

Adult Attachment and the Suppression of Unwanted Thoughts

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Dismissing-avoidant adults are characterized by expressing relatively low levels of attachment-related distress. However, it is unclear whether this reflects a relative absence of covert distress or an attempt to conceal covert distress. Two experiments were conducted to distinguish between these competing explanations. In Experiment 1, participants were instructed to suppress thoughts of their romantic partner abandoning them. Relative to control conditions, suppression resulted in a decrease in the accessibility of abandonment-related thoughts for dismissing-avoidant adults. Experiment 2 demonstrated that attempts to suppress the attachment system resulted in decreases in physiological arousal for dismissing-avoidant adults. These experiments indicate that dismissing-avoidant adults are capable of suppressing the latent activation of their attachment system and are not simply concealing latent distress. The discussion focuses on developmental, cognitive, and social factors that may promote detachment.

Separation from a primary attachment figure, either parental or romantic, is an extremely distressing event for individuals of all ages. Generally, separation elicits substantial anxiety and activates a set of behavioral responses, such as crying and searching, that function to reestablish contact with the absent attachment figure (Ainsworth, 1967; Bowlby, 1969/1982; Kaufman & Rosenblum, 1967; Reite & Boccia, 1994; Vormbrock, 1993; Weiss, 1975). Interestingly, however, separation does not have this effect for some individuals. For example, Ainsworth and her colleagues (Ainsworth, Blehar, Waters, & Wall, 1978) found that some infants actively avoided contact with their attachment figures following a brief separation.

Because attachment behavior is a natural response to separation, it is surprising that some individuals attempt to deactivate their attachment system precisely when attachment behavior would normally prove to be the most adaptive—when there is a threat to the security or stability of an attachment relationship. However, measures of autonomic and neuroendocrine activity in children indicate that the overt suppression of attachment behavior is not accompanied by the covert deactivation of the attachment system itself (Donovan & Leavitt, 1985; Hertsgaard, Gunnar, Erickson, & Nachmias, 1995; Spangler & Grossmann, 1993; Sroufe & Waters, 1977). For example, Sroufe and Waters (1977) found that the play activity of avoidant infants was not

associated with the deceleratory heart rate response that generally characterizes attentive exploration. Furthermore, the pattern of heart rate acceleration following separation was the same for avoidant and secure infants, despite the defensive strategies used by the avoidant infants to minimize the expression of their distress. Therefore, it appears that avoidant infants cannot block the covert activation of their attachment system even though they can block the overt expression of attachment-related behaviors and emotions.

Despite recent research on the parallels between childhood and adulthood attachment processes (Hazan & Shaver, 1987, 1994; Shaver, Hazan, & Bradshaw, 1988), it is unclear whether this pattern also characterizes the psychological dynamics of avoidant adults. Several studies have suggested that adults with avoidant attachment styles, like avoidant infants, express relatively low levels of attachment behavior following separation or loss. For example, Fraley and Shaver (1997) found that avoidant adults were less likely than other adults to seek contact with their partners prior to an extended separation. However, this observation can be explained in either of two ways. First, the relative absence of attachment behavior could be the result of deliberate attempts to hide or suppress covert distress. If this were the case, then this pattern would parallel that of infant avoidance and suggest that avoidant adults lack the ability to block the covert activation of their attachment system even though they can successfully suppress the overt expression of attachment-related distress. A second possibility is that the absence of attachment behavior is due to a relative deactivation of the attachment system itself. If this were the case, it would suggest that the defensive organization of avoidant adults allows inhibition of even the covert activation of the attachment system.

Although both of these accounts lead to the same predictions concerning behavioral outcomes, they diverge considerably in the predictions they make regarding the cognitive and emotional mechanisms mediating the regulation of attachment behavior. The primary goal of the studies presented in this article was to distinguish between these two explanations by experimentally manipulating the use of defensive strategies and observing cog-

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nitive (thought accessibility) and emotional (physiological) outcomes for adults who varied in attachment style. Before describing these studies, we briefly discuss recent research on adult attachment patterns and defensive processes in cognition and emotion.

Adult Romantic Attachment Styles

Recent research on close relationships and psychodynamic processes has focused on adult parallels of the Ainsworth (Ainsworth et al., 1978) infant attachment patterns (see Shaver & Clark, 1994, for a review). Attachment researchers have identified four major styles of adult attachment (Bartholomew & Horowitz, 1991). *Secure* adults hold positive beliefs about the self and the availability and responsiveness of close others. *Fearful-avoidant* adults are characterized by low feelings of self-worth and negative expectations about the availability and responsiveness of significant others. *Preoccupied* adults are hypervigilant with respect to attachment and generally feel as if others are not as invested in them as they are in others. *Dismissing-avoidant* adults deny the importance of close relationships and have a strong commitment to independence and self-reliance. Empirical research on adult romantic attachment has validated these distinctions and documented an extensive set of attachment style covariates in the domains of personality (Shaver & Brennan, 1992), close relationships (Collins & Read, 1990; Hazan & Shaver, 1987; Kirkpatrick & Davis, 1994; Simpson, Rholes, & Nelligan, 1992), and emotion regulation (Mikulincer, Florian, & Weller, 1993; Mikulincer & Orbach, 1995).

Of particular interest here are the dismissing-avoidant and preoccupied patterns of attachment. In general, these two styles are thought to reflect opposing strategies for regulating attachment-related distress (Bartholomew, 1990; Dozier & Kobak, 1992; Hazan & Shaver, 1994). Preoccupied adults report high levels of anxiety about relationships, tend to be sensitive to the possibility of separation or rejection, and tend to have strong emotional and behavioral reactions to separation and loss. For example, Feeney and Kirkpatrick (1996) found that preoccupied adults who were separated from their romantic partners in a stressful laboratory task had higher levels of sympathetic nervous system activity than preoccupied adults who were not separated from their romantic partners. Similarly, Fraley and Shaver (1997) found that preoccupied adults were more likely than others to report high levels of separation anxiety and to seek contact and support from their partners prior to a prolonged, real-life separation. In contrast, separation did not result in strong increases in attachment behavior on the part of dismissing-avoidant adults. When anticipating a prolonged separation from their partners, dismissing-avoidant adults were less likely to engage in contact-seeking or other relationship maintenance behaviors (Fraley & Shaver, 1997). However, as noted previously, it is unclear whether the relative absence of attachment behavior on the part of dismissing-avoidant adults results from an ability to deactivate the attachment system or from the use of strategies that mask the covert experience of attachment-related distress.

One way to distinguish between these two explanations is to use indirect measures to compare (a) the activation of the attachment system when individuals are instructed to use deacti-

vating strategies and (b) the activation of the system when individuals are not instructed to use deactivating strategies. Previous research on thought suppression (Wegner, 1989, 1994) provides a theoretical and methodological framework for investigating these issues. In the following section, we review some of the major findings from this area and discuss their relevance to questions concerning defensive processes in adult attachment.

