6-2011

The Relationship Between Attachment Style and Attitudinal Orientation toward Dreams

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Abstract

Attachment research has explored many of the ways that personality styles – in the context of close interpersonal relationships – affect other psychological processes, but only recently have researchers attempted to discover whether there is a relationship between attachment and dreams. Previous studies have shown that the dreams of both anxious and avoidant individuals contain emotional and attachment-related concerns. This study explores the connection between attachment and attitudinal orientation toward dreams. Presumably, the emotional nature of dreams would lead people high in attachment anxiety to place more importance on their dreams, while people high in attachment avoidance would disengage from their dreams. Individuals participated in the study online, reporting three dreams and completing questionnaires about attachment style and attitudinal orientation toward dreams. In general, anxious people were found to be more involved with their dreams, both within their dream content and in waking life. While avoidant individuals were generally dismissive of their dreams in waking life, the results did not indicate that they were actually less involved within their dreams.

The Relationship between Attachment Style and Attitudinal Orientation toward Dreams

Bowlby's (1982/1969, 1973, 1980) seminal trilogy *Attachment and Loss* set the stage for the development of attachment theory, which would be expanded by others interested in the mechanisms of personality and close relationships. Combining psychoanalysis, ethology, developmental and cognitive psychology, attachment theory delves into the workings of the human mind as a "social machine" (Mikulincer & Shaver, 2003) and can be useful in understanding many aspects of personality and social psychology, including individuals' feelings about dreams and their dream content.

The present study focuses on the relationship between dreams and attachment style. Previous research has shown that for anxious individuals, dreams of romantic partners often contain stress and conflict and distress dreams are characterized by a lack of support and distress relief (Mikulincer, Shaver, Sapir-Lavid, & Avihou-Kanza, 2009; Selterman & Drigotas, 2009). Avoidant individuals have dreams of romantic partners that often include stress, conflict, and negative affect, while their distress dreams lack support availability and support seeking (Mikulincer et al.; Selterman & Drigotas). But no research has investigated whether attachment style influences individuals' attitudinal orientation toward dreams. Therefore, the present study examined whether anxious individuals, who use hyperactivating strategies (Cassidy & Kobak, 1988), are more invested in their dreams and whether avoidant individuals, who use deactivating strategies, are dismissive of dreams.

Origins and Overview of Attachment Theory

Bowlby (1982/1969) postulated that individuals are equipped with inborn behavioral systems, codes universal to a species that are evolutionarily adaptive. Behavioral systems

organize innate and functional action patterns. The attachment system is one behavioral system that enhances organisms' survival by driving individuals (especially infants, but adults as well) to maintain proximity to "attachment figures," that is, supportive caregivers; this innate motivation to seek and maintain proximity to attachment figures serves to protect an individual from physical and psychological threats. When the attachment system is successful, the person achieves a sense that the world is a safe place and that others are a source of protection and comfort. This allows the individual to activate other behavioral systems such as exploration, sexual behavior, and caregiving behavior.

When the attachment system is activated, proximity-seeking is the primary method of achieving protection or support (Bowlby 1982/1969), but adults may use mental representations of attachment figures to deal with threats and to achieve a sense of security. Bowlby called these mental representations *working models*; people have working models of others, which serve as flexible mental prototypes for how others act in attachment relationships. People also develop working models of the self, which include ideas of one's own "goodness," that is, the extent to which one is the kind of person who is worthy of or likely to be able to effectively solicit others' care. All children become attached to their primary caregivers but the nature of their attachment can differ depending on the treatment they receive (Bowlby, 1956). Sensitive and responsive caregivers cause in their children a sense of security and a tendency to create working models of others as emotionally and physically available; this leads to a *secure attachment style* and allows individuals to be confident in their own abilities, to feel that the world is a good place, and to be free to engage in non-attachment activities (Mikulincer & Shaver, 2003). However, unavailable, unresponsive, or inconsistent attachment figures impair the attainment of attachment security. Because the attachment system seems to fail, it adapts.

Ainsworth, Blehar, Waters, and Wall (1978) defined distinct attachment styles based on their investigation of differing infant reactions toward caregivers at home and in a strange situation. They delineated three main categories: secure, anxious/ambivalent, and avoidant. The latter two styles are characterized as "insecure." Secure infants appear to have working models of accessible and responsive attachment figures and feel comfortable initiating contact and exploring. Infants with avoidant attachment styles seem to dismiss their attachment needs and suppress the activation of the attachment system due to previous experiences of rejecting and angry caregivers; they avoid their attachment figure based on working models of unavailable others. Anxious/ambivalent infants have developed working models of attachment figures that are inconsistent in sensitivity and responsiveness. They exhibit conflicting responses of both angry resistance and heightened proximity-seeking of the caregiver (hence the term, "ambivalent").

The attachment system, which is essential to an infant's survival, continues to remain active in adulthood (Bowlby, 1988). Even as an adult, a dangerous or potentially threatening situation can activate the attachment system and motivate the individual to seek real or imagined support from attachment figures. Parents are often the main attachment figures for children, but adults may have many attachment figures, including parents, romantic partners, friends, and even groups or symbolic figures. Attachment research has increasingly examined the effect of the attachment style of adolescents and adults on interpersonal and intrapersonal issues, including romantic relationships (Hazan & Shaver, 1987, 1990), affect regulation (Mikulincer, Shaver & Pereg, 2003) and terror management (Mikulincer & Florian, 2000; Mikulincer, Gillath & Shaver, 2002), to name a few.

