# Differences in Touching Behavior with Strangers and Acquaintances

## Based on Adult Attachment Theory and Sociability

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Abstract

The purpose of this study was to examine the relationship between adult attachment style and touching behavior, as well as the relationship between sociability and touching behavior, when interacting with both strangers and acquaintances. Previous research on romantic relationships suggests that individuals with avoidant attachment styles tend to avoid touching their romantic partners, whereas individuals with anxious attachment styles over-touch their romantic partners. As well, research on personality traits suggests that individuals who are high in openness and agreeableness, both characteristics of sociable people, tend to participate in touching behavior more. In the current study, 125 participants completed the Experiences in Close Relationships questionnaire to measure attachment to their mothers, the EAS Temperament Survey, and a self-report measure of touching behavior. As hypothesized, people who had more anxious attachment styles were more likely to report touching female strangers. In addition, both males and females who had more avoidant attachment styles were more likely to avoid physical contact with their parents. As predicted, participants who were more sociable were more likely to touch others than less sociable participants. These results will be discussed in terms of attachment theory, and temperament.

Touch is an important part of culture that allows humans to express their opinions, emotions, and desires without using verbal communication. Some humans meet other people for the first time and choose to hug them, whereas others keep their distance and do not choose to shake the hand of others. Different situations provide opportunities for different types of touch. For example, students living on a college campus have the opportunity to attend many different social functions where they meet people for the first time. In many of these situations, students end up dancing intimately, kissing, or maybe even going home for the night with someone they have just met. Although to some it may be surprising that this type of behavior occurs among college students, to others it may seem natural because of how common touching behavior is in our everyday lives. People give and receive touch multiple times during a typical day, and therefore it is important to understand some of the reasons behind peoples touching preferences.

The purpose of the current study was to examine the relationship between adult attachment styles and touch frequency with different people, as well as the association between frequency of touching and temperament, specifically sociability. I was interested in individuals' touching behaviors with others whom they did not have a pre-existing, close relationship with, such as strangers and acquaintances, of both sexes. In general, people's interactions with individuals are dependent on the type of relationship they hold with those different people, and therefore it was thought that a more specific behavior, like touching, would also vary during interactions.

It is important that touch be studied because touch is our way of contacting or being contacted by the external world (Barnett 1972 as cited by Gallace & Spence, 2010). As well, touch plays an important role in communication, and allows us to exchange information in a nonverbal way easily. Using touch to contact and communicate with the external world and other

people is not only evident in adults, but is also extremely important during infancy (Frank, 1975). This suggests that touch is one of the most important forms of communication for humans of all ages because it allows even those who are not verbal to express their needs and desires. Touch cannot only indicate one's care and love, but also express fear and anger. In addition, touch can elicit feelings from the person being touched (Gallace & Spence, 2010). Therefore, it plays an important role in communication for both the giver and the receiver. As well, touch is an essential component not only in interactions with new people, but also in close and romantic relationships. Because touch can elicit specific feelings, such as fear, security or even sexual desires, it is important that touch be studied in order to understand what motivates certain touching behaviors, as well as the avoidance of touching, with specific individuals.

Touch is important starting at the beginning of life. When newborns attempt to communicate with their caregivers, touch is one of the first and only forms of communication available (Frank, 1957). Infants may show comfort and love through bodily interactions, just as mothers show their love and support by holding their infants. Babies are born with this need to be close to their caregivers, and through bodily contact activities like feeding, babies are able to satisfy this need (Ribble, 1944, as cited by Bowlby, 1958). Being touched allows infants to feel safe with and away from their caregivers, and gives them the ability to explore the world (Ainsworth, Blehar, Waters, & Walls, 1978). Being held as an infant can elicit feelings of being supported allowing infants to rely on their caregivers for help when they are in need of support (Anisfeld, Casper, Nozyce, and Cunningham, 1990).