Thought Suppression and Implications for Defensive Processes

A common reaction to unpleasant events, particularly separation and loss, is to try to suppress thoughts and feelings associated with them (Kelly & Kahn, 1994; Wegner, 1989). Ironically, however, research on emotional and cognitive suppression indicates that suppression generally leads to heightened physiological arousal (Gross & Levenson, 1993; Koriati, Melkman, Averill, & Lazarus, 1972) and increased vigilance with respect to the very idea one is trying to suppress (Wegner, 1989, 1994). Wegner and his colleagues (Wegner, 1989; Wegner, Schneider, Carter, & White, 1987) found that when participants were asked to suppress thoughts of a white bear, they spent more time in later phases of the experiment thinking about white bears than did participants who had never been instructed to suppress these thoughts. Wegner argued that this *rebound effect* occurs because the act of suppression ironically primes the very thought one is trying to suppress, thereby making it more accessible to consciousness at a later time. However, when participants are instructed to suppress the thoughts they find personally intrusive (i.e., thoughts they have chronically suppressed in the past), the rebound effect reverses or disappears (Kelly & Kahn, 1994). Similarly, when participants are provided with effective cognitive strategies for avoiding unwanted thoughts, the rebound effect is substantially attenuated (Wegner et al., 1987).

These findings indicate that the attempt to suppress unwanted thoughts can have different effects, depending on whether one has developed the defensive strategies necessary to redirect attention to unrelated thoughts. Specifically, in the absence of such strategies, attempts to suppress unwanted thoughts result in an increased awareness of them (Wegner & Erber, 1992), thereby creating a positive feedback loop and increased vigilance for the thought one is trying to suppress (Wegner, 1994). However, with the development of defensive strategies for regulating attentional processes, the avoidance or suppression of unwanted thoughts becomes possible (Kelly & Kahn, 1994; Wegner, 1994; Wegner & Gold, 1995).

Overview

Our goal in the experiments reported here was to use Wegner et al.'s (1987) methodology to distinguish between the two competing hypotheses concerning the defensive organization of dismissing-avoidance in adulthood. In both experiments, we asked people who were involved in exclusive romantic relationships to suppress or not to suppress thoughts of their partner leaving them for someone else—thoughts that should strongly activate the attachment system. In subsequent stream-of-consciousness tasks, we measured the accessibility of thoughts related to separation and loss (Experiment 1) and collected physi-

ological measures of distress (Experiment 2). If dismissing-avoidant adults' relative lack of attachment behavior following separation and loss is due to the overt suppression of experienced distress, then attempts to suppress the attachment system should result in a subsequent rebound in thoughts related to separation and loss and an increase in physiological distress, relative to control conditions. This pattern of results would parallel Wegner's research on the rebound effect and the childhood pattern of avoidant attachment, in which attempts to suppress the attachment system inhibit the child's ability to attend to other stimuli and exacerbate the child's state of distress (Donovan & Leavitt, 1985). However, if the defensive organization of dismissing-avoidance facilitates deactivation of the attachment system, then attempts to avoid or suppress attachment-system activation should result in a decrease in thoughts related to separation and loss and a decrease in physiological arousal, relative to control conditions. This would be consistent with findings from research on the chronic avoidance or suppression of unwanted thoughts (Kelly & Kahn, 1994; Wegner & Gold, 1995) and would indicate that avoidant adults possess defense mechanisms that allow emotional detachment during experiences of separation and loss.

Experiment 1

To distinguish between the two hypotheses concerning the defensive organization of the attachment system in dismissing-avoidant adults, we first examined the effects of avoidance or suppression on the relative accessibility of thoughts related to separation and loss. According to research on suppression, if the defensive organization of a cognitive system is developed sufficiently to redirect attention away from unwanted thoughts, then suppression should lead to a relative decrease in the occurrence of those unwanted thoughts. However, if the defensive organization of the system does not allow the successful deactivation of unwanted thoughts, then one should observe an increase in the accessibility of those thoughts after attempts to suppress them (the rebound effect).

Method

Participants. Two-hundred undergraduates were recruited to participate in a study on "unwanted thoughts" in exchange for credit in their psychology courses. Students were asked to participate only if they were involved in an exclusive dating relationship that had lasted for more than 6 months. The median relationship length for this sample was 17 months. Seventy-three percent of the participants were women. The mean age was 20.46 years ($SD = 3.05$).

Procedure. Participants were tested individually. After arriving at the laboratory, they were asked to complete a questionnaire containing demographic items and the Relationship Styles Questionnaire (RSQ; Griffin & Bartholomew, 1994), a 30-item measure of adult romantic attachment styles. Scores on the RSQ items were averaged for each participant to create a composite score for each of the four attachment-style subscales: secure, fearful, preoccupied, and dismissing. Additionally, because the dismissing-avoidant and preoccupied patterns of attachment are psychological opposites within Bartholomew's model of individual differences (Bartholomew, 1990; Bartholomew & Horowitz, 1991; Griffin & Bartholomew, 1994; Shaver & Hazan, 1993), a single composite scale was created to capture this variability. This was achieved by subtracting dismissing-avoidant scores from preoccupied scores.

Similarly, an index was created for summarizing variability in the dimension running from security to fearful avoidance. Within Bartholomew's model, the two dimensions we created represent a 45° rotation of the dimensions of Avoidance and Anxiety (see Brennan, Clark, & Shaver, in press). In previous studies in our laboratory, these subscales have exhibited test-retest reliabilities above .65 over a 3-week period and have yielded validity coefficients ranging from .2 to .5 in the prediction of relationship quality, emotional experience, and relationship dynamics.

The general procedure was the same as the one used by Kelly and Kahn (1994). It consisted of two 5-min stream-of-consciousness writing periods during which participants were instructed to write continuously about whatever thoughts, feelings, and memories they were experiencing while (a) expressing thoughts of what it would be like if their romantic partner were to leave them for someone else or (b) suppressing thoughts of what it would be like if their partner were to leave them for someone else. The order of these periods was counterbalanced across participants. After completing the questionnaire, participants were given a notebook and a pen and allowed several minutes to practice stream-of-consciousness writing. This practice period lasted about 3 min or until the participant felt that he or she was comfortable with the task. Participants were then randomly assigned either to the control condition or the suppress loss condition. Participants in the suppress loss condition were instructed to spend the first 5-min period suppressing or avoiding thoughts of what it would be like if their partner were to leave them for someone else. Specifically, they were instructed to continue writing about their thoughts and feelings, as they had done during the practice period, but to try their best not to think about what it would be like if their partners left them for someone else. In the second 5-min period, these participants were asked to express (i.e., think and write about) what it would be like if their partners left them for someone else. Furthermore, to obtain a measure of how accessible loss-related thoughts were during this period, participants were instructed to place a checkmark in the margin of the notebook every time they explicitly thought about their partner leaving them (Kelly & Kahn, 1994; Wegner et al., 1987). Participants assigned to the control condition participated in the same tasks and received the same instructions. However, these participants were given the expression instructions during the first 5-min period and the suppression instructions during the second 5-min period. After participants completed the task, they were fully debriefed and thanked.