For adults, the first self-report measure of attachment style was based on Ainsworth's three categories – secure, anxious/ambivalent, and avoidant (Hazan & Shaver, 1987, 1990) – but later research (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998; Fraley & Waller, 1998) reconceptualized attachment styles as defined by two different continuous dimensions: attachment anxiety and attachment avoidance. Low anxiety and low avoidance characterize "secure" individuals. Individuals high on anxiety and low on avoidance, Ainsworth's anxious/ambivalent category, are called "preoccupied," while individuals characterized by Ainsworth's avoidant style are low on anxiety and high on avoidance, called "dismissing avoidant" on the two-dimensional map of attachment style. "Fearful avoidants" are high on both anxiety and avoidance. Because the categorical and dimensional attachment style concepts have both been used in previous research, in this paper I will use the terminology appropriate given the research under discussion.

Attachment Strategies

People with different attachment styles use different strategies to deal with their environment. Securely attached people rely on the *secure base script* (Waters, Rodriguez, & Ridgeway, 1998), which includes three components: recognizing and displaying distress, seeking proximity to attachment figures, and problem solving. They recognize their emotions and attempt to resolve issues; those with secure attachments have learned to expect support from others during distress, and also understand that their own actions can reduce distress. Though all people develop internal working models of the self and others (Bowlby, 1973), secure individuals "internalize" their attachment figures and learn to problem solve as well as to seek help when necessary (Mikulincer et al., 2003), which can become part of personal adaptability. Since they

have learned that others are supportive, as children develop they begin to cope with threats through symbolic, as well as literal, attachment figure availability.

Insecurely attached individuals cope in different ways and while their strategies may appear maladaptive, Cassidy and Kobak (1988) argue that insecure attachment styles serve an advantageous purpose. They propose that avoidance is a defensive strategy in that it protects the individual from physical harm – should he or she display anger toward the attachment figure – and emotional harm – should his or her bids for attention be ignored yet again. They explain that avoidant people attempt to deactivate the attachment system on both the behavioral and representative (working model) levels. Avoidant people may attempt not to process information that could cause anxiety and activate the attachment system, and they deny the importance of, and need for, attachment in general. These deactivating strategies are oriented toward inhibiting negative affect, monitoring of the attachment figure, and accessibility of thoughts about threat and attachment. Avoidant individuals are characterized by "cognitive closure and rigidity" (Mikulincer & Shaver, 2003, p. 87).

Whereas avoidant individuals use deactivating strategies as a solution to the anxiety elicited by the attachment system, anxious individuals use hyperactivating strategies (Cassidy & Kobak, 1988). These are characterized by sustained proximity seeking and monitoring of the attachment figure, and are associated with hypersensitivity to worries about abandonment. Hyperactivating strategies often lead to overdependence on an attachment figure, and working models of the self as helpless (Mikulincer & Florian, 1998; Shaver & Hazan, 1993). Hyperactivation of the attachment system not only inhibits other systems – thus preventing the individual from participating in other activities – it causes a "cycle of distress"; anxious

individuals are better able to sense any negative signs from attachment figures and they may compound various sources of distress (Mikulincer et al., 2003).

Based on the initial attachment theory developed by Bowlby, Ainsworth, etc., a plethora of studies have demonstrated the differences between people of secure, avoidant, and anxious attachment styles. Priming studies support Bowlby's (1982/1969) idea that perception of a threat activates the attachment system regardless of attachment style. People of all attachment styles displayed heightened abilities to identify a proximity-related word (e.g., love, closeness) when they were subliminally primed with a threat-related word (e.g., failure, death; Mikulincer & Florian, 2000), indicating that the attachment system was elicited by the awareness, even unconsciously, of potential danger. In addition, subliminal presentation of threat-related words led to faster identification of the names of attachment figures, but not those of acquaintances or unknown people (Mikulincer et al., 2002).

In both studies, secure individuals showed greater access to thoughts about attachment individuals only in the threat conditions, while anxious individuals had higher accessibility to attachment themes and the names of attachment figures in both threatening and neutral conditions. This indicates that anxious people are constantly preoccupied with attachment, even on an unconscious level, while secure people are not. Avoidant individuals, on the other hand, showed attachment-related thoughts after the threat prime only when a cognitive load was added. They also showed decreased access to attachment-related thoughts when the threat word was attachment-related. This suggests that avoidant people make an effort to deactivate the attachment system and dismiss attachment worries but still exhibit them when their mental defenses are depleted.

Adults classified as dismissive-avoidant on the dimensional scale exhibit a decrease in accessibility of attachment-related thoughts after defensive suppression (Fraley & Shaver, 1997), and they appear to successfully remove their attention from attachment figures. In contrast, preoccupied individuals exhibit higher accessibility of attachment related thoughts after suppressing feelings of loss. This suggests that those with a preoccupied attachment style lack the ability to regulate cognition and direct attention away from attachment-related thoughts. When dismissing adults attempted not to focus on loss, their physiological arousal decreased, while preoccupied adults showed an increase in physiological arousal during attempts to suppress attachment-related thoughts. Dismissing-avoidant adults are thus able to disengage their attachment system, while preoccupied individuals appear unable to do so.

