Social relationships are a central component of human existence; they influence the way we think and act in nearly every situation. The quality of our relationships is also important for both mental and physical health. For example, people whose relationships are more stable and secure, and those with larger social networks, are generally happier and healthier. Yet not everyone approaches relationships in the same way. Some people are relatively self-reliant and independent, choosing to maintain distance from relationship partners; others continually seek support from their relationships and need relationship partners to be available at all times. How do these kinds of differences, also known as individual differences in attachment, influence physical health?

In this entry, we discuss how a person’s attachment orientation, or characteristic approach toward close relationships, is associated with health behaviors and outcomes. Our main focus is individual differences in adult attachment and their implications for health, rather than early childhood attachment to a primary caregiver. We also focus on individual differences in close relationship processes, as opposed to close relationships more broadly (see Ge, Lembke, & Pietromonaco’s entry in this volume for a review of intimate relationships and physical health outcomes). First, we provide an introduction to attachment theory and describe how social-personality researchers typically study attachment orientation in adults. Next, we discuss the state of current research linking adult attachment with health. We then turn our attention toward the mechanisms that may underlie these links to explain how and why individual differences in attachment might be related to physical health. We conclude by highlighting future theoretical and methodological directions that can help elucidate when and for whom attachment processes influence health.
What is Attachment?

Attachment theory was originally conceptualized to describe the emotional bond between an infant and his or her primary caregiver and the anxiety that occurs upon separation from that caregiver (Bowlby, 1969). Social-personality psychologists later noted the many similarities between a child’s first relationship with caregivers and subsequent social relationships (e.g., with friends, small groups, coworkers, and especially romantic partners; Hazan & Shaver, 1987). Over the last several decades, these observations have contributed to the emergence of attachment theory as a dominant framework for understanding thoughts, feelings, and behaviors in close relationships across the lifespan.

Attachment researchers also highlight the importance of individual differences in the quality of close relationships across the lifespan, otherwise known as attachment orientation. These differences are generally conceptualized by a person’s position on two relatively independent dimensions: attachment-related anxiety and avoidance. The anxiety dimension reflects “hyper-activation” of the attachment system and often manifests in an obsessive concern over the availability of attachment figures. People with higher levels of attachment anxiety tend to have more negative views about the self and others, worry about being abandoned, and become easily overwhelmed by interpersonal stressors (Mikulincer & Shaver, 2008). The avoidance dimension is characterized by chronic attempts to deactivate or inhibit the attachment system (Edelstein & Shaver, 2004). People with higher levels of avoidance have more negative views of others (but not necessarily the self), are uncomfortable with physical and emotional intimacy, and try to minimize the experience and expression of distress. People with low levels of both anxiety and avoidance are considered “secure” and are typically comfortable with interpersonal closeness and intimacy. Secure individuals are more likely to have relationships that are characterized by trust and commitment compared with their insecure (anxious and avoidant) counterparts. As described next, one’s attachment orientation also plays a critical role in physical health throughout the lifespan.

State of the Current Research Linking Attachment Orientations with Physical Health

Individual differences in attachment have been consistently linked with physical health outcomes. Attachment-related anxiety is a particularly robust correlate of physical health conditions that involve the cardiovascular system, such as stroke and heart attack. For example, people with high levels of attachment anxiety may have lower levels of cardiac vagal tone (Diamond & Hicks, 2005), which has been linked with early mortality and other negative health outcomes. Associations between anxiety and cardiovascular function may be attributed, in part, to chronic exposure to high levels of stress, which can impact a variety of physiological processes. In this vein, anxious people also report more physical health symptoms, such as headaches and digestive issues (Feeney & Ryan, 1994); anxious individuals with a diagnosed illness, such as irritable bowel syndrome, also report more severe symptomology compared with less anxious people.