Results and Discussion

The dependent measure was the number of checkmarks recorded during the expression period of the experiment (Kelly & Kahn, 1994; Wegner et al., 1987). Because the distribution of these scores had a positive skew (1.95), we used a log-linear transformation of the scores as the dependent variable in the analyses.

Within each condition, Pearson correlations were calculated between each attachment subscale and the number of checkmarks recorded during the expression period (see Table 1). If dismissing-avoidance is associated with an inability to deactivate the covert operation of the attachment system, then attempts to suppress thoughts of separation and loss should increase the accessibility of such thoughts in subsequent stream-of-consciousness reports. This hypothesis predicts a positive association between dismissing-avoidance and loss-related thoughts in the suppress loss condition. Furthermore, this correlation should be substantially higher (more positive) than that observed in the control condition, where suppression did not precede deliberate attempts to think about loss. However, if the defensive organization of dismissing-avoidance allows for the deactivation of the

Table 1
Correlations Between Attachment Subscales and Number of Loss-Related Thoughts as a Function of Suppression Condition

Attachment style subscale	Condition	
	Control (<i>n</i> = 100)	Suppress loss (<i>n</i> = 100)
Secure	-.05	.02
Fearful	.14	.03
Preoccupied	-.01	.23
Dismissing	.03	-.25
Secure-fearful	.11	.01
Dismissing-preoccupied	-.02	.28

Note. In the suppress loss condition, participants were asked to suppress thoughts of loss for 5 min before expressing thoughts of loss. The standard error within each condition is approximately .10. Pairs of correlations (within rows) that were the focus of our hypotheses are printed in boldface type.

attachment system, then attempts to suppress thoughts related to separation and loss should result in relative inaccessibility of loss-related thoughts. This hypothesis predicts a negative correlation between dismissing-avoidance and loss-related thoughts in the suppress loss condition. Additionally, this correlation should be substantially lower (more negative) than the one observed in the control condition.

Correlational analysis indicated that dismissing-avoidance

was negatively associated with loss-related thoughts in the suppress loss condition, $r(100) = -.25$. Furthermore, this association was lower than that observed in the control condition, $r = .03$, $z(100) = -2.81$, $p = .005$, indicating that suppression led to a decrease in loss-related thoughts for dismissing-avoidant adults (see Figure 1).

The opposite pattern of findings was observed for preoccupied attachment. Preoccupation was associated positively with loss-related thoughts in the suppress loss condition, $r(100) = .23$. Furthermore, this association was higher than the one observed in the control condition, $r = -.01$, $z(100) = 2.41$, $p = .01$, indicating that suppression resulted in a rebound of loss-related thoughts for preoccupied individuals (see Figure 1).

In summary, adult dismissing-avoidance was associated with a decrease in the accessibility of loss-related thoughts following defensive suppression. Unlike the childhood form of avoidance, which includes increased covert vigilance to the attachment figure's whereabouts, the use of defensive strategies by dismissing-avoidant adults actually seems to have reduced the accessibility of loss-related thoughts. Thus, suppression seems to allow dismissing-avoidant adults to disengage the attentional components of their attachment system relatively successfully.

Although our primary aim in Experiment 1 was to compare two competing hypotheses regarding the defensive organization of adult dismissing-avoidance, we also obtained findings with important implications for understanding the psychological organization of preoccupied attachment. Specifically, defensive suppression led to an increase in the accessibility of loss-related thoughts for preoccupied adults. These results parallel the ones

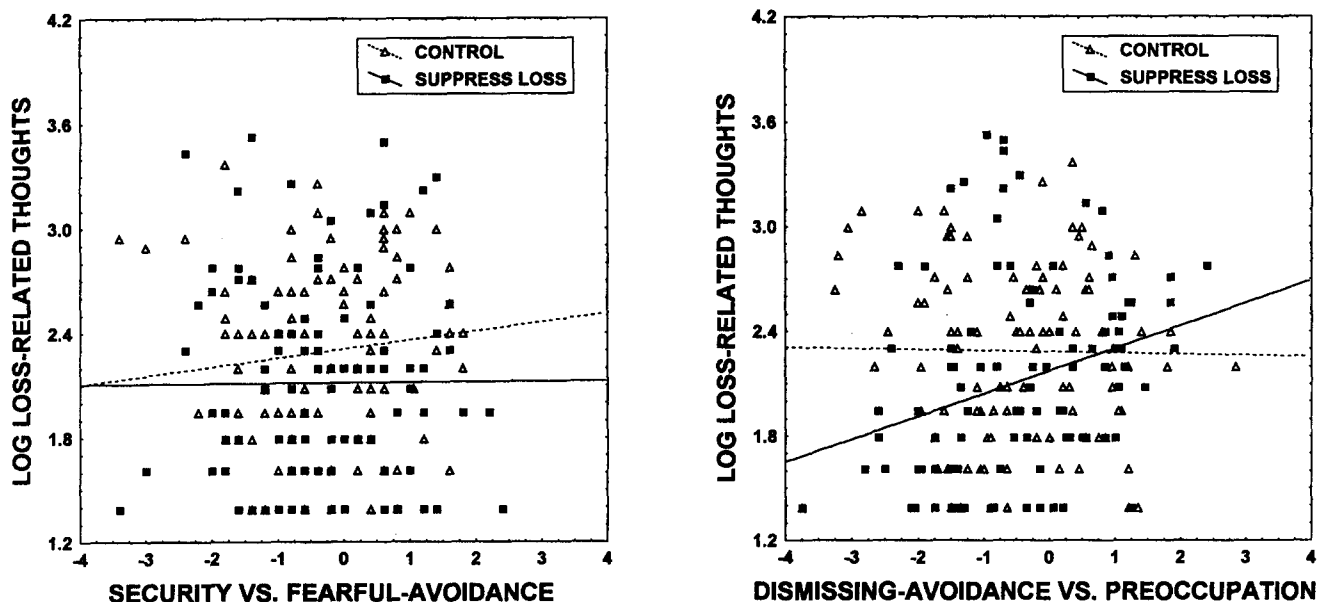


Figure 1. The left panel represents the association between the accessibility of loss-related thoughts (log-transformed) and the security versus fearful-avoidance dimension, within each condition. The right panel represents the association between the accessibility of loss-related thoughts and the dismissing-avoidance versus preoccupation dimension, within each condition. As can be seen, highly dismissing-avoidant individuals exhibited a decrease in loss-related thoughts following suppression. The opposite pattern characterized highly preoccupied individuals.

