage internalizing symptoms or behaviors (sadness, depression, anxiety, social withdrawal). This possibility has also been examined in connection with disorganized attachment in childhood and adolescence, as summarized below.

Internalizing Symptoms/Behaviors

Two recent meta-analyses have provided overviews of the relationship between disorganization in infancy and/or childhood and internalizing symptomatology and behaviors in early to middle childhood. First, a meta-analysis conducted by Groh, Roisman, van IJzendoorn, Bakermans-Kranenburg, and Fearon (2012) examined both organized attachments and disorganized attachment in relation to the internalizing constructs of anxiety, depression, social withdrawal, and somatic complaints. In 18 studies with approximately 3000 participants, the effect size for the association between infant disorganized attachment and internalizing symptoms/behaviors in childhood was found to be $d = 0.08$, which was not significant. There was no apparent publication bias and no significant moderator effects (including no effect for child gender). Further, the effects of avoidant and anxious-ambivalent insecure attachment also lacked significance, and appeared to have similar associations with internalizing behaviors. In a comparison of internalizing and externalizing behaviors, Groh et al. (2012) note that disorganized attachment appears to be significantly more strongly related to externalizing than internalizing behaviors.

A second meta-analysis examined anxiety and depression among infants and children who were classified as organized and/or disorganized and who exhibited internalizing behavior at any point in childhood (Madigan, Atkinson, Laurin, & Benoit, 2013). In 20 studies containing 2,679 participants, the combined internalizing psychopathology weighted mean effect size for children classified as disorganized, as compared to secure participants, was significant, $d = .20$, 95% CI [.09, 0.311]. Because of publication bias, however, a trim-and-fill procedure was used to adjust the effect size, resulting in an adjusted weighted mean effect size of $d = 0.09$, which was not significant. There were no significant moderators (including percentage of males in the sample) of this effect. Of interest in this meta-analysis is the fact that, in the original studies, some children with disorganized attachment were force-classified into one of the organized categories (secure, avoidant, resistant), instead of treating disorganized attachment as an insecure category. The effect size was significantly larger ($N = 24$, $d = 0.49$) in the studies involving forced classification than in the other studies ($N = 20$; $d = 0.21$). This finding is important because it reflects the fact that disorganization is not, per se, an attachment strategy; infants or children classified as exhibiting disorganized attachment exhibit a momentary breakdown of their organized strategy for dealing with distress in caregiver interactions (Main & Hesse, 1990). Thus, it may be disorganization in combination with the underlying organized strategy that best predicts internalizing psychopathology (Madigan et al., 2013; Morley & Moran, 2011).

Finally, disorganization has recently begun to be studied in adolescence as well. For example, Obsuth, Hennighausen, Brumariu, and Lyons-Ruth (2014) have developed an assessment of disorganization in adolescence, and have demonstrated that key aspects of adolescent disorganization are associated with depression and other psychiatric morbidity. Lecompte and Moss (2014) have also found that aspects of disorganization in adolescence predict a high level externalizing behaviors/symptoms (delinquent and/or aggressive behavior).

Thus, there is evidence that early disorganization is associated with both internalizing symptoms and externalizing behaviors in childhood and early adolescence, with the evidence being somewhat stronger for externalizing behaviors. We now move to an investigation of disorganization in adulthood.

Attachment and Disorganization in Adults

Although developmental and clinical psychologists have tended to employ the AAI for assessing attachment style in adults, social psychologists rely on continuous, dimensional measures of attachment style that are self-reported instead of assessed via extensive interview. A review of the development of social psychological attachment style measurement is beyond the scope of this article, but in general, modern research tends to employ the Experiences in Close Relationships scale (Brennan, Clark, & Shaver, 1998) to assess two relatively orthogonal attachment style dimensions that represent insecure attachment orientation: anxiety and avoidance (with low scores on both reflecting a higher level of attachment security). These attachment styles are believed to arise through a history of insecure attachment relationships in infancy, childhood, and adolescence, and are viewed as paralleling the forms of attachment described in infancy and childhood. Importantly, the typical primary attachment figures in adulthood are considered to be close, romantic partners.

Adult Attachment Avoidance and Anxiety

Attachment anxiety and avoidance represent working models of the self and others that give rise to attitudes, beliefs, and expectations about relationships and generate characteristics of the individuals who possess them. Adults who are low in both anxiety and avoidance are considered to have a secure attachment style.