Attachment avoidance has been less consistently linked with physical health, but avoidant people may still be at greater risk for physical health problems. Characteristics of avoidant attachment—such as suppressing negative emotions—contribute to a number of health problems, especially those involving pain, such as migraines and rheumatoid arthritis. In addition,
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like attachment anxiety, avoidance is associated with poor heart rate regulation. For instance, more avoidant individuals have decreased vagal tone (McWilliams & Bailey, 2010), which also puts them at higher risk for cardiovascular problems. However, much remains to be understood about the mechanisms that may underlie attachment-related differences in health, that is, how and why attachment may be associated with physical health outcomes. We turn to these potential mechanisms in the following sections.

Mechanisms Linking Individual Differences in Attachment with Physical Health Outcomes

How might individual differences in attachment influence physical health? In the following sections, we focus on four of the most commonly investigated mechanisms that have strong implications for health and well-being: social support, health behavior, emotion regulation, and physiological response systems.

Social Support

Attachment orientations have been linked with social support, which is a strong predictor of health. For instance, people with stronger social support networks consistently report fewer health problems, including fewer cardiovascular conditions, lower rates of infectious disease, and even lower mortality rates from cancer than those without such support. Importantly, attachment orientations influence people’s perceptions about the availability of social support: anxious people often feel a lack of support from close others, despite evidence to the contrary; avoidant people are less likely to acknowledge that they need support at all (Ognibene & Collins, 1998). Securely attached people view others as reliable sources of support and tend to make accurate appraisals about the amount of social support that is available to them (Ognibene & Collins, 1998). Differences in beliefs about the availability of support could be an important link between attachment orientation and physical health outcomes.

Attachment-related differences in physiological responses to social interactions in everyday life can also affect physical health. For instance, anxious adults exhibit increases in blood pressure while engaging with friends, indicating a state of hyperarousal not typically seen among less anxious individuals (Gallo & Matthews, 2006). Avoidant people similarly show a marked increase in blood pressure during relationship conflict compared with those who are less avoidant (Gallo & Matthews, 2006), which may reflect attempts to stifle emotions or avoid intimate conversation. Although these individual differences in regulatory systems may seem minor at first glance, the cumulative effects of stress can have a major impact on health across the lifespan (Maunder & Hunter, 2001; Robles, Brooks, Kane, & Schetter, 2013). Yet, despite the importance of social interactions for health and well-being, surprisingly little research has been conducted to examine whether differences in social support or social interactions underlie attachment-related differences in physical health outcomes.

Health Behavior

Individual differences in attachment are associated with a range of behaviors that directly impact health, including diet and eating habits, smoking, risk taking, and sexual behavior. For example, people with higher levels of attachment anxiety report more distress about their
weight than less anxious individuals in the same weight range, indicating a preoccupation with body image. Yet anxious individuals report exercising less than their nonanxious counterparts (Ahrens, Ciechanowski, & Katon, 2012). Moreover, women with anorexia nervosa (restricting and binge–purge subtypes) or bulimia nervosa report significantly higher levels of anxiety and avoidance than women without a diagnosed eating disorder (Illing, Tasca, Balfour, & Bissada, 2010). Attachment anxiety is also associated with greater symptom severity and poorer treatment outcomes among women with an eating disorder, regardless of the subtype (Illing et al., 2010). These associations suggest that there may be some overlap in the mechanisms that contribute to attachment insecurity and disordered eating. Specifically, restrictive eating behavior may be a way to create distance from the self, a characteristic of avoidant attachment; overeating or binging, in contrast, may be an expression of unregulated emotion, which is related to anxious attachment (Zachrisson & Skårderud, 2010).

Avoidance is also associated with risky health behaviors, including smoking and not wearing a seat belt (Ahrens et al., 2012; Zachrisson & Skårderud, 2010), both of which can contribute to poor health outcomes. Failure to wear a seat belt increases the likelihood of suffering a serious injury in a car accident; long-term smoking sharply increases the probability of health issues, including breast, lung, and throat cancer (Silverberg & Ratner, 2015). Perhaps not surprisingly, both risk behaviors reflect some degree of compulsive self-sufficiency or self-reliance, a key characteristic of avoidant attachment. Smoking is often used to reduce anxiety; not wearing a seat belt could reflect the rejection of others’ concerns about safety or of societal norms more generally.