Although touch is a significant factor in infant development, most research on touch has focused on the behavior when it takes place between adults. The research has not only examined the differences in touching behavior between individuals who know each other, but also has

looked at the touching differences in interactions between strangers. Touching between most people occurs at an arm's length away, but in many instances people touch each other with even less distance between them (Sussman & Rosenfeld, 1978). The distance between people during touching behavior is important, but the meaning of the touch is also significant depending on who is giving and/or receiving the touch. Importantly, the feelings that arise from touch can depend on the gender of the receiver and/or giver (Heslin, Nguyen, and Nguyen, 1983). In one study, researchers found that when women encountered touch from a man whom they had just met, they did not consider the possibility of becoming intimately involved with that person. In contrast, when men first met women, men's first considerations were whether or not they could become romantically involved with those women (Rytting, 1976). These findings are important because it suggests that there are differences of perception for men and women when participating in touching behavior with someone whom they have just encountered. Therefore, the ways in which men and women interact when using touch with strangers and acquaintances differ (at a minimum) based on the differences in the sex of the individuals involved.

Many researchers have focused on determining individuals' perceptions of the meaning of different types of touch based on who is giving and receiving the touch. One study asked participants to answer questions concerning "what touch meant" to them in relation to eleven specific parts of the body, four different types of touch (brush, pat, stroke, squeeze), and six different types of possible meaning (Heslin, et al., 1983). Results indicated that the meaning of touch depended on who was receiving and who was giving the touch. Women tended to perceive sexual desire and playfulness as separate meanings when touch was received from a close male friend: a close friend's touch that was perceived as playfulness was not also perceived as sexual desire. As for men, touches from close female friends were not only perceived as evidence of

sexual desires, but often also as playfulness (Heslin, et al., 1983). Secondly, results indicated that the type of touch and its invasion of one's privacy depended on the type of relationship the recipient had with the touch giver; touch from a stranger differed in its meaning and comfort compared to the same type of touch from a close friend (Heslin, et al., 1983). These findings were important in understanding people's reactions to touching behavior with both close friends and strangers. The results suggested that the type of relationship an individual has with the person they are touching or being touched by can have a significant effect on how the touch is perceived.

Similarly, the type of emotion touch elicits for an individual can influence the perception of touch. Sometimes touches can be considered positive or negative, depending on the recipient and the giver. Although other research has suggested that touch from a stranger produces more negative reactions in comparison to close friends, one study found that touch from strangers, in certain situations, produced positive reactions for some participants (Geis & Viksne, 1972). For example, participants did not report negative perceptions when receiving massages from people they had never met (Geis & Viksne, 1972). Some researchers suggest that if a touch that would normally be perceived as a violation has a sufficient justification, it may no longer be considered a violation (Sussman & Rosenfeld, 1978). This suggested that even though individuals may not have known the person who was touching them, as long as there was a positive reason for the interaction, then it did not elicit negative emotions. Therefore, people will allow others into their personal space, often through touch, if there is justification for doing so (Sussman & Rosenfeld, 1978). Findings such as these support certain individuals' desires to participate in touching behaviors with strangers, such as sexual intercourse, because the consequences of the touching are positive, and for that reason they can be justified.

Harnett, Bailey, and Gibson Jr. (1970) were also interested in individuals' differences in allowing others to enter their personal space. Researchers examined people's preferences for closeness with others depending on the sex of the experimenter and the type of movement completed by the experimenter and/or participant (i.e. approaching the experimenter or being approached by the experimenter; Harnett et al, 1970). Results indicated that females allowed the experimenter to enter their personal space more often than males did. As well, for both males and females, the confederate and participants ended up physically closer together when the confederate was the one who approached the participants, rather than when the participants approached the confederate (Harnett et al., 1970). This suggests that invasions of personal space could depend on the sex of the individual, as well as on whether the participant or the confederate did the approaching.

Similarly, Fromme et al. (1989) examined the relationship between personal space and participants' comfort with hugging strangers. Results not only supported previous research indicating that touch was observed to be a more comfortable behavior in females than males, but also suggested that participants who were more comfortable with touch were also more inclined to participate in an experiment that involved the hugging of male and female strangers (Fromme et al., 1989). The evidence on personal space supports the purpose of the current study by suggesting that there are individual differences in individuals' desires to participate in certain touching behaviors with strangers. The current study aimed to investigate specific characteristics of individuals in order to suggest reasons for these differences in touching behavior.