Much is known about these adult insecure attachment styles and their correlates. Just as avoidant infants in the Strange Situation do not seek support from their unresponsive mothers, highly avoidant adults expect that attachment figures will not be responsive or available to them in times of distress. They tend to seek distance from close others instead of seeking support from them (Mikulincer & Shaver, 2003). In other words, these adults have developed defense mechanisms that allow them to deactivate their attachment system in times of threat or danger, thereby reducing their need for proximity with attachment figures (Simpson, Rholes, & Nelligan, 1992). As a result, more avoidant individuals are motivated to seek independence and autonomy and tend to fear intimacy and dependence on their partners.

As seen earlier, an anxious attachment in infancy results from early attachment figures being inconsistent in their caregiving, sometimes being highly responsive and other times being relatively inattentive. In the Strange Situation, anxiously attached

infants are conflicted. When distressed, they try inconsistently to obtain support from their mothers (Ainsworth et al., 1978). Their repeated bids for attention highlight the importance of the “approach” aspect of the anxious-ambivalent or resistant working model. Adults with an anxious attachment style are also conflicted, desiring proximity from close others in times of distress but lacking trust in their partners’ availability. Although they engage in hyperactivating strategies to obtain the attention and support of their attachment figures, they fear that their bids for attention will be ignored and thus also fear abandonment from their partners (Mikulincer & Shaver, 2007).

Fear plays an important role in the adult attachment system, and characteristics of more avoidant and anxious individuals clearly reflect the role that fear plays. Both fear of intimacy (avoidance) and fear of abandonment (anxiety) are components of organized attachment styles that enable individuals to select fairly predictable strategies for handling attachment-related distress and interacting with their attachment figures. For more avoidant individuals, fear of intimacy leads to, for example, less support-seeking, less caregiving, less constructive conflict resolution tactics, and less self-disclosure (Mikulincer & Shaver, 2007). Fear of abandonment leads more anxious persons to be angered by their partners’ behaviors in support-seeking situations, to be more jealous of their partners, to cope with stress ineffectively, and to be more depressed than their highly avoidant counterparts (Guerrero, 1998; Mickelson, Kessler, & Shaver, 1997; Mikulincer & Shaver, 2007; Rholes, Simpson, & Oriña, 1999). They also experience less relationship satisfaction, often feeling that their partners do not provide adequate support to them (Rholes, Simpson, Campbell, & Grich, 2001).

Role of Disorganized Attachment in Adulthood

Disorganized attachment in adulthood adds another element to the adult attachment system. We propose that unlike avoidance and anxiety, the central characteristic of disorganization in adulthood is a fear of romantic attachment figures in general. The fear of one’s partner is a more elemental and pervasive type of fear. As the “fear without solution” (Main & Solomon, 1990), it is the only fear that encourages simultaneous and confused approach and avoidance of the attachment figure for support and solace in times of need. Individuals who can be considered to have aspects of disorganization face radically different consequences from their fears, compared to more avoidant and/or anxious people. More avoidant individuals have experienced rejection and fear further rejection. This fear encourages distancing for self-protection, but it does not simultaneously encourage approach to the attachment figure. More anxious individuals fear abandonment, which encourages approach to attachment figures to ensure that needs are met and that abandonment does not take place. This fear does not simultaneously encourage distancing behavior. But adults who are disorganized are in a unique position: Their fear of attachment figures encourages contradictory and confused behavior. They seek to approach the partner in times of distress, but these approaches may be interrupted or incomplete, appearing to be chaotic or incoherent, because their fear of the partner may simultaneously cause apprehension and a desire to distance themselves. This pattern of disorganized behavior, even if it occurs for only a relatively short

period of time, would indicate adult disorganization, just as it does in infancy, children, and adolescents.

We propose that adults who are more disorganized fear their partners, in addition to holding other attachment-related fears that are associated with organized attachment styles. As with infants, disorganization in adults may exist alongside of, and not as a replacement for, organized strategies. Thus, disorganized adults may be high in anxiety and/or avoidance in addition to exhibiting disorganization.³ Conceptually, this means that disorganization, anxiety, and avoidance are overlapping and interrelated. Adults who are higher in anxiety should have a greater need or desire to approach their attachment figure, in general, but if they are also disorganized, this need may be attenuated because of fear of the partner. And although both avoidance and disorganization reflect a desire to avoid the partner, the motives or rationales are different: Avoidance leads one to avoid intimacy and the possibility of rejection, while disorganization leads one to avoid a close other that one fears. Because disorganization contains approach behaviors within it, any attempt to avoid the attachment figure would be expected to be at least partially undermined.