Both attachment avoidance and anxiety have also been linked with risky sexual behavior, which could contribute to long-term health outcomes by increasing rates of sexually transmitted infections (STIs). As an example, anxious women are less likely to know details about their partners’ sexual history and are more likely to have consensual but unwanted sexual encounters (Ahrens et al., 2012; Maunder & Hunter, 2001). These differences might reflect anxious women’s need for acceptance and approval, which could make it difficult for them to say “no” to a partner or to engage in conversations about safer sex practices. Among young adults, attachment avoidance has been linked with endorsement of casual sex (Gentzler & Kerns, 2004) and increased likelihood of engaging in sexual intercourse with a stranger, which could increase risk for unplanned pregnancy and contracting STIs.

Finally, there are attachment-related differences in the extent to which people report health symptoms and follow instructions given by a physician. Although anxious people are more likely to report health issues than those who are secure or avoidant (Ahrens et al., 2012), they may become frustrated if medical problems persist and may even sabotage their own treatment (Feeney & Ryan, 1994). In contrast, avoidant people who experience chronic pain are less likely to seek help in general and may be less likely to comply with treatment (Mikail, Henderson, & Tasca, 1994). Secure people with chronic pain disorders are more likely to see a doctor, comply with a prescribed course of treatment, and seek social support when dealing with pain (Mikail et al., 1994). Thus, attachment-related differences in health behavior may be an important reason for attachment-related health disparities. Health interventions that align with a person’s attachment orientation may, therefore, be more effective than general interventions. Perhaps anxious people would respond more favorably to group interventions (e.g., Weight Watchers or group therapy). Anxious individuals’ need for approval from group members could increase their motivation to achieve health goals. Avoidant individuals, in contrast, might be more receptive to interventions that do not include others (e.g., self-education or informational videos).

It is important to note, however, that many studies of attachment-related differences in physical health behaviors utilize relatively small samples that are homogenous with respect to
participant age and other important demographics (e.g., social class). More research is needed with larger and more diverse samples to determine whether extant findings are generalizable to the population as a whole.

Emotion Regulation

When experiencing a strong emotion, such as anger, fear, or excitement, physiological alterations occur in multiple systems of the body (e.g., cardiac functioning, blood pressure, stress levels). Depending on how often and the degree to which an emotion is experienced, fluctuations in regulatory systems can have a direct impact on health. Moreover, insecurely attached people are more likely to use emotion regulation strategies that either exaggerate or inhibit emotions, which can have the consequence of increasing negative emotions, stress, and physiological reactivity.

For instance, anxious individuals are more likely to utilize strategies centered on managing negative emotions, such as rumination, and often envision worst-case scenarios when attempting to control emotions (Mikulincer & Shaver, 2008). Doubts about a partner’s availability can trigger repetitive worry about abandonment that further exacerbate painful feelings and thoughts. Avoidant individuals learn early in life that expressing emotions or seeking support from others can lead to rejection. As a result, people with avoidant attachment orientations try to limit their distress by suppressing their emotions and by not seeking support in order to avoid rejection or unwanted closeness (Edelstein & Shaver, 2004). In contrast, people with a secure attachment orientation generally report less negative emotional reactions to distressing situations and are more likely to use support-seeking strategies to regulate their emotions, which, as described earlier, can have important health benefits.

The association between insecure attachment and poor emotion regulation skills may reflect the influence of stress on neural processes. Stress is linked with low cell density in the hippocampus, an area of the brain that assists in emotion regulation (Mikulincer & Shaver, 2008). Higher levels of stress may reduce the density of cells in the hippocampus and impact one’s ability to effectively process and handle emotions. Similar to disorders that have accompanying emotion regulation difficulties (e.g., depression and PTSD), both anxious and avoidant attachment are associated with lower cell density in this region of the brain (Quirin, Gillath, Pruessner, & Eggert, 2010). However, it is not yet clear whether emotion regulation and stress lead to lower cell density, or whether lower cell density in this region of the brain leads to poor emotion regulation and stress (see section on biological mechanisms for further discussion of attachment and stress). Thus, more research is needed to determine the directionality of these associations.