Furthermore, many studies have suggested that there are sex differences in the perception of touch for both appropriate touch and touch violation. One study found that when male or female library clerks touched college students on the hand, female students perceived the touch

in a more positive way than did the male students (Fisher, Rytting, & Heslin, 1976). As well, another study found that when people were placed in crowded conditions, females reacted more positively to the situation than did males (Freedman, Levy, Buchanan, & Price, 1972). Because crowded conditions often force people to touch each other, this study suggested that females had a more positive perception when placed in close proximity with others than did males.

Although much of the reviewed research has indicated that there are sex differences in the perception of touch, one study also found a sex difference in the frequency of touch between males and females, depending on the type of touch that occurred (Hall & Veccia, 1990). Researchers observed touching behaviors between individuals, who appeared to be together, in 20 different locations. It was found that males touched females more than females touched males when they were touching with their hand. As well, females were more likely to wrap their arms around their partners' arms, whereas males were more likely to place their arms around their partners' body. In addition, there was a difference in when the touches were initiated. Males tended to initiate touch first and therefore females' touches usually occurred after the men's touching was in progress (Hall & Veccia, 1990). Hall and Veccia (1990) also found that there were significant differences in the amount of, and initiation of, touch based on age: for those participants under 30 years, males were much more likely to touch females whereas the opposite was true for participants over 30 years of age (Hall & Veccia, 1990). This suggests that because there are sex differences in the type and frequency of touch, differences in individuals' desires to participate in touching behavior with newly met people may differ depending on the sex of the individual and the variations in what motivates men and women to participate in touch.

Because of the evidence suggesting the importance of touch and the sex differences that are associated with touch, researchers have been encouraged to examine touch avoidance. Touch

avoidance is defined as “a trait or individual difference measure of a person’s attitude toward touch” (Andersen, Andersen, & Lustig, 1987, p. 90). As many researchers have stated, touch is an important part of communication; thus touch avoidance is a way of predicting individuals’ opinions and reactions to touch. Being able to measure one’s touch avoidance allows psychologists to understand an individual’s feelings, including likes and dislikes, toward touch. Importantly, those people who demonstrate touch avoidance will touch others when necessary, but the touching will provoke undesirable feelings for individuals who avoid touch (Andersen et al., 1987).

Importantly, a connection has been made between touch avoidance and communication. Researchers have found that those who communicate less (verbally and non-verbally) are more fearful than those who communicate more (McCroskey & Richmond, 1987). As well, touch avoidance has been found to be associated with individuals’ aversions to communication when the interaction was rewarding (Martin & Anderson, 1993). This evidence suggests a reason for why people may avoid touch (they are avoiding communication) or avoid communication (they are avoiding touch).

Clearly evidence suggests that touch is an important part of our culture during all aspects of life and should be studied in order to better understand why touch with certain individuals occurs while it does not occur with others. Although some people do participate in touch with strangers, such as a handshake or even a one-night-stand, others choose not to, suggesting that individuals have extreme differences in their desires and perceptions of touch. Because of these obvious differences, it is important to understand what factors contribute to these differences in desires and perceptions. Specifically, it would be beneficial to find out if there are certain characteristics of people that determine their likelihood of accepting touch or giving touch to

others. Although there may be many explanations for this behavior, two possible constructs associated with people's touching behavior are attachment and temperament.

Attachment is referred to as infants' abilities to be dependent on their caregivers in a moment of need, and the likelihood of having those needs met (Bowlby, 1958). Bowlby suggests parents provide protection against life stresses for their children, as well as help children develop the skills necessary to be on their own later in life. Individuals' attachment styles are determined during infancy, depending on the quality of relationship with their mothers or primary caregivers. Infants who have attentive mothers who meet their needs and hold them often are more likely to experience a secure attachment.

Based on Bowlby's (1958) discussion of the differences in attachment and detachment depending on caregivers' abilities to meet the needs of their infants, researchers were interested in determining the role of mother-infant interaction on child development. In order to recognize differences in attachment, Mary Ainsworth developed a way to identify the style of attachment using a test called the strange situation (Ainsworth et al., 1978). The importance of this situation was that it invoked stress for the infants, and allowed researchers to observe the infants' behaviors towards their mothers when in a stressful situation (Ainsworth et. al, 1978).