The fear associated with disorganization should be part of the adult individual’s attachment working model. Therefore, these fears should generalize across attachment figures and be stable over time. Additionally, based on the existing developmental literature, adults who are higher in disorganization may display a lack of integration and coherence in their mental representation of themselves, others, and relationships. This lack of coherence prohibits an understanding of motives, behaviors, or attitudes in attachment settings and leads to confusion or conflict in romantic or close relationships. More disorganized adults should therefore experience uncertainty about the roles of romantic or close part-

³ Some researchers (Mikulincer & Shaver, 2007; Simpson & Rholes, 2002) have argued that disorganization may be a particular form of avoidance known as fearful avoidance. This argument is based on a measure known as the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), in which attachment avoidance was split into two types: dismissing avoidance and fearful avoidance. People seen as fearful avoidant are believed to have a mixed attachment strategy, one that is high on both the anxiety and avoidance dimensions used today by social psychologists (such as on the Experiences in Close Relationships scale, ECR; Brennan, Clark, & Shaver, 1998). In other words, these people fear closeness to their partners because of the possibility of rejection (i.e., they are avoidant), yet they desire to have a close relationship with a partner (which is a facet of attachment anxiety). These researchers argue that this mixed strategy could lead to confusion, disorientation, and uncertain behaviors with romantic partners. Fearful avoidance has been associated with having a parent who is abusive or neglectful (Brennan, Shaver, Tobey, 1991; Shaver & Clark, 1994), and people who are fearful avoidant tend to be less trusting and more troubled (Shaver & Clark, 1994).

We argue that disorganization cannot be viewed as a combination of organized strategies, but coexists with them. In fact, current social psychological research seldom uses the RQ. Most social psychologists use dimensional measures such as the ECR and do not investigate the effects of being “high” on anxiety and avoidance in their research; nor do they consider whether those effects, should they exist, be additive or multiplicative. Thus, it has not been established that fearful avoidance on the RQ is equivalent to a particular level of being high on anxiety and avoidance on the ECR, or that either could represent disorganization. We maintain, based on the developmental literature, that disorganization should be a distinct theoretical construct, and this idea is what requires further investigation.

ners and contradictory intentions regarding their own roles in close relationships.

To begin to understand the role that disorganization can play in adulthood, we next discuss our development and assessment of a scale to measure adult disorganization before turning to a discussion of the effects of adult disorganization on close relationships.

Measuring Disorganization in Adults

In this section we first briefly discuss the development of an instrument to assess disorganization in adults, and then demonstrate that this instrument has good predictive validity.

Assessing Adult Disorganization

We developed an instrument to measure adult disorganization based on an extensive review of the literature on disorganized attachment in children. The initial pool of items focused on characteristics of disorganization, such as fear, confusion about relationships, and distrust of close others, with some of the items stemming directly from behaviors observed in the Strange Situation for infants (e.g., fear, confusion/contradiction). The set of items was reduced through elimination of redundant items, removal of items lacking strong face validity, and preliminary analyses based on a sample of student participants. Ultimately, we selected 9 items from the original pool to serve as our measure of disorganized attachment. Sample items include “I never know who I am with romantic partners,” “Fear is a common feeling in close relationships,” and “It is dangerous to trust romantic partners” (see Table 1). In the empirical component (see description of participants below), instructions for the scale items were as follows: “The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just what is happening in a current relationship. Please respond to each statement by indicating how much you agree or disagree with it.” Participants rated their agreement with each statement on a 7-point scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). These 9 items met several criteria for factorability. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .91, and Bartlett’s test of sphericity was significant, $\chi^2(36) = 2491.23, p < .001$. Further, communalities were greater than .5 for all items, indicating enough shared variance between items to determine factors. Principal axis factoring was used to identify underlying dimensions. Only one eigenvalue was greater than 1, with the corresponding factor accounting for 58.76% of the

variance. The scree plot also confirmed this one-factor solution. All items demonstrated factor loadings greater than .70 (see Table 1). Internal consistency was high ($\alpha = .91$). Thus, we adopted this scale as our means for assessing disorganization in adulthood.