In sum, secure individuals have moderate activation of the attachment system, which occurs during the onset of a potentially threatening situation. In contrast, anxious individuals tend to hyperactivate their attachment systems, regardless of whether or not there is a threat, while avoidant individuals attempt to deactivate their attachment systems, even in the presence of a threat.

Attachment and Dreaming

Because the attachment system often works unconsciously, perhaps dreams, which appear to tap into the unconscious, can reveal unknown aspects of attachment. Whereas some researchers dismiss dreams as random neurological activity synthesized by the cortex, others propose that there is a link between dream sleep aspects of waking life.

Rapid eye movement (REM) activity occurs during the sleep of virtually all mammals and is associated with dreaming (Dement, 1960; Winson, 1985; Zepelin, 1989). Approximately every 90 minutes during sleep a REM cycle occurs and the episodes increase in duration over the

course of sleep (McCarley, 1989). Humans spend about 20% of total sleep time in a REM state and deprivation of REM sleep (but not non-REM sleep) leads to an increase in the amount of time that a person spends in the REM state over subsequent nights, called REM rebound (Dement). This indicates that dream sleep is necessary for the proper functioning of humans and that it probably has an evolutionarily adaptive purpose. Articles have suggested that dreams have a relationship with attachment and interpersonal relations, and can even serve as preparation for potential real-life threat situations (e.g., Kahn and Hobson, 2005; Revonsuo, 2000; Zborowski & McNamara, 1998).

Zborowski and McNamara (1998) hypothesize that REM sleep promotes attachment and sexual pair bonding. They describe attachment in terms of a synchrony between the biological rhythms of two organisms, rather than in terms of love. Zborowski and McNamara postulate that REM sleep promotes an attachment between a child and its caretaker through synchronization with a sleeping partner – since, in many societies, parents and children sleep together – and through the solidification of internal working models during dreaming states. They do not argue that REM sleep is the sole factor in forming an attachment, but rather that it enhances the attachment process. The hypothesis predicts that people with interpersonal problems and disturbed attachments would have differences in the structure of their REM sleep and in dream content, and that in adults REM reinforces attachment and sexual connections.

Some studies have tested this prediction and have found that attachment style does appear to be correlated with aspects of dreaming patterns and actual dreaming content. Distinct differences appear in the dreams of anxious individuals compared to those with an avoidant style. In dreams of romantic partners, compared to secure individuals, anxiously attached participants were more likely to have dreams that contained stress, conflict and jealousy, while

avoidant individuals were more likely to have dreams that contained stress, conflict and negative emotion (Selterman & Drigotas, 2009). In distress dreams, attachment style was related to availability of components of the secure-base script (support seeking, support availability, distress relief; Mikulincer et al., 2009). Anxiety was negatively correlated with support availability and distress relief, while avoidance was negatively correlated with support seeking and support availability. In addition, anxious participants who experienced stress during the day were less likely to display support seeking in their dreams for that night (Mikulincer et al.). Other results suggest that individuals with an insecure attachment are more likely to have dreams with more emotional intensity and "morbid" emotional content, as well as sleep problems (e.g., nightmares, sleepwalking, and teeth grinding) than secure individuals (McNamara, Andresen, Clark, Zborowski, & Duffy, 2001), and that attachment measures predict dream stress, anxiety, negative emotion, and conflict (Selterman & Drigotas, 2009).

Studies have also found conflicting evidence of the relationship between attachment style and dream length and recall. Among college students, insecurely attached individuals reported higher dream recall, and among older adults (between the ages of 50 and 82), preoccupied participants were more likely to report a dream and had higher mean number of words in dream reports than secure, avoidant, or dismissing participants (McNamara et al., 2001). Recall was lowest for dismissing avoidant and fearful avoidant individuals. However, despite an apparent correlation between attachment style and dream recall, neither Selterman and Drigotas (2009) nor Mikulincer et al. (2009) found a relationship between attachment style and the number of dreams reported over seven days and thirty-one days, respectively. In addition, no association was found between attachment and dream length (Mikulincer et al.).

Dreams are related to many aspects of life and appear to reflect waking thoughts, including those that people attempt to suppress. Though their study did not focus on attachment specifically, Wegner, Wenzlaff and Kozak's (2004) dream research has important connections to the relationship between dreams and attachment theory. They found that asking participants to think about certain people before sleep increased the likelihood of the participant reporting dreaming about that person. Attempting to suppress thoughts about a particular person especially increased dreams about him or her, and the results were stronger when the participant was asked to focus on a person they found romantically attractive (versus a person to whom they were not attracted). This study may have implications for attachment theory because, based on the results, anxious individuals, who are preoccupied with attachment relationships, should exhibit dreams about those people on whom they focus their waking attentions, and avoidant people, who dismiss their attachment worries, should also dream about the topics they are trying to suppress.