In addition to reduced hippocampal cell density, attachment anxiety is associated with increased activity in the anterior temporal pole, a brain region associated with sadness and emotional memory retrieval (Quirin et al., 2010). Overstimulation of these regions, which can happen during relationship conflict, can make it difficult for people to recover memories. The association between anxious attachment and emotional memory retrieval may explain why anxious individuals find it difficult to recall positive memories during conflicts (Dolan, Lane, Chua, & Fletcher, 2000); this difficulty may, in turn, increase sadness and stress.

Physiological Response Systems

Biological processes may provide another important link between individual differences in attachment and health outcomes. When an environment is perceived as threatening or uncontrollable, the hypothalamic–pituitary–adrenal (HPA) axis is activated, and its product, the
steroid hormone cortisol, is released into the bloodstream. Although short-term stress responses are generally adaptive, more chronic HPA activation can be problematic for health. People with maladaptive stress response patterns are at greater risk of cardiovascular disease, stroke, and lower well-being. Importantly, there are attachment-related differences in the basic functioning of the HPA axis. For example, insecure individuals report more stress and display an abnormally high cortisol response during disagreements with their romantic partner compared with secure adults (Kafetsios & Sideridis, 2006). Attachment avoidance has also been associated with lower levels of estradiol (Edelstein, Kean, & Chopik, 2012), another steroid hormone that can help to attenuate physiological stress responses.

Individual differences in attachment also influence the body’s ability to effectively defend against infection, disease, and illness. To illustrate, attachment anxiety is linked with multiple indicators of a disrupted immune response during relationship conflicts. This may be a result of anxiously attached individuals’ generally poor conflict management skills and their tendency to be more psychologically aggressive during conflict (Turner & Langhinrichsen-Rohling, 2011). Turner and Langhinrichsen-Rohling (2011) suggest that anxious individuals’ aggressive tendencies might result from attempts to coerce their partner to meet their needs or keep their partner from withdrawing during conflicts. However, psychological aggression in an attempt to keep one’s partner close and prevent abandonment can make relationship conflicts even worse. Not surprisingly, more negative conflicts are associated with greater stress, and this stress can often be seen at the biological level. Indeed, psychological aggression during conflict is linked with decreased immune cell function and larger increases in interleukin-6 (IL-6, a common measure of immune functioning) up to 18 hr after a conflict (Péloquin, Lafontaine, & Brassard, 2011). Increased IL-6 levels, in turn, are linked with a number of poor health outcomes, including cardiovascular disease, diabetes, and even some forms of cancer (Kiecolt-Glaser et al., 2005). Similar associations have been uncovered with other measures of immune functioning; for example, people with higher levels of attachment anxiety have fewer helper and killer T cells, which aid in the destruction of cells in the body that are infected with cancer or viruses or that have been damaged in some way.

Trans-epidermal water loss is an indicator of wound healing (skin barrier recovery) and provides yet another measurement of an individual’s immune system functioning. In one study, couples experienced a relatively painless tape-stripping procedure before participating in a conflict discussion (Robles et al., 2013). The amount of trans-epidermal water loss was measured for 2 hr after skin disruption. Among women, higher levels of attachment anxiety predicted faster wound healing, but among men, higher anxiety predicted slower wound healing. Robles et al. (2013) posit that providing and receiving support may be more threatening for anxious men than for anxious women due to gender differences in social norms and socialization pressures, which could decrease the efficiency of anxious men’s immune system functioning.

Avoidant attachment has been less consistently linked with immune function. In one study, avoidant individuals produced more IL-6 in response to relationship conflict and had a greater pro-inflammatory cytokine response (Gouin et al., 2009), suggesting a limited ability to fight off infection and inflammation. Although some cytokines are anti-inflammatory and are good for maintaining overall health, pro-inflammatory responses accelerate disease progression and are associated with poorer health outcomes (Kiecolt-Glaser, Gouin, & Hantsoo, 2010). However, in another study, avoidant attachment was not associated with immune functioning (Kiecolt-Glaser et al., 2010).