Predictive Validity of the Adult Disorganization Measure

We next used our scale to try to determine whether adult disorganization predicted similar types of internalizing and externalizing behaviors in adulthood to those found in childhood. In particular, we expected that disorganization would play an important role in addition to attachment anxiety and avoidance, with disorganization acting as a supplement to the organized attachment styles, just as it was in the Strange Situation. We selected as Participants 510 adults (58% women) who were registered for Amazon’s Mechanical Turk (AMT; www.MTurk.com). On average, participants were 34.1 years old ($SD = 11.4$), with ages ranging from 19 to 80 years old. Most participants (68%) reported being in a committed, exclusive relationship, whereas 32% were single. Half of participants (51%) had a college degree, and 47% reported having a full-time job. Most participants were white (79%), with 9% identifying themselves as African American, 5% as Asian American, and 3% as Hispanic.

Participants were recruited through AMT, a large online labor market that allows workers to earn money by completing tasks. The AMT subject pool offers several benefits, including rapid, inexpensive data collection and a more diverse subject pool (Buhrmester, Kwang, & Gosling, 2011). A diverse population was particularly important because this study focused in part on psychopathology, which may be relatively rare in a college population. In fact, AMT participants tend to exhibit less extraversion, less emotional stability, and lower self-esteem than college students (Goodman, Cryder, & Cheema, 2013). Further, past research with AMT has shown that workers’ responses have high test–retest reliability, represent the general population better than college samples, and exhibit similar biases on judgment tasks (Buhrmester et al., 2011; Paolacci, Chandler, & Ipeirotis, 2010).

AMT workers were offered \$1 to complete an online questionnaire about their personality, emotions, behaviors, life events, and romantic relationships. In AMT, we posted a link to a Web-based questionnaire hosted by SurveyMonkey, an online questionnaire software company. When participants finished the questionnaire, they received a unique code to enter into the AMT to verify their completion of the study and receive payment. On average, partic-

Table 1
Means, Standard Deviations, Factor Loadings, and Item-Total Correlations for Disorganized Attachment

Scale item	<i>M</i>	<i>SD</i>	<i>F</i>	I-T
1. Fear is a common feeling in close relationships.	2.30	1.67	.777	.774
2. I believe that romantic partners often try to take advantage of each other.	2.77	1.65	.735	.742
3. I never know who I am with romantic partners.	2.03	1.47	.750	.745
4. I find romantic partners to be rather scary.	2.00	1.71	.839	.827
5. It is dangerous to trust romantic partners.	2.41	1.57	.834	.834
6. It is normal to have traumatic experiences with the people you feel close to.	2.33	1.60	.711	.714
7. Strangers are not as scary as romantic partners.	1.88	1.40	.728	.719
8. I could never view romantic partners as totally trustworthy.	2.44	1.78	.753	.764
9. Compared with most people, I feel generally confused about romantic relationships.	2.67	1.82	.762	.769

ipants took 36 minutes to complete the questionnaire (which included measures not relevant to the study reported in this article). AMT workers were only allowed to complete the study once.

Measures

We used the 9-item Adult Disorganized Attachment scale (ADA), described above, as our measure of disorganized attachment. We assessed adult attachment style using the Experiences in Close Relationships Scale (ECR; Brennan et al., 1998). For the 36-item scale, participants rated how well each item described their feelings in close relationships. Each item was rated on a 7-point scale, from 1 (*strongly disagree*) to 7 (*strongly agree*). Eighteen items assessed attachment anxiety (e.g., "I worry about being abandoned by my partners") and 18 items assessed attachment avoidance (e.g., "I am nervous when partners get too close to me"), with higher dimensional scores indicating either greater anxious or avoidant attachment. Similarly, we used our 9-item disorganized attachment scale to assess degree of disorganization. Items were scored as indicated above, with higher scores indicating more disorganization.

We employed 2 measures of internalizing behaviors, the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988) and the Center for Epidemiology Studies Depression scale (CES-D) (Radloff, 1977). The Beck Anxiety Inventory contains a list of 21 symptoms associated with anxiety, and the participant rates each symptom as to how bothersome the particular symptom was over the past month. Ratings range from 0 (*not at all*) to 3 (*severe, it bothered me a lot*). The CES-D consists of 20 items, to which the respondent indicates frequency of experience during the past week. Ratings range from 1 (*rarely or none of the time—less than 1 day*) to 4 (*most or all of the time—5–7 days*). Sample items include "I felt that I was just as good as other people," and "I had crying spells."