To summarize, anxious individuals appear to activate their attachment system even in dreams; their dreams of romantic partners often contain stress and conflict, and in distress dreams they are unable to achieve support and distress relief. In addition, anxious people who had stressful days exhibited less support seeking in their dreams for the night. Avoidant individuals appear to exhibit their attachment worries in dreams; dreams of romantic partners often include stress, conflict, and negative affect, potentially mirroring their waking feelings about others, while distress dreams are characterized by no support availability and support seeking. These tendencies are not surprising when viewed in the light of research on the effect of waking thoughts on dream content.

The Current Study

Studies of attachment beginning in the mid-twentieth century have generated decades of research regarding the relationship between attachment style and interpersonal and intrapersonal processes. However, only recently has research on attachment been connected to dreams. While some believe that dreams serve no purpose, or are the result of random synapses firing, others believe that dreams might be related to attachment (Zborowski & McNamara, 1998).

Previous research has shown that secure individuals are able to successfully cope with problems because they have positive views of themselves and others; as a result, their attachment systems are only activated in the presence of threats (e.g., Mikulincer et al., 2000; Mikulincer et al., 2002). Anxious individuals, on the other hand, have a hyperactivated attachment system, meaning that it is active even without sensing a threat, which leads them to focus consistently on attachment-related worries (e.g., Cassidy & Kobak, 1988). Previous studies have shown that their attachment systems appear to fail even in dreams (Mikulincer et al., 2009; Selterman & Drigotas, 2009). Contrary to anxious people, avoidant individuals exhibit deactivated attachment systems, meaning that they attempt to inhibit their attachment system despite the presence of a threat, (e.g., Fraley & Shaver, 1997). Their dreams also demonstrate an insecure attachment, perhaps reflecting their real life interactions with attachment figures (Mikulincer et al., 2009; Selterman & Drigotas, 2009).

The current study continues in the vein of previous research connecting attachment and dreams. While others have examined the content of particular genres of dreams (i.e., conflict dreams, dreams of romantic partners), this study investigated participants' attitudinal orientation toward dreams. Previous research indicates that individuals with insecure attachment styles make use of hyperactivating and deactivating strategies; this study examines whether and how people

use those strategies when thinking about dreams. Anxious individuals are preoccupied with attachment even at an unconscious level (e.g., Fraley & Shaver, 1997), thus, they might demonstrate concerns about attachment by placing more emphasis on their dreams. Because their defenses are activated even at a basic level, avoidant individuals evade attachment-related information (Fraley & Shaver, 1997; Mikulincer et al., 2000; Mikulincer, Gillath & Shaver, 2002); potentially they will dismiss dreams as unimportant. Given the emotional content of insecure people's dreams, I expected attachment styles to affect attitudes toward dreams in similar ways as they affect orientation toward emotion and attachment relationships in general.

In this study, participants were asked to write three dreams (a recent dream, a conflict dream, and a memorable dream), and to complete questionnaires about attachment and dream experiences and attitudes. About half of the dreams were coded for attachment related information. I hypothesized that anxious individuals, who have hyperactivated attachment systems, would be more focused on and interested in their dreams in general. For example, anxious people should place more importance on dreams and should report higher correlations between their waking life and their dreams. Avoidant individuals, based on their deactivating strategies, should report less interest in dreaming and place less significance on the importance of dreams. Overall, I expected that high anxiety would predict more involvement with dreams, both within the dream and in waking life, while avoidance would predict less involvement within dreams and in waking life.

One hypothesis (McNamara et al., 2001) suggests that secure individuals, who do not need to continuously activate the attachment system, and avoidant individuals, who inhibit the attachment system, will exhibit decreased rates of dream recall and dream intensity than preoccupied individuals. However, other studies have not replicated this finding (Mikulincer et

al., 2009; Selterman & Drigotas, 2009). Therefore, I hypothesized that avoidant individuals would *report* dreaming less than secure or anxious participants but, since all people dream every night, it is unlikely that avoidant participants would actually *record* significantly fewer dreams.

Method

Participants

A total of 254 volunteers participated in an online survey via Amazon.com's Mechanical Turk feature. Eighty-one participants were men and 173 were women. Ages ranged from 16 to 78 years (M = 32.7 years, SD = 11.5) while income ranged from $0 to $600,000 for 248 participants (M = $59,670, SD = $54,019); two participants were unemployed and four did not respond. Eighty-two percent of the participants identified themselves as Caucasian/White. Participants received one dollar credit toward their Amazon.com accounts. A subset of the sample, comprising 136 participants, was randomly selected to have their dreams coded for content.

Materials

All participants completed a questionnaire comprising the Inventory of Dream Experiences and Attitudes (IDEA; Beaulieu-Prevost, Simard, & Zadra, 2009), the Dream Intensity Scale (DIS; Yu, 2010), and the Experiences in Close Relationships – Revised Questionnaire (ECR-R; Fraley, Waller, & Brennan, 2000).