Based on Ainsworth's findings, she was able to separate children into three distinct attachment groups: secure attachment, avoidant attachment (insecure), and ambivalent attachment (insecure; Ainsworth et. al, 1978). Infants were categorized based on their behavior with their mothers during the strange situation. In general, infants in the secure attachment group actively looked for interaction with their mothers when they returned to the room, and expected that they would be picked up (Ainsworth et. al, 1978). Infants classified as avoidant, demonstrated no interest in seeking proximity to their mothers, and attempted to ignore their

mothers' presence. (Ainsworth et. al, 1978). Lastly, in the ambivalent group the infants reacted similarly to the avoidant babies when the mothers first returned by resisting contact with their mothers, but if the mothers did pick up their infants, the infants would then attempt to maintain the interaction with their mothers (Ainsworth et. al, 1978). Therefore, infants' desire to actively search for support from their mothers and accept that support when given it, was associated with the type of attachment style the infants had. The children demonstrating the characteristics of a secure attachment most likely were cared for during times of need (Johnson, Dweek, & Chen, 2007).

In order to determine the factors that led to secure and insecure attachment, Anisfeld, Casper, Noyzce, and Cunningham (1990) conducted a study examining the importance of physical contact in determining attachment style. Researchers hypothesized that a mother's ability to provide support and be responsive to her infant was associated with an increase in physical contact, thus resulting in a more securely attached infant. The study recruited low socioeconomic mothers who had recently given birth to their infants. Participants were randomly assigned to either receive an infant seat (hard carrier), or a soft carrier that involved more physical contact between mother and infant (Anisfeld et al., 1990).

Results indicated that mothers who were given the soft carriers were more responsive to their infants when they made noise in comparison to the hard carrier group. Importantly, the infants were administered the strange situation (at 13 months) in order to determine the attachment style of the infants from each condition. Results indicated that mothers who were given the soft carrier were more likely to have securely attached infants, than those mothers who received the hard carrier. These results were important because they suggested that physical contact (touch) plays an important role in allowing an infant to feel supported by the mother, and

confident that she will meet his/her needs. Infants who are able to rely on their mothers for this type of support are able to develop a secure attachment (Anisfeld et al., 1990). These findings play a significant theoretical role in understanding adults' differences in touching behavior. It is suggested that if individuals did receive an adequate amount of touch as infants, resulting in a secure attachment, then perhaps secure individuals are more likely to perceive touch in a more positive way, as well as give touch more often. Thus, the amount of physical contact between an infant and mother may be an indicator of which type of individuals will be more likely to have positive touch interactions with different kinds of people (i.e. strangers, acquaintances).

Based on attachment in infancy, researchers have become interested in the influence of infant attachment style on individuals later in life, as well as determining the stability of attachment style over a life course. Many researchers began by examining the stability over shorter periods of time, and eventually demonstrated a somewhat consistent attachment style over many years. Using the strange situation, Waters (1978) examined the changes in attachment styles for infants over a six-month period, and found that 96% of children were categorized as having the same attachment styles before and after the six-month period (Waters, 1978). Main and Cassidy (1988) found that individuals' attachment classifications as infants were predictive of their attachment styles at six years of age.

Similarly, several studies have assessed the stability of individuals' attachment after 18 years of life. By administering participants the strange situation as infants, and then using an adult attachment measure many years later, researchers were able to determine how stable individuals' classifications of attachment style were. Waters, Hamilton and Weinfield (2000) examined the stability of attachment by administering the strange situation to participants as infants, and then assessed their attachment as young adults. Attachment was found to be

significantly stable between infancy and young adulthood, and those participants who did not demonstrate attachment stability, had suggestive reasons for why it may have changed (i.e. a traumatic event; Waters et al., 2000a). Waters, Merrick, Treboux, Crowell, and Albersheim (2000) found 72% of participants' attachment classifications were stable over a 20-year period. As well, results indicated that those participants who experienced a change in attachment style had also experienced a traumatic event since measurement of attachment in the strange situation during infancy (Waters et al., 2000b).