To measure externalizing behaviors, we also employed 2 overall measures. First, we used the anger arousal subscale of the Multidimensional Anger Inventory to assess generalized anger (Siegel, 1986). The inventory contains 12 items, rated on a 7-point scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Sample items include "I am surprised at how often I feel angry," and "When I get angry, I stay angry for hours." Higher summed scores indicated greater generalized anger. We also used the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992) to assess aggression and negative emotion. The scale contains 29 items, rated on the same 7-point scale as above. The scale consists of 9 items measuring physical aggression, 5 items measuring verbal aggression, 7 items measuring anger, and 8 items measuring hostility. Sample items include "I have threatened people I know," "Given enough provocation, I may hit another person," and "If somebody hits me, I hit back." We summed each subscale separately, with higher scores representing higher levels of aggression, anger, and hostility.

Results and Discussion

First, we noted that, as expected, disorganization was significantly correlated with both anxious attachment and avoidant attachment, which were also somewhat highly correlated with each other (see Table 2). This is consistent with the notion that persons who are disorganized use conflicting anxious (approach) and

avoidance strategies in interactions with romantic partners. At the same time, the correlations are not so large as to indicate that disorganization is the same construct as either attachment anxiety or avoidance. A regression analysis to predict disorganization from both anxiety and avoidance indicated that together, these two predictors accounted for only 52% of the variance, $F(2, 496) = 267.74, p < .001$. Once again, therefore, disorganization appears to be more than a linear combination of attachment anxiety and avoidance.⁴

We conducted hierarchical regression analyses for each dependent measure, incorporating the two organized attachment style dimensions in the first step. The R^2 measures ranged from .05 (verbal aggression) to .40 (hostility), all of which were statistically significant, indicating that avoidance and anxiety accounted for a significant amount of the variability in the outcome variables. We entered disorganized attachment in the second step, to see the improvement in prediction attributable to the disorganization measure. The improvements (ΔR^2) ranged from .01 to .05, all of which were significant (see Table 3). Thus, disorganization added significant explanatory power over and above the organized attachment styles in predicting our set of dependent variables.

This implies that disorganization was a significant predictor of every dependent measure, both for internalizing symptomatology and for externalizing symptomatology/behaviors, when anxiety and avoidance were included in the regression analysis. In fact, it was the only significant predictor of physical aggression. And although anxiety was also a significant predictor of other outcome variables, avoidance was only important in predicting depression.

Thus, we found that disorganized attachment in adults was a consistently important predictor of adulthood internalizing and externalizing symptoms and behaviors. Importantly, our results for internalizing symptomatology are consistent with the notion in the developmental literature that it is the combination of disorganization and an underlying organized strategy that may be important in predicting internalizing psychopathology. And, although our results are more unequivocal than the results from the meta-analyses based on childhood studies, that may be because psychopathology such as anxiety and depression is more likely to manifest in adulthood if earlier life issues are unresolved. Additionally, disorganization plays a highly important role in predicting externalizing behaviors in adults, just as it did in children.⁵

⁴ We conducted a factor analysis of the ECR and the ADA to determine whether, in fact, the items loaded on three factors. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .96, and Bartlett's test of sphericity was significant, $\chi^2 = 16,133.01, p < .001$. Using varimax rotation, we found that the disorganized attachment items loaded .53 or greater on one dimension, the avoidance items loaded .55 or greater on one dimension, and the anxiety items loaded .50 or larger on the remaining dimension. A small degree of cross-loading for some of the disorganized items on the other two dimensions is consistent with our expectation that disorganization overlaps with anxiety and avoidance. Nonetheless, we were able to conclude that disorganized attachment is a different construct from attachment anxiety and avoidance.

⁵ We also examined gender effects with avoidance, anxiety, and disorganization. There were no significant interaction effects, but some lower-order effects were significant. Consistent with the childhood literature, females experienced more depressive symptoms and anxiety than did males, whereas males exhibited more physical and verbal aggression than did females.