The IDEA consists of 49 questions relating to participants' dream patterns and their feelings about dreams. Questionnaire items were rated on a five-point Likert scale (1 = "I strongly disagree"; 5 = "I strongly agree"). Questions were grouped into seven factors identified by Beaulieu-Prevost et al. (2009): *dream significance* (e.g., "dreams are random products of the brain," "I pay close attention to my dreams"), *dream positivity* (e.g., "In general, I feel safe in my

dreams," "In my dreams, I am often running away or being followed" [reverse coded]), *dream recall* (e.g., "I dream a lot," "I tend to forget my dreams as soon as I wake up or when I get out of bed" [reverse coded]), *dream apprehension* (e.g., "I am sometimes afraid of dreaming," "Sometimes, before going to bed, I fear that I will have bad dreams or nightmares"), *dream entertainment* (e.g., "I wish I would dream more often," "Some of my dreams are just as interesting as a good movie or a good play"), *dream continuity* (e.g., "I often dream about events that occur in my daily life," "I believe that our fantasies and desires manifest themselves in our dreams"), and *dream guidance* (e.g., "On occasion, I will consult a book to help interpret my dreams," "I believe that some dreams could be premonitory").

The DIS consists of twenty questions also relating to dream patterns and feelings about dreams, which are broken down into six subscales. The questions were rated on different Likert scales depending on the question format (1 = "Never," 9 = "Almost every night"; 1 = "This situation has almost never happened," 5 = "This situation has happened in almost every one of my dreams"; 1 = "Never," 5 = "Very frequently"). The six factors were *dreamwork* (e.g., "How often do you experience nightmares that are so frightening that they wake you up," "Have you ever had two dreams or more in a single night"), *lucid dreaming* (e.g., "How often do you know during a dream that you are dreaming," "Have you ever been able to control the contents of your dreams and make things happen in them at will"), *autosuggestion* ("Have you ever experienced the following situation: Upon awakening from a dreaming sleep, you have the feeling that you 'want to continue and reconnect with the dream.' After attempting to return to the dreaming state, you actually, as you wished, reconnect with the dream," "Have you ever experienced the following situation: You have had some dreams that make you 'wish to dream them once again.' Some days later, these dreams actually turn up again"), *major modalities* (e.g., "Do you see

colors in dreams," "Do you hear sounds in dreams"), *minor modalities* ("Do you smell anything in dreams," "Do you taste anything in dreams"), and *paramnesia* (e.g., "Has a certain person in the real world ever been represented by an animal in your dreams," "Have you ever experienced the following situation: You have memories that, upon reflection, you simply do not know whether they are of events that actually happened or were part of dreams").

The ECR-R consists of thirty-six questions with which participants rate their agreement on a seven-point Likert scale (1 = "Strongly disagree"; 7 = "Strongly agree") For this study the word "partner" was changed to "other" in most questions in order to focus on close relationships in general rather than romantic relationships. Questions targeting attachment anxiety include "I often wish that another person's feelings for me were as strong as my feelings for him or her" and "My desire to be very close sometimes scares people away." Questions focusing on attachment avoidance include "I feel comfortable depending on others" (reverse coded) and "I get uncomfortable when others want to be very close."

Procedure

Each participant selected the survey on Mechanical Turk titled "Dreams and Attitudes" and was directed to a questionnaire created on Zoomerang.com. The first screen of the survey introduced the study and explained that it would involve writing about dreams and attitudes about dreams, as well as other aspects of the participant's life. The statement also explained that the study was voluntary with no foreseeable risks, that the participant could withdraw from the study without penalty at any time, and that all information would be anonymous and confidential.

After the introduction, participants were randomly assigned to complete the questionnaires in one of two sequences. Both sequences included the same questions from the

IDEA, DIS, and ECR-R scales, as well as three questions asking them to record dreams. One sequence asked participants (93 people) to write their dreams before taking the questionnaire and the other had participants (161 people) record their dreams after the questionnaire.

The dream questions were presented in the same order for each participant, regardless of whether they wrote dreams before or after the questionnaire. The first dream question stated: "Please write down the **last dream** you remember having and describe it in as much detail as you can. At the end of the report, please write your interpretation of the dream, such as why you had it, what it means, and how it relates to your waking life (past or present)." Participants were provided a blank text box in which they could type. Once they submitted their response, the second dream question appeared asking them to "Please write down the most recent **conflict dream** that you have had and describe it in as much detail as you can. A conflict dream is one that involves emotional or interpersonal conflict. At the end of the report, please write your interpretation of the dream, such as why you had it, what it means, and how it relates to your waking life (past or present)." The third dream question asked "Please write down a **memorable dream** that you have had and describe it in as much detail as you can. At the end of the report, please write your interpretation of the dream, such as why you had it, what it means, and how it relates to your waking life (past or present)."

After participants had completed the dream questions and the questionnaire, they were asked to fill in demographic information, including gender, age, ethnicity, and average annual income. They were then thanked for their participation, debriefed, and compensated for their time.

Dream Coding. The first 137 participants' dreams were coded by two independent researchers blind to the participants' attachment scores and their dream attitudes and patterns

scores. For each dream, the coders first recorded whether or not the participant wrote a dream. They rated positive emotional content and negative emotional content on a 0 to 3 scale, where 0 was "None" and 3 was "Heavy: effusive emotion in description, interpretation, or dream itself."