obtained by Wegner and his colleagues on the rebound effect and suggest that preoccupied adults lack the regulatory capacities necessary to direct attention away from attachment-related thoughts. Similar findings have been obtained by Mikulincer and his colleagues. For example, Mikulincer and Orbach (1995) found that when preoccupied adults were instructed to recall a specific emotional event from childhood (e.g., an angry event or a sad event), their memories were more emotionally diffuse than those of other participants. That is, the recall of memories specific to one emotional state led to the recall of other negative emotions as well. Additionally, Mikulincer et al. (1993) found that preoccupied adults exposed to a stressful situation were more likely than less preoccupied adults to become very emotional and focus on their feelings rather than solving their problems. Collectively, these findings converge on the possibility that the emotion-regulation strategies (defensive and nondefensive) used by preoccupied individuals have the ironic consequence of focusing attention on, rather than away from, their painful feelings. We elaborate on this hypothesis in the General Discussion section.

In summary, Experiment 1 indicates that defensive suppression operates differently for dismissing and preoccupied adults. Attempts to suppress thoughts of separation and abandonment actually primed such thoughts for preoccupied adults, whereas suppression reduced the accessibility of loss-related thoughts for dismissing adults. These lower-level attentional biases may contribute, in part, to the detached and hypervigilant reactions to loss characteristic of dismissing and preoccupied adults, respectively.

Experiment 2

Although the results from Experiment 1 indicated that suppression has different effects on the cognitive and attentional processes of preoccupied and dismissing adults, we needed to determine whether these findings generalize to the emotional substrate of the attachment system. To some extent, the systems responsible for emotional experience are functionally and anatomically independent of those giving rise to higher order thought (Gazzaniga, 1985; Kandel, Schwartz, & Jessell, 1991; Murphy, Monahan, & Zajonc, 1995), making it theoretically possible for dismissing-avoidant adults to direct their attention away from loss-related thoughts while still being aroused or anxious at some level. In other words, there could be a functional dissociation between conscious cognitive and unconscious emotional processes within dismissing-avoidant adults. Therefore, in Experiment 2 we posed the following question: Does defensive suppression result in a deactivation of attachment-related emotion for dismissing-avoidant adults, or does suppression result in a heightened emotional (physiological) response?

To address this question, we adopted a design similar to the one used in Experiment 1 and sampled skin conductance level (SCL) throughout the procedure. Participants were instructed to avoid or suppress either a neutral thought or the thought of their partner abandoning them. Afterward, all participants were asked to express (think about and discuss) what it would be like if their partners were to leave them for someone else. While they were discussing this topic, their SCL was monitored. SCL is a general indicator of autonomic activity and has been used

by previous investigators to study emotional and attentional processes (Andreassi, 1995). Numerous studies involving human and nonhuman primates have demonstrated that separation and loss result in substantial increases in autonomic activity (see Reite & Boccia, 1994); therefore, SCL provides a noninvasive and indirect way to assess attachment-related emotional responses under various experimental conditions.

The primary goal of Experiment 2 was to examine the effects of suppressing attachment-related thoughts and emotions on the autonomic activity of individuals who varied in attachment style. If dismissing-avoidance is associated with the ability to deactivate attachment-related emotions, then suppression should result in decreases in physiological arousal, relative to control conditions. Furthermore, if preoccupation is associated with an inability to deactivate attachment-related emotions, then suppression should result in increases in physiological arousal for preoccupied adults, relative to control conditions. Both of these findings would be consistent with those obtained in Experiment 1.

We also sought to examine the role of emotional attachment in mediating the defensive dynamics of dismissing-avoidance. Fraley and Davis (1997) found that dismissing-avoidance was negatively correlated with peer attachment formation. Thus, if dismissing-avoidant adults are able to deactivate the emotional response of the attachment system, it is critical to determine if this is due to the absence of emotional investment or if it can occur independently of the relative degree of attachment or emotional investment.

Method

Participants. One hundred undergraduate students were recruited to participate in the study in exchange for credit in their psychology courses. Seventy-eight percent of the participants were women. The mean age of the sample was 19.38 years ($SD = 1.8$). Participants were required to have been involved in an exclusive dating relationship that had lasted for a minimum of 6 months. On average, participants in this study had been involved for 20.66 months ($SD = 15.1$). Data from 6 students were not used because of equipment failure ($n = 5$) or refusal to continue ($n = 1$).

Procedure. Participants were tested individually. Each was seated in a comfortable, quiet room and given a general introduction to the procedure and the materials. Participants were told that they would be asked to discuss aloud their thoughts and feelings on several topics while their SCL was being monitored. Furthermore, they were told that their comments would not be heard by the experimenter, although they would be audiotaped for later study. They were given a questionnaire containing demographic items, the Relationship Styles Questionnaire (RSQ; Griffin & Bartholomew, 1994), and a measure of the degree of attachment to their romantic partner (Fraley & Davis, 1997; Hazan, Hutt, Sturgeon, & Bricker, 1991). After the questionnaire was completed, Ag-AgCl electrodes were attached with Velcro fasteners to the second phalange of the first and third fingers of the participant's nondominant hand (Fowles et al., 1981). Signals were amplified with a J & J Enterprises IG-3 preamp and recorded with a Model T-68/CF interface. The participant was given several minutes to become comfortable while the recording equipment was calibrated.

The experimental procedure involved three 5-min discussion periods. In the first period, participants were instructed to talk about anything that came to mind regarding their romantic partners. Baseline SCL was recorded for each participant during this period. In the second period, participants were randomly assigned to one of two conditions. In the suppress loss condition ($n = 46$), participants were instructed to con-

tinue discussing everything that came to mind, but to avoid thinking about what it would be like if their partners were to leave them for someone else. Participants in the control condition ($n = 48$) were instructed to continue discussing all thoughts and feelings that came to mind, but to avoid thinking about what it would be like if their partners were to leave to go to a restaurant. Finally, in the third period, all participants were instructed to think about and discuss what it would be like if their partners were to leave them for someone else (the express loss period). After the experiment, participants were fully debriefed.

During each period, the experimenter was present only to deliver instructions. An audio recording of the participant's discussion was made during each period. SCL was sampled once every 5 s during each 5-min period. The primary dependent measure was the average SCL recorded during the express loss period, after subtracting the average SCL recorded during the baseline period.