Table 2
Means, Standard Deviations, and Correlations of Study Variables

Measures	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Anxious attachment	3.19	1.39	—								
2. Avoidant attachment	2.91	1.30	.38	—							
3. Disorganization	2.31	1.24	.52	.66	—						
4. Beck Anxiety	14.27	12.90	.46	.27	.39	—					
5. Depressive symptoms	36.46	12.37	.58	.40	.48	.68	—				
6. Anger arousal	2.99	1.14	.46	.32	.47	.43	.46	—			
7. BP physical aggression	2.50	1.20	.24	.32	.41	.27	.29	.45	—		
8. BP verbal aggression	3.25	1.32	.23	.11	.25	.24	.28	.53	.49	—	
9. BP anger	2.59	1.23	.44	.33	.45	.41	.46	.74	.55	.62	—
10. BP hostility	2.83	1.49	.61	.39	.52	.50	.65	.63	.38	.50	.61

Note. All correlations are significant at the .001 level, except for the correlation between BP verbal aggression and avoidance, which is significant at the .05 level.

Based on these findings, we believe that our disorganization scale would provide social psychologists with a suitable measure of assessing disorganization in adulthood, thus allowing them to assess it at the same time as assessing romantic attachment styles. We anticipate that this scale would be used to investigate the types of issues that we present below.

Before discussing implications for romantic relationships, which provide avenues for future research, we first consider what the working models of people who are more disorganized must be like. Working models both shape interpersonal goals and influence cognitive and affective processes such as attention, perception, memory, and emotion regulation. In addition to having some degree of attachment anxiety or avoidance, it appears that the working model of a disorganized adult would represent a conflict between aggressiveness or approach behavior and withdrawal behavior. Thus, it should also highlight self-protectiveness as a result of the simultaneous, conflicted anger and fear directed toward the attachment figure partner. This would imply a general wariness of romantic partners, suspiciousness, and lack of trust in them, all accompanied by uncertainty and contradictory behaviors in interpersonal interactions with them. Taken together these factors should lead to a general confusion about how to navigate relationships with attachment figures and lead to more unstable behavior over time. We suggest, therefore, that the predictive capability of disorganization beyond attachment anxiety and avoidance for many important behaviors studied in close, personal relationships should be higher than it is in the externalizing behaviors studied more generally in this article.

We have demonstrated that more disorganized adults experience anger and hostility, with hostility being predicted solely by disorganized attachment. Thus, we would expect their romantic relationships to be characterized by high degrees of anger, either as a direct result of disorganization, or as a result of hostility and hostile attributions made about the partner. We would also expect this anger to be highly dysfunctional, perhaps associated with impulsivity and general negative emotionality.

Anger is a potentially dangerous emotion in close relationships. For example, anger can lead to heightened conflict frequency and the use of conflict tactics or strategies that are counterproductive to resolving problems. Individuals higher in disorganization are unlikely to recognize a positive role for conflict in their romantic relationships. They may perceive, via hostile attributions, many neutral behaviors as attacks, and they may see conflict as relationship-threatening more often than people who are not disorganized. Their confusion about relationships would likely lead them into a pattern of attack and withdraw, based on a close monitoring of their partner. Because more disorganized persons are likely to be more aggressive, they may also experience more verbal and physical aggression during conflict with their romantic partners, thus leading to the possibility of interpartner violence or spousal abuse. Depending on their partner's attachment style characteristics, this pattern of aggression could spiral out of control.

Sexuality may be problematic in romantic relationships as well, because a more disorganized person's sexual motives are unclear. Sexual ambivalence may exist as a result of perceived vulnerabil-

Table 3
Hierarchical Regression Analysis, Entering Anxiety and Avoidance at Step 1, With Disorganization Added at Step 2

Dependent measures	Anxiety		Avoidance		Disorganization		Added effect size	
	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	<i>b</i>	<i>t</i>	ΔR^2	ΔF
Beck Anxiety	3.37	7.84***	-.03	-.06	2.11	3.57***	.02	12.72***
Depressive symptoms	4.10	11.08***	1.00	2.22*	1.72	3.38***	.01	11.42***
Anger arousal	.24	6.48***	.01	.20	.29	5.66***	.05	32.07***
BP physical aggression	.03	.77	.09	1.71	.32	5.56***	.05	30.96***
BP verbal aggression	.14	2.87**	-.10	-1.66	.25	3.77***	.03	14.20***
BP anger	.25	6.23***	.05	.98	.26	4.73***	.03	22.40***
BP hostility	.50	11.49***	.07	1.35	.28	4.68***	.03	21.94***