In addition, a study by Iwaniec and Seddon, (2001) found that there was a significant relationship between infants' attachment styles and the same individuals' attachment styles in adulthood. In an even longer longitudinal study, Sroufe, L. A., Egeland, D., Carlson, E., & Collins, W. A. (2005) found a significant relationship between attachment styles in infancy and adulthood over a 26-year period. Lastly, Fraley (2002) conducted a meta-analysis of 27 studies, in order to compare the results of multiple studies that examined the continuity of attachment through adulthood. Results indicated that there was a significant correlation between individuals' classifications in infancy and adulthood. This suggested that attachment style does have some continuity (Fraley, 2002).

Knowing the stability of attachment style over an individual's lifetime, researchers were interested in the characteristics of each attachment style in adulthood. For adults, attachment style can be measured using a questionnaire or an interview. Individuals' attachment styles are not only determined by their relationships with their mother, but can also be measured for other relationships, including romantic partners or fathers. In the current study, participants' attachment styles were determined based on the relationship with their mothers. In general, people with secure attachment styles have positive perception of themselves, and their

relationships with many different people (intimate and non-intimate). As well, they enjoy participating in intimate experiences, but also appreciate the independence they have (Howe, 2011). Specifically, research has indicated that securely attached individuals are able to think about past situations without affecting how they feel, think, or behave. They know when they have committed good and bad behaviors, and are able to change their behaviors based on experience (Howe, 2011). They are able to consider the actions of both themselves and others, and relate these actions back to their own feelings. They are usually very honest people whom others can trust, and they may be able to provide helpful guidance when someone is in a time of need, especially because they are good monitors of what is appropriate to say (Howe, 2011).

Importantly, secure individuals see people as a resource for them, and will seek support from others. For example, when securely attached individuals are in a stressful situation as adults, they will often still ask their parents for help. In romantic relationships, secure individuals often feel comfortable disclosing personal information. In general, their romantic relationships are well functioning in that they are open to talking and compromising, they listen to their partners, and they are good at solving problems with their partners as a team (Howe, 2011). They are trustworthy and are able to trust their partners. They find satisfaction in their relationships and tend to be very committed (Simpson, 1990). Spending time with others is important to secure individuals, but they also appreciate time alone (Howe, 2011). Theoretically, for purposes of the current study, an individual demonstrating a secure attachment style was expected to be more likely to participate in touching behavior with strangers because they tend to seek support from other individuals, and are willing to help others who are in need.

Adults classified as having avoidant attachment styles are extremely independent because they do not feel comfortable interacting closely with others for fear that they may become

emotionally involved (Howe, 2011). Specifically, for these individuals, the attachment system is rarely activated. These people do not see the importance of being attached in many different relationships, and they often feel anxiety when participating in close relationships. They avoid emotion at all costs by refraining from talking about or coming in contact with stressful or threatening situations. This aspect is important because it allows them not to be reminded of experiences in their past that involved rejection (Howe, 2011). Similarly, they tend to hide their feelings, both positive and negative, in order to avoid creating relationships with or receiving attention from others. They do not use their close friends and families as support systems, therefore being characterized as very independent. They do not have strong feelings for one opinion or another, and tend not to seek support from others for fear of being hurt (Howe, 2011). Based on these characteristics, it is likely that an avoidant individual would not participate in close bodily contact in order to avoid any type of relationship, especially when the interaction is with a stranger. If avoidant individuals fear becoming involved with others, then they are likely to avoid strangers in fear of potential relationships.

Importantly, in a time of need, avoidant individuals will either hide or even deny that they are experiencing a stressful situation, and they will attempt to fix the situation on their own. As well, avoidant individuals tend to suppress extreme emotions and therefore are likely not to remember important and positive aspects of close relationships (Howe, 2011). Because of this, when avoidant individuals are asked to recall aspects of their past close relationships, they have a hard time doing so (Miller, 2001). The memories they do recall seem to evoke no emotion. These individuals lack memories for situations that most secure individuals would find important and emotion filled. This ability to dismiss experiences that involved emotion or attachment suggests why avoidant individuals do not depend on close relationships for support and guidance. By

being able to avoid emotional experiences, avoidant individuals are able to protect themselves from being rejected (Howe, 2011). Again, avoidant individuals are probably less likely to participate in physical contact with most other people, because avoidant individuals will not risk the possibility of emotional involvement.