Results and Discussion

To test the major hypotheses, Pearson correlations were calculated within each condition between each attachment subscale and SCL (see Table 2). If dismissing-avoidance is associated with an inability to block the covert activation of the attachment system, then attempts to suppress thoughts of separation and loss should increase physiological arousal. This hypothesis predicts a positive association between dismissing-avoidance and SCL in the suppress loss condition. Furthermore, this correlation should be higher (more positive) than that observed in the control condition, where participants were instructed to suppress neutral thoughts instead of loss-related thoughts. However, if the defensive organization of dismissing-avoidance allows for a deactivation of the attachment system, then defensive attempts should result in a relative decrease in physiological arousal. This hypothesis predicts a negative correlation between dismissing-avoidance and SCL in the suppress loss condition. Additionally, this correlation should be lower (more negative) than that observed in the control condition.

Correlational analysis indicated that dismissing-avoidance was negatively associated with SCL in the suppress loss condition, $r(46) = -.41$. Furthermore, the association between dismissing-avoidance and SCL was lower in the suppress loss

condition than in the control condition, $r = .06$, $z(46) = -3.25$, $p = .001$, indicating that attempts to suppress attachment-related thoughts and feelings resulted in a decrease in physiological arousal for dismissing-avoidant adults (see Figure 2).

As in Experiment 1, the opposite pattern of findings was obtained for preoccupied attachment. Preoccupation was associated positively with SCL in the suppress loss condition, $r(46) = .32$. Furthermore, this association was higher than that observed in the control condition, $r = -.14$, $z(46) = 3.10$, $p = .001$, indicating that attempts to avoid or suppress attachment-related thoughts and feelings led to an emotional rebound in distress for relatively preoccupied individuals.

At what point do defensive processes begin to have their effects on the activation of the attachment system? Dismissing individuals may be able to deactivate their attachment systems immediately when using defensive strategies. However, it is also possible that dismissing individuals experience an initial increase in distress before they are able more fully to block or inhibit that distress. To determine at what point defensive processes have their effect on attachment-related distress, we computed the correlation between dismissing-avoidance and SCL within each 1-min interval of the experiment. These associations, in turn, were plotted as a function of time.

As can be seen in Figure 3, the previously discussed association between dismissing-avoidance and SCL (uncorrected for baseline levels) emerged as soon as participants were instructed to suppress thoughts of loss. In contrast, there was no appreciable effect on the association between dismissing-avoidance and SCL when participants were instructed to suppress neutral thoughts. Deliberate avoidance of thoughts of loss appears to have its effect immediately for dismissing individuals.

In Figure 3 we have also plotted the associations between preoccupation and SCL as a function of time. As can be seen, attempts not to think about loss led to an increase in the association between preoccupation and SCL across time. Importantly, this increase did not occur when participants were suppressing neutral thoughts.

In summary, explicit attempts not to think about loss led to a decrease in physiological arousal for dismissing individuals and an increase in arousal for preoccupied individuals. Furthermore, these effects apparently began as soon as individuals began trying to avoid activating the attachment system. The findings are consistent with those obtained in Experiment 1 and suggest that defensive avoidance or suppression helps dismissing-avoidant adults to disengage the cognitive operation of the attachment system and the emotional responses that typically accompany separation and loss.

As suggested above, dismissing-avoidant adults may be able to bypass or block attachment-system activation because they are not strongly attached to their partners. To test this hypothesis, we examined the associations between dismissing-avoidance, attachment formation, and autonomic arousal. As a measure of attachment formation, we scored the extent to which each participant's romantic relationship could be characterized as an attachment relationship (see Fraley & Davis, 1997, for a complete description of these measures).¹ In general, people who

Table 2
Correlations Between Attachment Subscales and Skin Conductance Level as a Function of Suppression Condition

Attachment style subscale	Condition	
	Control ($n = 48$)	Suppress loss ($n = 46$)
Secure	.05	-.08
Fearful	.00	-.03
Preoccupied	-.14	.32
Dismissing	.06	-.41
Secure-fearful	-.03	.02
Dismissing-preoccupied	-.12	.44

Note. In the suppress loss condition, participants were asked to suppress thoughts of loss for 5 min before expressing thoughts of loss. The standard error within each condition is approximately .15. Pairs of correlations (within rows) that were the focus of our hypotheses are printed in boldface type.

¹ This scoring system is described in detail by Fraley and Davis (1997). Hazan and her colleagues (Hazan et al., 1991) have argued

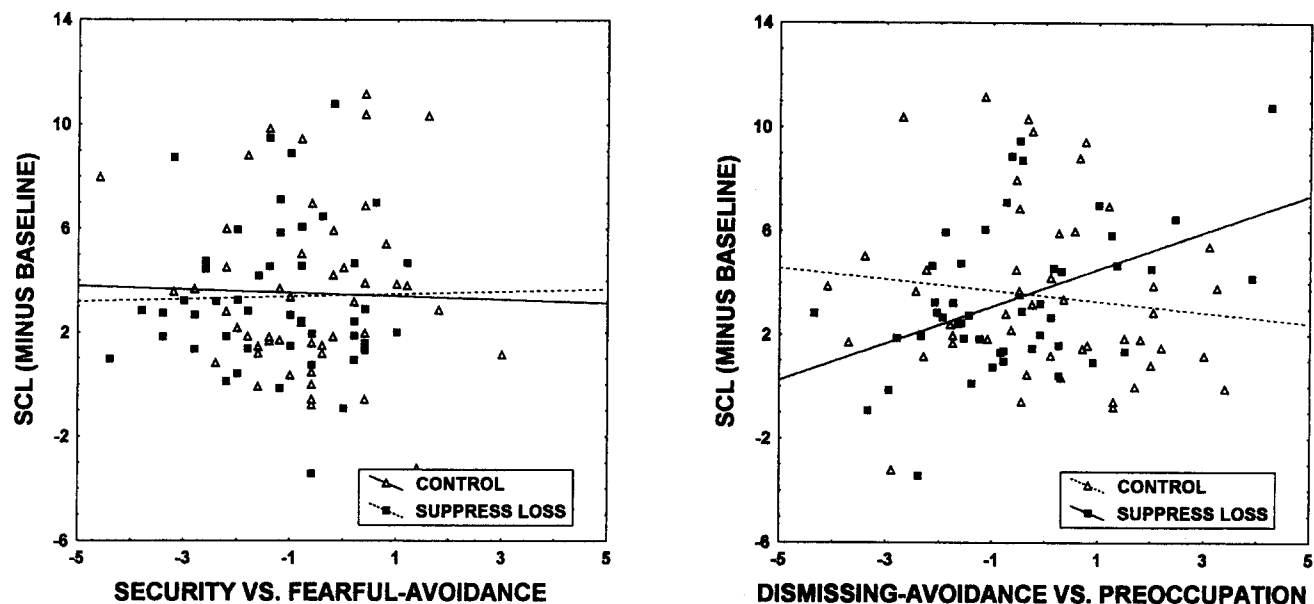


Figure 2. The left panel represents the association between the skin conductance levels (SCL; controlling for baseline levels) and the security versus fearful-avoidance dimension, within each condition. The right panel represents the association between skin conductance (controlling for baseline levels) and the dismissing-avoidance versus preoccupation dimension, within each condition. As can be seen, highly dismissing-avoidant individuals exhibited a decrease in arousal following suppression. The opposite pattern characterized highly preoccupied individuals.