It is important to note that measures of stress, cortisol reactivity, and immune function should be considered in the broader context of biomarkers that, if dysregulated, could have implications for poor health outcomes. As an example, it is not yet clear whether the association
between attachment insecurity and cardiovascular disease can be explained by a heightened stress response, unhealthy behaviors such as smoking, a lower likelihood of healthcare utilization, or a combination of all of these factors (and likely others). It does seem clear, however, that biological processes can help to explain links between attachment and health. It will be important for future research to assess both psychological and physiological processes to better understand the influence of adult attachment orientation on health outcomes. Such integrative research is an ambitious endeavor, but it is essential for theory development.

Future Directions

Situating Attachment Theory and Health Within a Dyadic Framework

To date, most studies of attachment and health have examined relations among preventative behaviors, stress-related emotions and behavior, and physiological and neuroendocrine responses to interpersonal stress at the individual level. Recently, however, researchers have attempted to situate the effects of attachment orientations on health within a relational, or dyadic, framework. A dyadic framework is critical because many of the proposed mechanisms linking close relationships with health (e.g., support, perceived partner responsiveness, relationship satisfaction) are hypothesized to occur between relationship partners (Jaremka et al., 2013). Generally, one romantic partner’s positive psychological characteristics and health behaviors are thought to benefit his/her partner’s physical well-being.

Pietromonaco, Uchino, and Dunkel Schetter (2013) argue that individual differences in attachment interact with relationship processes to influence physical health outcomes. According to their theoretical model, individual differences in attachment influence interpersonal behavior in stressful situations, such as major life transitions (e.g., pregnancy and parenthood) and acute relationship conflicts. For instance, in a stressful situation, avoidant adults may be less likely to seek out support from a romantic partner and more likely to try to suppress their emotions. As a result, avoidant adults may feel particularly stressed; their stress response system may become overly active, and/or they may engage in unhealthy behavior. Greater stress responses and deleterious health behaviors, in turn, can increase the likelihood for poor health outcomes and disease. Importantly, this model also accounts for the influence of a partner’s dispositions and behavior on an individual’s health. For example, an avoidant person may be less likely to provide support to a loved one who is particularly stressed; she/he may even undermine a partner’s efforts to fix a problem. These kinds of interactions could increase feelings of stress, and the associated physiological stress responses, in turn increasing the likelihood of poor health outcomes and disease.

Although there is growing empirical support for Pietromonaco et al.’s (2013) model, important questions remain to be addressed by future research. For instance, the psychological and physiological variables assumed to mediate associations between attachment orientations and health outcomes are not often tested. Little is known about how both partners’ attachment orientation might predict relationship processes (e.g., responsiveness, satisfaction, commitment) and health behavior that lead to poorer physical health outcomes over time. Parts of this model have been tested, but it has yet to be evaluated in full. Even less is known about pathways linking attachment orientations to dyadic interactions, and ultimately to health, among middle-aged and older adults. Most studies of attachment involve younger adults and couples; the challenges that middle-aged and older couples encounter are often unique to their stage in life and differ from that of a younger population. Perhaps the consequences of
these processes accumulate over time, only arising after people have been in relationships for many years (as would be the case for middle-age and older adults). Other age-graded responsibilities (e.g., children, work, retirement, caregiving) may also exert additional stress that is not well accounted for by the theoretical model.

Future research on attachment and health outcomes should implement dyadic and longitudinal research designs and focus on more objective measures of health. For instance, people with anxious attachment styles report more health symptoms, but it is unclear whether they are simply more likely to report poorer health, or if they objectively experience more health symptoms. Another fruitful avenue for future research is examining the developmental antecedents of the attachment–health link. In addition to focusing on self-reported health among insecure individuals, it is important to look at early childhood attachment experiences as they relate to the diagnoses of specific diseases in adulthood.