The coders rated four dream themes for each dream on 0 ("None") to 3 ("Heavy") scales: *childhood attachment*, where 3 indicated "dream revolves around participant's childhood relationship to parents," *adult romantic attachment* where 3 was "dream revolves around participant's relationship to current or past romantic partners," *adult non-romantic attachment* where 3 indicated "dream revolves around participant's relationship to close friends, or current relationship to parents," and *relational not otherwise specified* where 3 denoted "dream revolves around participant's relationship to persons who are not attachment figures (e.g., relations with co-workers, strangers, one's children, etc.)." The average rater agreement for the dream variables was .684. Follow up statistical analyses revealed that there was no statistical difference between the coding results of participants who wrote dreams first and those who wrote dreams last.

The coders recorded interpretation extent on a 0 ("No Interpretation") to 3 scale, where 3 indicated "interpretation is psychologically deep, relying heavily on symbolism, wish fulfillment, or other analysis of the dream that goes beyond its superficial content." They also rated the participants' interpretation themes using the four dream themes (childhood, romantic, and non-romantic attachment, and relational not otherwise specified) and their respective coding scales. The average rater agreement for the interpretation extent was .859. However, no statistically significant relationship was found between attachment style and level of interpretation, so this will not be discussed further.

To make the coded variables more manageable, new variables were created. For both coders, the four dream themes and their corresponding interpretation themes were averaged

together across all three dreams to create a coder's total for romantic attachment, non-romantic attachment, childhood attachment, and attachment not otherwise specified. Each coder's average for the variables was then averaged with that of the other coder, creating a total. Each dream type was also treated separately; both coders' ratings were averaged together creating scores for the recent dream, the conflict dream, and the memorable dream categories.

New variables were created for the dream survey scores by using Beaulieu-Prevost et al. (2009) and Yu's (2010) factors. The 49 items of the IDEA scale were averaged into seven items, dream significance, dream positivity, dream recall, dream apprehension, dream entertainment, dream continuity, and dream guidance. The DIS's 20 questions were averaged into six items corresponding to Yu's factors: dreamwork, major modalities, minor modalities, paramnesia, autosuggestion, and lucid dreams, as mentioned above. Three more variables were created as per Yu's second factor loading with lucid dreaming and autosuggestion combining to become *altered dream episodes*, major and minor modalities becoming *dream vividness*, and dreamwork and paramnesia becoming *diffusion*. However, since these three variables did not present distinctly different results from their six components they will not be discussed.

Results

I conducted a series of multiple regression analyses predicting dream content and attitudes from standardized anxiety and avoidance scores (Aiken & West, 1991). Attachment anxiety and attachment avoidance predicted various aspects of dreaming and participants' attitudinal orientation toward dreams. Compared to individuals low on attachment anxiety, those high on the anxiety dimension reported being more entertained by their dreams, $t(2, 252) = 2.27$, $\beta = .15$, $p = .02$, but also more apprehensive of dreaming, $t(2, 252) = 5.52$, $\beta = .36$, $p < .001$, and less likely to experience positive emotions in dreams, $t(2, 252) = -5.10$, $\beta = -$

.33, $p < .001$. Anxious individuals also placed more significance on dreams, $t(2, 252) = 3.25$, $\beta = .22$, $p = .001$, while those with an avoidant attachment style placed less significance on their dreams $t(2, 252) = -3.15$, $\beta = .21$, $p = .002$. Anxiety predicted high continuity between dreams and real life events, $t(2, 252) = 4.51$, $\beta = .30$, $p < .001$, meaning that real life concerns manifested in dreams, while avoidance predicted less continuity between life issues and dreams, $t(2, 252) = -3.45$, $\beta = -.23$, $p = .001$. Anxious people reported higher dream guidance, $t(2, 252) = 3.69$, $\beta = .25$, $p < .001$, meaning that they place emphasis on their dreams and seek more information about dreams. Avoidant individuals, on the other hand, exhibited a marginally significant negative association with dream guidance, $t(2, 252) = -1.77$, $\beta = -.12$, $p = .08$, indicating that they do not seek information about dreams either through books or interpretation. Avoidant participants were also less likely to report dream recall, $t(2, 252) = -3.91$, $\beta = -.26$, $p < .001$, and there was an interaction between anxiety and avoidance such that the effect of avoidance occurred more strongly at high anxiety, $t(2, 252) = -2.49$, $\beta = -.15$, $p = .01$, indicating that fearful avoidants report significantly less recall than preoccupied people.

Avoidant individuals reported experiencing fewer major modalities in dreams $t(2, 252) = -2.61$, $\beta = -.18$, $p = .01$ and less paramnesia, $t(2, 252) = -2.80$, $\beta = -.19$, $p = .006$, indicating that they are less likely to report fantastic representations of dream characters and to confuse dreams with reality. They also reported less dreamwork, $t(2, 252) = -3.59$, $\beta = -.24$, $p < .001$, meaning that they recalled dreams less; there was an interaction between anxiety and avoidance such that avoidance was associated with less dreamwork, particularly when compared to preoccupied individuals, $t(2, 252) = -2.57$, $\beta = -.16$, $p = .01$. In addition, avoidance was negatively correlated with lucid dreaming, $t(2, 252) = -2.75$, $\beta = -.19$, $p = .006$, meaning that avoidant participants were less likely to report being aware of dreaming and being able to control dreams. There was a

marginal interaction such that the effect of avoidance on lucid dreaming was larger for those who also scored high on the anxiety scale, $t(2, 252) = -1.81$, $\beta = -.11$, $p = .07$. Anxious attachment was related to paramnesia, $t(2, 252) = 4.25$, $\beta = .28$, $p < .001$, such that anxiously attached participants reported that real life individuals were represented in fantastical ways in dreams and that they sometimes confused dreams and reality.