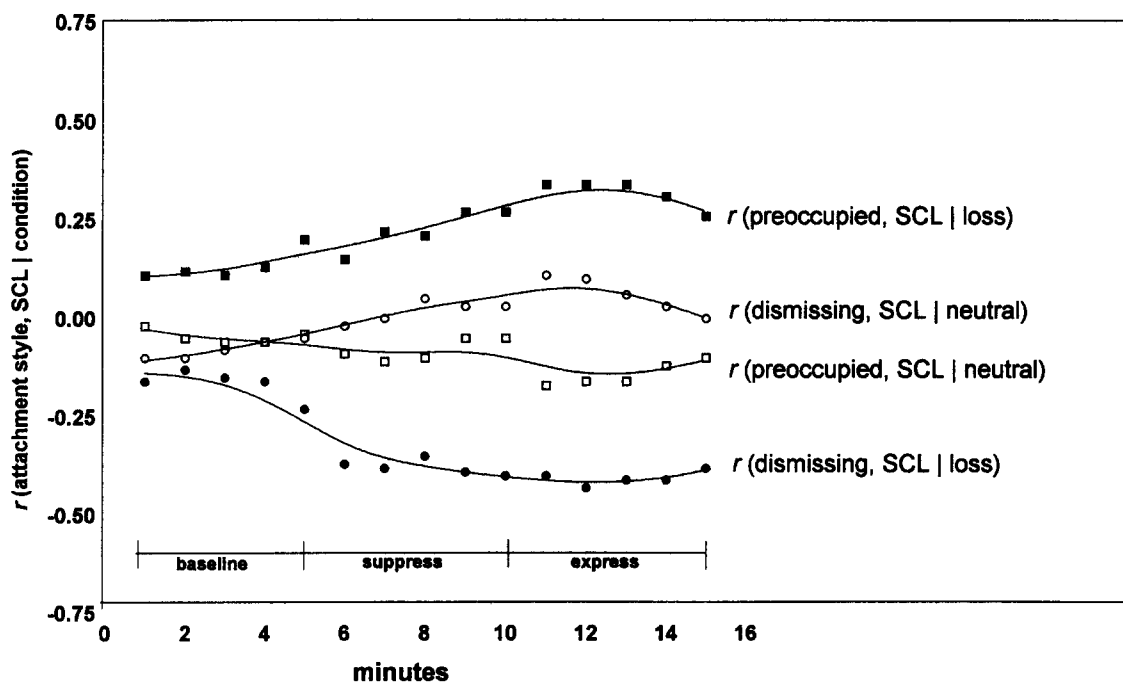


Figure 3. The association between attachment style and skin conductance levels (SCL) as a function of time and condition. As can be seen, suppressing loss-related thoughts led to an immediate decrease in arousal for highly dismissing individuals, whereas highly preoccupied individuals exhibited an increase.

Table 3
Correlations Between Dismissing–Avoidance and Skin Conductance Level (SCL) as a Function of Extent to Which Partner Is Used as an Attachment Figure

Variable	Condition			
	Control		Suppress loss	
	<i>r</i>	<i>n</i>	<i>r</i>	<i>n</i>
Residual dismissing	.17	48	–.39	46
Degree of attachment				
Low	.03	24	–.29	21
High	.25	25	–.52	26

Note. Degree of attachment represents the extent to which the participant indicated that he or she was attached to his or her partner. The first line of the table presents the correlation between SCL and dismissing–avoidance after controlling for degree of attachment. The standard error for the first row is approximately .11. The standard error for the last two rows is approximately .23.

were relatively unattached to their partners did not evidence high SCL responses when asked to think about their partners leaving them, $r(94) = -.21$. Additionally, dismissing–avoidance was negatively associated with being attached to one's partner, $r(94) = -.23$. Therefore, it is possible that lower levels of emotional investment on the part of dismissing–avoidant adults could be a factor contributing to the lower levels of attachment-related arousal. To test this hypothesis, we regressed dismissing–avoidance scores onto the degree of partner attachment and correlated the residuals with SCL within each condition. If the absence of emotional investment is the mechanism responsible for successful deactivation of the attachment system, then the correlation between dismissing–avoidance and SCL should be substantially reduced when the degree of attachment formation is controlled. Surprisingly, the observed correlations did not change much when the control was applied (see the first row of Table 3). Furthermore, the association between dismissing–avoidance and SCL ($r = -.39$) was still lower than that observed in the control condition, $r = .17$, $z(46) = -3.83$, $p < .001$. Thus, although there was a general tendency for dismissing–avoidant adults not to feel very attached to their partners, dismissing–avoidants could apparently disengage their attachment system even if they were emotionally attached to their partners. Interestingly, the association between dismissing–avoidance and SCL became a little stronger in the control condition after we controlled for degree of attachment. (In the last two rows of Table 3 we have split the sample into groups of attached and nonattached individuals to illustrate this point more clearly.) These results indicate that, in the absence of suppres-

sion, dismissing–avoidance may be weakly associated with arousal levels for people who are attached to their partners.

General Discussion

The deactivation of systems mediating attachment behavior, thought, and feeling appears to be achieved by the defensive exclusion, more or less complete, of sensory inflow of any and every kind that might activate attachment behavior and feeling. The resulting state is one of emotional detachment which can be either partial or complete. (Bowlby, 1980, p. 70)

Recent research on the parallels between infant–caregiver and adult romantic attachment relationships has focused on identifying individual differences in patterns of attachment organization—patterns in the ways people think, feel, and behave in attachment relationships (Ainsworth et al., 1978; Bartholomew, 1990; Bartholomew & Horowitz, 1991; Hazan & Shaver, 1987). Although attachment researchers have extensively explored the psychological dynamics of avoidant attachment in infancy, the emotional and cognitive dynamics of avoidance in adulthood are poorly understood. In this article, we have begun to fill this gap by focusing on the role of defensive processes in regulating attachment-related distress. Specifically, we examined the relative veracity of two competing hypotheses concerning the defensive organization of dismissing–avoidance in adulthood. According to the first hypothesis, the relative absence of attachment behavior following separation or loss reflects a strategy for masking covert emotional responses. According to the second hypothesis, the relative absence of attachment behavior parallels the covert deactivation of the attachment system.