Examining Prospective Associations Between Attachment and Physical Health

Much of our discussion thus far has focused on links between individual differences in attachment and health in cross-sectional and isolated, short-lived settings (i.e., during a single interaction task or a laboratory stressor). However, many of the mechanisms that are hypothesized to link attachment to health, such as allostatic load (i.e., the long-term effects of chronic stress exposure), reflect phenomena that unfold over time. Indeed, attachment processes and experiences at one point in time may be related to physical health at a later point in time. For instance, memories of higher quality care in childhood are related to better self-rated health, fewer chronic illnesses, and lower depression over a 4-year period (for adults in their 60s) and over a 10-year period (for adults in their 40s; Chopik & Edelstein, 2015). Attachment insecurity in childhood also predicts the likelihood of reporting physical health symptoms 30 years later. Adults who were anxiously attached in childhood are seven times more likely to report inflammation-related diseases (i.e., coronary heart disease, asthma, diabetes, stroke, and hypertension) and three times more likely to report nonspecific symptoms (i.e., migraines, chest pains, fainting spells, indigestion, and backache) compared with adults who had a secure attachment style in childhood (Puig, Englund, Simpson, & Collins, 2013).

Although prospective data are crucial to understanding these linkages, longitudinal studies that examine attachment, health, and possible mediators between the two are relatively rare. Longitudinal data are particularly important because they can help parse out which factors are most strongly related to health and well-being and provide further evidence of the enduring effects of attachment on health. Yet even prospective studies are not without flaws. For example, multiple mechanisms are rarely tested within the same study to assess the relative contributions of each—an important consideration given the overlap among many explanatory variables. To illustrate, secure attachment is associated with healthier behavior and greater feelings of social support, two variables that may be (a) intercorrelated (e.g., people with greater social support may also exercise and/or diet more) and (b) predict health independently of each other. But which is more likely to explain the link between attachment and health—health behavior, social support, or both? Examining prospective links while examining multiple mechanisms is often the best approach to disentangling exactly what is driving a specific association.

Another limitation of these studies is the tendency to focus on the “book ends” of life—either late adolescence/early adulthood or older adulthood, so the processes associated with health in middle adulthood are less clear. Additionally, most studies are correlational, so relatively little is known about the causal direction of any associations. Future research could make greater use of longitudinal data to provide stronger tests of the various mechanisms
hypothesized to link attachment to physical health and to better understand the causal direction of attachment–health associations.

**Conclusion**

Close relationships have important implications for physical health and well-being, and higher quality social relationships are consistently related to better physical health. In this entry, we presented evidence that individual differences in how people approach relationships can have important health consequences. Overall, both attachment anxiety and avoidance are associated with a greater risk for the development of disease and chronic illness. Anxiously attached people generally report more physical health symptoms and seem particularly vulnerable to conditions that involve the cardiovascular system. Attachment avoidance has been less directly related to physical health, although there is limited evidence of a link between attachment avoidance and physical conditions involving pain. But how does one’s attachment orientation or feelings about close relationships influence their physical health?

Researchers are just beginning to examine the processes that might help to explain why attachment is associated with health outcomes. In this entry, we discussed several factors that impact health and well-being: perceptions of social support, health behaviors, emotion regulation, and physiological and neuroendocrine response systems. Examining these mechanisms (and others) can provide greater insight into both relationship and health-related processes and how they interact in different contexts.

Going forward, research on attachment-related differences in health should begin to address several key limitations. First, future research should implement dyadic designs that include both couple members to elucidate how people’s attachment styles influence their own and their partner’s health. Second, future research should adopt longitudinal designs to examine how attachment–health associations unfold over time. Longitudinal studies are necessary to understand the directional nature of attachment–health findings and to capture the developmental course of health from early childhood to late adulthood. Addressing these limitations and investigating the multiple pathways linking attachment orientations to health can help people live not only longer but also happier lives as well.

**Author Biographies**

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William J. Chopik, PhD, is an assistant professor at Michigan State University. Dr. Chopik researches how relationships—and the people in them—change over time. He focuses on how factors both inside (biological, hormonal) and outside (social roles, geography) of people influence their approach to social relationships.
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References


**Suggested Reading**