Contrary to expectations, there were no significant effects of the dream content variables. The association between attachment style and whether participants actually recorded dreams was also found to be insignificant for both anxiety, $t(2, 123) = -.53$, $\beta = -.05$, $p = .60$, and avoidance, $t(2, 123) = -.40$, $\beta = -.04$, $p = .69$.

Discussion

Attachment research conducted over the past half-century has explored many aspects of waking life including romantic relationships (Hazan & Shaver, 1987, 1990), terror management (Mikulincer et al. 2000; Mikulincer et al., 2002) and affect regulation (Mikulincer et al., 2003), to name only a few. Only recently have studies been conducted to discover whether there is a relationship between dreams and attachment and the nature of any such relationship. Previous research has shown that anxious individuals tend to have hyperactivated attachment systems, which leads them to be preoccupied with attachment-related concerns; even in dreams they display stress when thinking about romantic partners, as well as an inability to achieve support and distress relief in distress dreams. Avoidant individuals, on the other hand, attempt to deactivate their attachment systems, leading them to suppress attachment-related worries. They exhibit negative emotions and conflict in dreams of romantic partners and their distress dreams are characterized by a lack of support availability and support seeking.

While other studies have found evidence that there is a relationship between dream content and attachment style, no study has yet explored the relationship between attachment and attitudinal orientation toward dreams. Previous research has demonstrated that the dreams of insecure individuals are characterized by emotional content often related to attachment; it follows that anxious and avoidant individuals would use their hyperactivating and deactivating strategies, respectively, when thinking about their dreams and forming attitudes about the nature and importance of dreams. I hypothesized that the emotional nature of dreams, coupled with the different attachment strategies, would lead anxious people to place more importance on their dreams, while avoidant people would disengage from their dreams.

The results support my hypothesis. Anxious people were more likely to report more engaging attitudes toward dreams. As expected, they reported low positivity, meaning that they have more negative emotions in their dreams than positive ones, and felt apprehensive about dreaming, possibly because of negative content – indeed, follow-up mediation analyses revealed that dream positivity significantly mediated the effect of attachment anxiety on dream apprehension. However, anxious people also reported greater interest in dreaming overall and placed high significance on their dreams. This might be connected to their tendency to report high continuity between dreams and waking life and the fact that they often seek guidance from their dreams, whether through interpretation or the belief that dreams can be premonitory. Anxious participants also report being entertained by their dreams as well as occasionally confusing dreams and reality. In short, they are highly involved with their dreams, both within the dream and in waking life, reflecting their tendency to focus attention on emotional and attachment-related topics.

Avoidant individuals, on the other hand, are generally dismissing of their dreams. They place less significance on dreams, and report little continuity between waking life and dreams. Unlike anxious participants, avoidant people were less likely to seek guidance from their dreams. They also report less involvement with dream content; avoidance predicted less lucid dreaming, experiencing fewer senses in dreams, and reporting fewer dream episodes such as multiple dreams in one night or being woken by nightmares. They also reported that they did not confuse dreams and waking life. Because avoidant people are dismissing of many different aspects of dreaming, it is not surprising that they reported recalling fewer dreams. However, avoidant people did not actually recall fewer dreams than anxious and secure participants. This suggests that there may be no true difference in dream recall for people of different attachment styles, but that avoidant people's attempts to distance themselves from dreams in general, presumably because they often contain emotional content, led them to report recalling fewer dreams.

No relationship between attachment and the rater-coded content of dreams was found. Presumably the lack of significance is not due to the unreliability of the raters, but rather the fact that only half of the dreams were coded and there was not enough statistical power to detect significant results. However, there were several non-significant trends in expected directions. While significance of the coding variables would have replicated prior research, that was not the focus of this study.

Implications

The results of this study support the idea that anxious people are highly invested in attachment and emotional issues, which might be related to the fact that they report more involvement with their dreams, both within their dreams as well as in waking life. The data also suggest that avoidant people are uninvolved with their dreams in waking life; however, while

they report little involvement in the actual content of their dreams, there is no evidence to suggest that their reports are true. Avoidant people may attempt not to demonstrate any concern with dreams, potentially because of the emotional and attachment content. This supports the idea that avoidant people, like anxious individuals, are also concerned with attachment issues (perhaps uncontrollably), but that they overtly attempt to dismiss them.