Our findings indicate that attempts to deactivate the attachment system were relatively successful for dismissing–avoidant adults. That is, compared to control conditions, suppression resulted in decreased accessibility of attachment-related thoughts (Experiment 1) and decreased autonomic response to attachment-related thoughts (Experiment 2). Therefore, it appears that when dismissing adults want to avoid or suppress attachment-related thoughts and feelings, they can do so relatively effectively. They have the capacity to disengage both cognitive and emotional components of their attachment system.

These findings raise several critical questions. First, why do these defensive dynamics differ from those observed in research on avoidant infants? Second, how does the capacity to deactivate the attachment system develop? Third, what are the mechanisms (cognitive and behavioral) that promote the successful suppression of attachment-related anxiety?

Avoidance in Infancy and Adulthood

As noted in the introduction, research on infants has shown that the use of defensive strategies does not alleviate attachment-related arousal. In a well-known report, Sroufe and Waters (1977) measured the heart rates of infants separated from their mothers in Ainsworth's Strange Situation procedure (Ainsworth et al., 1978). According to their findings, the exploratory activity of securely attached children was accompanied by cardiac patterns characteristic of attentive exploration. However, the exploratory activity of avoidant children was not accompanied by these patterns, suggesting that avoidant infants were not fully

that an attachment bond is characterized by proximity seeking, using the partner as a safe haven, and experiencing the partner as a secure base. Therefore, to assess the extent to which the romantic relationship serves as an attachment relationship, participants are asked to indicate who serves each of the above functions in their lives. Higher scores on this scale indicate that the participant considered his or her partner to fulfill a greater number of these attachment-related functions.

engaging their attention in play, presumably because they were attending to the whereabouts of their mother. Additionally, infants classified as avoidant exhibited the same pattern of heart rate acceleration observed in secure infants following separation, even though the avoidant infants were not overtly expressing the same amount of distress as secure infants. These findings have led researchers to suggest that the defensive strategies of avoidant infants are not successful in deactivating attachment-related distress (Donovan & Leavitt, 1985; Spangler & Grossmann, 1993; Sroufe & Waters, 1977). Furthermore, the findings have led several researchers to hypothesize that avoidant adults also are not successful in deactivating attachment-related distress (Dozier & Kobak, 1992; Hazan & Shaver, 1994; Mikulincer & Orbach, 1995). However, the results reported here indicate that defensive avoidance in dismissing adults is associated with the ability to disengage the attachment system. Thus, patterns of avoidance in childhood and adulthood seem to diverge in their underlying dynamics. Although defensive strategies appear not to reduce the covert distress of avoidant infants, they appear to reduce distress for dismissing-avoidant adults.

One reason for this discrepancy may be that there are different patterns of adult avoidance. Bartholomew (1990; Bartholomew & Horowitz, 1991) has argued that avoidance manifests itself in adulthood in two different forms: fearful-avoidance and dismissing-avoidance. Both forms involve the conscious desire to avoid intimate interpersonal relationships. However, for fearful adults this avoidance appears to reflect a fear of the possible negative consequences of being close to others. In contrast, for dismissing adults, avoidance appears to reflect a disregard for interpersonal closeness.

The findings typically obtained by attachment researchers who study the defensive strategies of avoidant infants seem to map more clearly onto the findings we obtained for fearful adults, rather than those obtained for dismissing adults. According to our analyses, mean arousal levels did not vary as a function of fearful-avoidance (see Table 2), even though, on average, mean SCL had increased about 4 units from baseline (see Figure 2). This is similar to the findings of Sroufe and Waters (1977): Infant heart rate did not vary as a function of avoidance, even though the mean heart rate for infants increased following separation. Therefore, the defensive organization of adult fearful-avoidance appears to parallel that of infant avoidance more closely than does the organization of adult dismissing-avoidance. Fearfully avoidant adults, although motivated to inhibit attachment-related distress, appear to lack the regulatory mechanisms to do so successfully.

Unfortunately, the developmental pathways linking childhood avoidance to different patterns of avoidance in adulthood are not clear. Most attachment researchers believe that avoidance, in general, reflects a history of negative relationship experiences with significant others. For example, Main (1990; Main & Weston, 1982) has argued that childhood avoidance is a defensive way of maintaining "felt security" in the presence of a rejecting or unresponsive caregiver. In support of this position, Main has shown that infants classified as avoidant in the Strange Situation often have mothers who (a) are unresponsive to the child's signals early in the first year, (b) are emotionally inexpressive, and (c) find physical contact aversive (Main, 1990; Main & Weston, 1982). Therefore, when distressed, these infants are

thought to suppress attachment behavior to maintain an acceptable degree of proximity to the attachment figure (also, see Case, 1996; Cassidy & Kobak, 1988). Thus, experiences of rejection or unresponsiveness may provide a common foundation for the development of different patterns of avoidance. However, other unique aspects of these early interactions may lead to divergent pathways in later development. Bartholomew (1990) hypothesized that fearful adults were exposed to more conflict and negative emotions within their early caregiving environments. In contrast, the parents of dismissing individuals may have discouraged free expression of negative emotions; remained emotionally aloof or unresponsive in interactions; and encouraged self-reliance, achievement, and independence. Perhaps an individual learns to deactivate the attachment system partially or fully when confronted with multiple experiences of rejection and discouragement for expressing attachment-related behaviors and emotions. Over the course of years, such a strategy may become consolidated into a coherent dismissing pattern.

Mechanisms of Defense

Research on suppression (Wegner, 1989) indicates that the best way to avoid an unwanted thought is to think about something else, rather than simply trying to suppress it. Importantly, these "distractor" thoughts must be unrelated to the undesirable thought for the strategy to be effective. Wegner has found that when people are given unrelated distractor thoughts to focus on, the rebound effect disappears (Wegner et al., 1987). However, when people do not have a way to distract themselves adequately, they tend to experience a rebound in the very thoughts they are trying to avoid (Wegner, 1989).

For suppression to be effective, the associative connections between networks of distractor thoughts and networks of unwanted thoughts must be relatively sparse. One way to keep these associative connections from becoming highly developed is by habitually or chronically focusing attention away from unwanted thoughts (Kelly & Kahn, 1994; Wegner, 1989). Without the opportunity to attend to and elaborate on undesirable thoughts, it is unlikely that those thoughts will become assimilated into existing knowledge structures (Hansen & Hansen, 1988; Tulving & Thomson, 1973; Wyer & Srull, 1986).

We hypothesize that dismissing-avoidant adults have learned to suppress the covert activation of their attachment systems by habitually focusing their attention away from thoughts and memories that activate attachment-related concerns. As a result, it is less likely that these representations will have rich associative connections in memory and, therefore, less likely that they will become activated indirectly during the process of suppression.