Avoidant individuals tend to have many short-term romantic relationships because if relationships are achieved, they approach them with the expectation that they will be brief and lacking real affection (Howe, 2011). As well, they tend to associate their romantic relationships with negative emotions (Simpson, 1990). Because sexual intimacy can involve both physical and emotional contact, many avoidant individuals depend on three strategies in order to avoid dealing with emotions involved in sexual intercourse (Howe, 2011). Some individuals avoid sexual intercourse completely or as much as possible, whereas others who do participate in it, attempt to avoid enjoying it. Lastly, some avoidant individuals do participate in sex, but emphasize its importance in fulfilling a sexual need, and avoid any emotional aspect. Because of the lack of long-term relationships and emotional investment, many avoidant individuals are seen as being somewhat promiscuous and superficial (Howe, 2011). This suggests that avoidant individuals will participate in touching behavior in certain instances as long as there is no emotional tie and the purpose of the touch is to fulfill a sexual need. For purposes of the current study, it was expected that avoidant individuals would participate in less touching behavior because, in general, most strangers that individuals meet will not be fulfilling a sexual desire.

Individuals with anxious/ambivalent attachment styles are extremely dependent on others because they fear being abandoned, and therefore display their emotions and worries often more than others. Specifically, these individuals may have low self-esteem. Many invest too much emotion into close relationships because they fear being left alone (Schmitt & Allik, 2005).

They frequently experience distress and anxiety due to their fears of abandonment, and this can lead to others viewing them as dramatic and immature. These individuals are in need of repeated reassurance by those they are close to. They are in need of attention, intimacy, and close emotional connection in order to feel adequate. Many times they insist on becoming too emotionally involved before their partners feel ready. As well, these individuals have many needs, and if these needs are not met, many anxious/ambivalent individuals assume they are being rejected, and therefore have difficulty monitoring their emotions (Howe, 2011). Although there are few studies that provide evidence for the touching behaviors of anxious/ambivalent individuals, it seems likely that people with anxious/ambivalent attachment styles would participate in a higher degree of touching behavior in order to ensure that they do not feel rejected by others. Anxious/ambivalent individuals would likely participate in more touch with people they do not know well (strangers), as well as with people they are close to (a friend), in order to guarantee they will not be abandoned.

Anxious/ambivalent individuals' feelings are often demonstrated in their behaviors due to their inability to control their emotions. For example, the resurrection of one bad memory can result in extreme anxiety and distress. This lack of self-control often leads to these individuals being willing to tell the life stories of their relationships to anyone who will listen. Unlike securely attached individuals, anxious/ambivalent individuals want to have the attention on them at all times (Howe, 2011). This suggests that anxious/ambivalent individuals may be more likely to touch others in order to ensure they will not lose the attention of others. They do not enjoy spending time alone because it makes them feel unwanted (Howe, 2011). Again, it is likely that by participating in touching behavior, anxious/ambivalent individuals may have a greater chance of feeling wanted if the person they are touching reciprocates.

These individuals believe that falling in love is a simple process, but constantly worry that their partners are unfaithful or no longer love them. When participating in intimate behaviors, ambivalent individuals often do not enjoy their experiences because they are focused on the thoughts of the other person. Importantly, romantic relationships tend not to be as successful as one would hope because of anxious/ambivalent individuals' fears of being abandoned. They tend to express mature emotions very early on in their relationships, as well as express overwhelming fears of separation anxiety (Howe, 2011). Consequently, this leads to their relationships often being associated with somewhat negative emotions (Simpson, 1990). Thus, it would be logical to assume that anxious/ambivalent individuals would be more likely than secure and avoidant individuals, to touch others. Touching behavior would allow anxious/ambivalent individuals to stay in close contact with others, decreasing the likelihood of potential separation.