Another important result to note is the fact that secure individuals fall between anxious and avoidant people in terms of dream engagement variables. This could potentially indicate that some form of moderation exists when addressing dreams. Perhaps too much focus on dreams can become pathological – presumably anxious people's interest in their dreams could be excessive and might contribute to an unhealthy confusion of dreams and reality. On the other hand, avoidant people's complete dismissal of dreams might also indicate pathology; it seems that dreams are evolutionarily adaptive, so perhaps ignoring them could contribute to issues with social interactions or problem solving skills, for example. The idea that people should potentially pay only moderate attention to their dreams (as opposed to excessively analyzing them or totally dismissing them) might be the topic of future research.

This study also has potential clinical implications. Pennebaker (1997) has demonstrated that therapy in general and writing about traumatic events in particular are associated with later physical and mental health improvements. Following his expressive writing paradigm, insecure people could be encouraged to address their dreams and the related emotions that emerge within and outside of dreams. Writing directly about attachment-related traumas might be too overwhelming for individuals who have expended so much energy on the attachment system, whether through attempting to repress it or being preoccupied with it, for many years. However, the exploration of attachment themes in dreams could potentially allow them to address

emotional issues and relationship issues in the relative safety of their dreaming lives and, subsequently, to generalize any insights or emotional benefits to real life in order to achieve healthier interpersonal relationships and/or a healthier personal frame of mind.

Limitations and Directions for Future Research

This study was potentially limited by its sample. While the internet survey allowed me to gather data from a wide variety of people in many age groups and social classes, rather than solely college students (a strength, rather than a weakness of this methodology), by not conducting the study in a laboratory setting it limited my control over the sample and my ability to ensure that participants were completing the questionnaires conscientiously.

Another limitation was my relative inability to connect dream content and attitudes toward dreams. I was unable to collect enough dream data that would support or refute the veracity of participants' reports about their dream patterns. Presumably, there would be little difference between participants' actual patterns – as evidenced by avoidant people's *report* of recall contrasting with *actual* recall – but there could be some differences. Dream diaries completed over a sequence of days along the lines of previous work (Selterman & Drigotas, 2009; Mikulincer et al., 2009) would be beneficial for further exploring the actual and reported dream patterns of participants.

One final concern is whether participants reported their true attitudes toward dreams or if the differences were simply due to reporting tendencies associated with the different attachment styles (e.g., anxious people acquiescing and avoidant people resisting or exhibiting reactance). Behavioral or observational research could offer more conclusive evidence of differences in attitudinal orientation toward dreams. For example, a future study might confirm the reports of dream questionnaires by asking the participants' close friends or romantic partners how

interested the person seems in dreams, how often he or she talks about them, whether he or she reads about dreams, looks up dream topics, writes about dreams, how many dream-related books the participant owns, and the like.

Conclusion

If people spend approximately one-third of their lives sleeping and more than 20% of sleep time is spent dreaming, then people can spend upwards of six percent of their lives in a dream world. (According to this calculation, I have already spent one and a third years dreaming.) As a result, many have argued that dreaming must be an evolutionary adaptation (e.g., Dement, 1960) and research has attempted to tease out the function of dreams and their relationship to waking life (e.g., Revonsuo, 2000; Weger et al., 2004). However, no definitive answer has yet been reached.

This study continues the exploration into the world of dreams and has demonstrated that people with different attachment styles view dreams differently. People high on the anxiety dimension of attachment tend to be more involved with their dreams, while asleep and awake, and those high in avoidance report less involvement while asleep and awake, potentially because of the hyperactivating and deactivating strategies used, respectively, by the different attachment styles. However, the results of this study do not reveal an actual difference between the dream tendencies of avoidant and anxious participants, merely a reported difference in *attitudinal orientation*.

While this study has implications for understanding both attachment and dreams, further research is necessary to more completely elucidate the complex relationship between these two important aspects of life.

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Table 1

Standardized Regression Coefficients and Significance of Relationship between Attachment Style and Dream Variables

	Anxiety		Avoidance		Anxiety x Avoidance	
Dependent Variable	*β*	*t*	*β*	*t*	*β*	*t*
Dream Significance	.22***	3.25	-.21**	-3.15	.08	1.08
Dream Entertainment	.15*	2.27	-.05	-.79	-.05	.46
Dream Involvement	.12	1.16	-.05	-.49	-.04	-.44
Dream Apprehension	.36***	5.52	-.09	-1.37	-.07	-1.17
Dream Recall	-.02	-.35	-.15***	-2.49	-.15*	-2.49
Dream Continuity	.30***	4.51	-.23***	-3.45	.08	1.22
Dream Guidance	.25***	3.69	-.12	-1.78	.02	.29
Dream Positivity	-.33***	-5.10	.00	.00	-.03	-.48
Dreamwork	.07	1.02	-.24***	-3.59	-.16*	-2.57
Major Modalities	.03	.45	-.18**	-2.61	-.03	-.40
Minor Modalities	.01	.19	-.10	-1.52	.26	-.07
Paramnesia	.28***	4.25	-.19**	-2.80	-.03	-.48
Autosuggestion	.05	.78	-.02	-.28	-.06	-.91
Lucid Dreaming	-.02	-.29	-.19**	-2.75	-.11	-1.81
Altered Dream Episodes	.03	.36	-.10	-1.49	-.09	-1.44
Dream Vividness	.03	.37	-.16	-2.40	-.06	-.97

Note: *$p < .05$; **$p \leq .01$; ***$p \leq .001$.