If this hypothesis is correct, then there should be certain conditions under which the defensive organization of dismissing-avoidance breaks down. Specifically, defenses should not work when an individual focuses on (perhaps unwillingly) attachment-related thoughts. Dozier and Kobak (1992) used the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985) to examine the autonomic arousal levels of adults responding to interview questions about early attachment experiences. The AAI requires people to focus on attachment-related issues and

discuss attachment-related experiences in considerable detail. Dozier and Kobak (1992) found that individuals who used *deactivating strategies*, a hallmark of dismissing-avoidance, had higher skin conductance levels during questions pertaining to early parental separation and rejection. Thus, it appears that defenses are not useful when dismissing adults are not allowed to focus their attention away from issues that could potentially activate the attachment system.

We believe, however, that it is rarely the case that dismissing adults have to focus on attachment-related issues in the context of natural interaction. Therefore, their defenses should operate fairly successfully to keep the attachment system deactivated. In fact, some of the findings presented here indicate that dismissing adults are less likely than other adults to become emotionally attached to their romantic partners (also, see Fraley & Davis, 1997). Furthermore, Hazan, Zeifman, and Middleton (1994) found that avoidant adults were less likely to engage in mutual gazing, hand holding, and close physical contact with their romantic partners. By avoiding situations and activities that may promote emotional bonding, it may be possible for dismissing adults to keep their attachment systems in a state of relative deactivation.

If the defensive strategies of dismissing adults work in the ways outlined here, then several interesting questions arise concerning the mental and physical health of dismissing adults. It is a widely held belief that the use of defensive strategies is associated with negative health outcomes (see Pennebaker & Beall, 1986; Shedler, Mayman, & Manis, 1993; Weinberger, 1990). For example, Pennebaker's research (Pennebaker & Beall, 1986) indicates that actively inhibiting latent emotional thoughts and feelings (i.e., failing to express or confess them) extracts substantial physical costs. Our findings suggest, however, that this defensive pattern does not characterize dismissing-avoidant adults. Dismissing-avoidant adults seem not to be inhibiting latent arousal or distress. Instead, their defenses appear to work in a way that makes covert arousal unlikely in the first place. We believe that the defensive patterns focused on by other researchers are more characteristic of fearful-avoidance. Fearful-avoidant adults are, at least theoretically, inhibiting the expression of their latent attachment-related anxieties (Bartholomew & Horowitz, 1991). Therefore, they may be at risk for physical illness, whereas dismissing-avoidant adults may not be. This would be an interesting and important topic for future research.²

To summarize, we have suggested that there are at least two mechanisms for avoiding attachment-related distress in the context of adult romantic relationships. First, the motivation to avoid attachment-related feelings prevents the individual from focusing on and elaborating on attachment-related experiences. As a result, knowledge structures representing attachment-related memories and concerns are less rich and share fewer connections with other representational structures in memory. Therefore, when a highly dismissing person suppresses thoughts of loss, the likelihood that those thoughts will be activated indirectly is greatly reduced. Second, the motivation not to be dependent on others decreases the chance that dismissing adults will be exposed to situations that focus attention on attachment-related concerns. (See Fraley, Davis, & Shaver, in press, for

a detailed discussion of the defensive mechanisms underlying dismissing-avoidance.)

Interestingly, in our experiments, suppression led to an increase in the accessibility of attachment-related thoughts and emotions for preoccupied adults. According to Wegner's model, suppression leads to an increase in the accessibility of unwanted thoughts when the distractor thoughts used are indirectly linked to the unwanted thought (Wegner, 1989). Thus, individuals may experience a rebound in thoughts of white bears if they try to distract themselves by thinking about white clouds or fuzzy creatures. Because of the associative links between these seemingly different ideas, the unwanted thought becomes indirectly activated and ironically hyperaccessible during suppression.

It is likely that a similar dynamic is at work for preoccupied adults. In general, preoccupied individuals are hypervigilant to attachment-related issues (Hazan & Shaver, 1987) and, apparently, their memories for personal experiences are emotionally diffuse (Mikulincer & Orbach, 1995). Thus, it seems likely that the thoughts they use to distract themselves will have many indirect links to the attachment-related thoughts they are trying to suppress. Therefore, the intention to suppress thoughts of abandonment should lead to a heightened accessibility of loss-related thoughts. The rebound of these thoughts, in turn, leads preoccupied individuals to try to suppress them again. This cyclic process (which Wegner, 1994, refers to as a *self-loading ironic system*) has the potential to exacerbate, rather than alleviate, attachment-related anxiety.

Advantages and Limitations of the Present Studies

There are several noteworthy features of the research presented here. First, our dependent variables were not based solely on self-report questionnaires, the standard for most social-personality research on adult attachment. This helps to eliminate some of the shared method variance that might be present in other studies on attachment and affect-regulation. Moreover, the examination of defensive processes, which always requires some degree of stealth, was based on indirect assessments (see Greenwald & Banaji, 1995). This helps to reduce the likelihood that participants' personal hypotheses about the experimental questions contaminated the data.

Nevertheless, certain limitations of our studies should be taken into account when the results are interpreted. First, the structure of the control condition in Experiment 1 did not allow us to determine whether habituation or inhibitory processes gave rise to the relative decrease in loss-related thoughts for dismissing individuals. Participants in the suppress loss condition had already spent 5 min participating in the task (suppressing loss-related thoughts) before the critical express loss period. However, participants in the control condition did not spend 5 min suppressing thoughts before the critical period. Therefore, the decrease could represent either successful habituation to loss-related thoughts or a dampening of the accessibility of loss-related thoughts. We believe that the former is a more conservative interpretation of the findings. Although the procedure used

² Interestingly, Dorfman (1994) found that dismissing-avoidant adults report fewer physical symptoms than fearful or secure adults.

in Experiment 1 was the same one used in other studies on thought suppression (e.g., Kelly & Kahn, 1994; Wegner et al., 1987), we revised the design in Experiment 2 to incorporate a more appropriate control condition. Thus, all participants suppressed something (loss-related thoughts or neutral thoughts). This allows us to assert more confidently that, for dismissing participants, suppression had the effect of reducing the activation of the attachment system below levels that would have been observed if attachment-related thoughts had not been suppressed.

Conclusions

Separation and loss can evoke profound distress, yet some people—dismissing—avoidant adults—have the ability to suppress or avoid attachment-related distress. We have hypothesized that dismissing individuals develop the capacity to deactivate components of their attachment systems with repeated experience in attempting to suppress attachment-related thoughts and emotions. Furthermore, we have outlined several mechanisms that may contribute to the successful maintenance of this defensive pattern. These include behavioral strategies (such as avoiding close contact), emotional strategies (such as not allowing oneself to become emotionally attached), and cognitive strategies (such as directing attention away from stimuli that may activate the attachment system).

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