Generally, the characteristics of each type of attachment style tend to be prominent in individuals' relationships with romantic partners, as well as in interactions with new people (strangers). One study examined the relationship between the attachment style of adolescents and their initial interactions with new people (Feeney, Cassidy, & Ramos-Marcuse, 2008). Participants were placed with another individual whom they had never met before. Pairs of participants were asked to discuss specific topics that related to areas of their lives that they might have found difficult. Participants were asked to take the role of "support seeker" or support-provider" during the discussion. Results indicated that there was a significant relationship between attachment style and interactions with strangers. Specifically, more securely attached individuals participated in support-seeking behavior, as well as support-receiving behavior more often than individuals with anxious/ambivalent or avoidant attachment styles.

Those who demonstrated anxious/ambivalent or avoidant attachment styles were more likely to respond to the stranger in a negative way. Those individuals who demonstrated anxious/ambivalent styles were initially somewhat hostile during their interactions, but if these individuals attempted to give support to the stranger and the stranger accepted, the anxious/ambivalent individuals' emotions became more positive. This exemplified the anxious/ambivalent individuals' desires to be accepted and not rejected, as well as how easily their opinions of the strangers could change (Feeney et al., 2008). Thus, if individuals with avoidant attachment styles are less likely than secure individuals to have a positive reaction during interactions with strangers, it is also likely that they would participate in less touching behavior during the same type of interaction. Furthermore, although anxious/ambivalent individuals primarily seemed hostile towards the strangers, their emotions did become more positive. This suggests that anxious/ambivalent individuals may actually participate in more touching behavior, in comparison to avoidant and secure individuals, because of their need to feel accepted.

In a similar study examining the role of attachment style in interactions with new people, participants were asked to engage in a puzzle-building task with an individual the participants had never met (Roisman, 2006). Results indicated that more securely attached individuals were more likely to demonstrate positive emotions during the difficult task, in comparison to anxious/ambivalent and avoidant individuals. Avoidant individuals engaged in more negative emotions during the task suggesting they were not interested in working on the task with the stranger (Roisman, 2006). Again, these results suggest that avoidant individuals are not interested in interacting with others, and would prefer to spend time on their own. Therefore, it is

likely that avoidant individuals would also choose not to participate in touching behavior since it involves interacting with other people.

Similarly, in research examining the relationship between adult attachment style and romantic relationships, researchers have found that individuals with secure attachment styles find their romantic relationships to be more satisfying, and tend to trust their partners (Simpson, 1990; Collins & Read, 1990). As well, they are committed and able to depend on their partners as much as their partners depend on them. Both avoidant and ambivalent individuals demonstrated an increase in negative emotions within their relationships. Specifically, the avoidant style was associated with lack of trust and commitment, as well as less satisfaction in the relationship. Avoidant individuals tended not to demonstrate interdependence within their relationships (Simpson, 1990). Interestingly, when participants were interviewed months later, for individuals who had broken up with their romantic partners, researchers found that individuals who experienced the least amount of stress from the break-up were avoidant men (Simpson, 1990). Based on our understanding of individuals with avoidant attachment styles, this result suggests that avoidant men might not emotionally attach themselves during romantic relationships in order to avoid being hurt. Thus, it could be inferred that avoidant style individuals would be less likely to engage in touch, compared to secure and anxious/ambivalent individuals, in order to protect themselves from feeling any emotional involvement.

The previous literature examined the relationship between attachment styles and involvement in romantic relationships and did not indicate any research investigating attachment styles and involvement with strangers. Similarly, studies that have focused on the association between attachment styles and differences in touch have also only focused on romantic relationships. Specifically, researchers have examined the differences in types of sexual touch.

One study found that individuals with secure attachment styles participated in close interactions with their romantic partners as demonstrated by a greater amount of nonverbal behaviors than individuals with anxious/ambivalent or avoidant attachment style (Tucker & Anders, 1998). In contrast, avoidant individuals tended to participate in fewer nonverbal behaviors suggesting that these individuals were not as close with their romantic partners (Tucker & Anders, 1998). Unexpectedly, anxious/ambivalent individuals did not show a need to participate in an excessive amount of touching behavior (Tucker & Anders, 1998). Researchers suggested that the reason anxious/ambivalent individuals may not have participated in an excess amount of nonverbal behavior as expected because they were in front of the experimenter and did not want to appear as if they were extremely "needy". As well, it is possible that anxious/ambivalent individuals' obsessions with feeling wanted may be more cognitive and in this situation was less likely to be displayed by their non-verbal behavior. Therefore, secure, avoidant, and anxious/ambivalent individuals show different patterns in touch within their relationships. It is possible that these same patterns of touch in romantic relationships could be applied to the type of touching behavior that these individuals would engage in with people outside of their relationships.