* $p < .05$. ** $p < .01$. *** $p < .001$.

ity from fear and lack of trust in their partners. Thus, individuals higher in disorganization may engage in sex when their partners appear to be unhappy or angry with them as a way of resolving potential conflict and being self-protective. In other words, they may be forced into “compliance sex.” At the same time, more disorganized individuals may actually seek sexual partners who are weak and vulnerable, hoping to have power over them and control them as a way of minimizing threat to self. This would be consistent with the punishing behaviors disorganized children sometimes direct toward their parents. In this case, disorganization could lead to sexually manipulative behaviors. The combination of these two situations means that we would predict more unwanted or nonconsensual sexual behavior for more disorganized individuals than for less disorganized individuals.

One outcome of interest to social psychologist attachment researchers is support-giving in romantic relationships, which is a measure of responsiveness to the partner. In general, support-giving first requires an ability to listen to, and validate, the partner and then provide appropriate social support. Although more disorganized adults may listen to their partners, the lens through which they would understand their partners’ distress would likely be colored by both fear and hostility. Thus, empathetic understanding and consequential social support would not be expected. In fact, witnessing any distress in their attachment figures may be a signal of future harm to more disorganized people, enhancing their wariness and perceived need for self-protection. Thus, they may (as children do) engage in forms of “parenting” their attachment figures, or providing compulsive caregiving to their partners.

Support seeking is another important construct of interest in romantic relationships. Adults higher in disorganization would be expected to be conflicted about seeking support from their partners because fear of their partners interferes with their ability to seek support. They might engage in preliminary attempts to seek support in stressful situations, but then withdrawing before support can be given. Thus, they may receive less support and also perceive their partners as providing less support.

Marital or relationship satisfaction is another major construct studied by attachment theorists. In general, relationship satisfaction would be expected to be lower for more disorganized individuals. They have an inability to form coherent, trusting bonds; they are on high alert for dangerous behavior by their partners; they are confused about their relationships; they likely make hostile attributions for their partners’ behaviors; and their partners are likely to be dissatisfied with them. (Their partners may be dissatisfied for many reasons—e.g., lack of appropriate support, inappropriate attributions, coercive or punishing behaviors; inability to endure unproductive conflict.) Although there is an extensive literature linking attachment anxiety and avoidance to lower relationship satisfaction, this should be exacerbated in disorganized individuals. The generalized fear of attachment figures should permeate couples’ interactions and lead to discomfort in social relationships, particularly with romantic partners.

Lack of relationship satisfaction may doom adults higher in disorganization to broken relationships and higher levels of loneliness than other individuals experience. This loneliness may help to explain internalizing symptoms such as those associated with depression. Additionally, we would predict that more disorganized individuals have greater difficulty forgiving their partners, because

their partners seem dangerous and ill-willed. An inability to forgive may also be associated with internalizing symptoms.

Disorganization could also lead adults to have less commitment in their close relationships, because of a lack of trust in their partners. Fear of partners, and the resulting need for self-protection, may cause more disorganized adults to maintain less emotional commitment so that it is easier to exit their relationships. Additionally, lack of commitment may either cause, or stem from, reduced intimacy. The ability to negotiate closeness and distance in romantic relationships would be expected to be difficult for individuals higher in disorganization because of their approach-avoidance conflict, which leads to confusion about romantic relationships. Lower levels of commitment could also result from lower levels of relationship satisfaction.

Attachment theory research discusses the important role of the attachment figure as providing a secure base from which to explore the environment, including the relationship environment. Disorganization should disrupt the ability of the partner to serve as a secure base. The need for self-protection and lack of trust in the partner could tend to decrease the level of openness and self-disclosure necessary for a full exploration of the relationship. The approach-avoidance conflict toward the partner would also tend to make exploration outside of the relationship more difficult.

Finally, although attachment theory has been studied most thoroughly in conjunction with close, romantic relationships, research does suggest that the attachment behavioral system comes into play in other kinds of relationships—adult/parent, adult/child, friendships/peer, and even work relationships (Mikulincer & Shaver, 2007; Paetzold, in press). Although we do not theorize about the role that disorganization could play in these latter types of relationships, we suggest that future research should be conducted to investigate whether its role in the attachment working model could affect these relationships as well.

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