In a study on support seeking during a situation in which anxiety was induced, researchers found that in women with secure attachment styles, an increase in anxiety led to a greater attempt to obtain more support from their partners. As well, if women attempted to find support from securely attached men, the men would provide them with support (Simpson, Rholes, & Nelligan, 1992). In contrast, avoidant women made less of an attempt to find support from their partners as their anxiety increased. Avoidant men were less likely to provide support for women seeking their support (Simpson et al., 1992). These results suggest that when avoidant individuals experience an increase in anxiety they are less likely to seek support, as well as

provide support to someone else in need. Therefore, if avoidant individuals choose not to seek out their romantic partners in a time of need, then they are probably less likely to seek others and participate in any type of touching behavior outside of their romantic relationships.

In examining the sexual aspect of relationships, Davis et al. (2006) found that individuals classified as having an avoidant attachment style were found to have less physical and emotional sexual satisfaction in their relationships; anxious/ambivalent individuals indicated that they were only dissatisfied with the emotional aspect of sex, and not the physical. As well, research indicated that individuals with anxious/ambivalent attachment styles tended to have sex for the first time at an early age, and were more likely to cheat on their partners compared to avoidant and securely attached individuals (Bogaert & Sadava, 2002). This suggested that anxious/ambivalent individuals need to feel wanted more than avoidant and secure individuals, and therefore may retreat to having sex earlier and with whoever will have sexual intercourse with them, even if that means having sex with individuals who are romantically involved with others. Therefore, touch is an important aspect in anxious/ambivalent individuals' abilities to feel wanted.

Other researchers have examined the relationship between the frequency of sexual intercourse and adult attachment styles. It was found that if both partners were considered to have a more avoidant attachment style, they participated in less frequent sexual intercourse (Brassard, Shaver, & Lussier, 2007; Gentzler & Kerns, 2004; Bogaert & Sadava, 2002). Similarly, partners who both were considered to have anxious/ambivalent attachment styles participated in a greater amount of sexual intercourse than partners who differed in attachment styles (Brassard et al., 2007). As well, women and men who demonstrated avoidant attachment styles tended to avoid sexual intercourse with their partners. For women, sexual intercourse was

avoided more if an anxious/ambivalent attachment style was present for their partners, but not demonstrated by the women (Brassard et al., 2007). These studies suggest that avoidant styles individuals, within romantic relationships, choose to engage in less touching behavior (i.e. sexual intercourse), and therefore would be likely to make the same choice when interacting with people they are less comfortable around (i.e. strangers or acquaintances).

Gentzler and Kerns (2004) found that avoidant attachment style was not related to the number of partners, but rather to the type of partner in the sexual experience. Specifically, avoidant individuals had more sexual intercourse with people that they considered "casual" partners than with people that they were in a committed relationship with. This suggested that avoidant individuals were less restrictive than secure and anxious individuals when deciding whom to sleep with (Gentzler & Kerns, 2004). As well, it could possibly be proposed that avoidant individuals would choose only to participate in touching behavior with a stranger when the touch was meaningless. Researchers also found that both avoidant men and avoidant and anxious women had participated in multiple sexual experiences that they did not want to participate in. Importantly, although both types of individuals (avoidant men/women and anxious women) did not want to take part in the sex, these sexual experiences were all consensual (Gentzler & Kerns, 2004). Therefore, avoidant and anxious individuals perceive sexual touching experiences as less pleasing than secure individuals.

In a study focused on adolescent sexuality, results indicated that 13 to 19-year-olds demonstrating anxious attachment styles tended to fall in love frequently, and were more likely than their non-anxious peers to fear that their partners were going to leave them or reject them (Tracy, Shaver, Albino, & Cooper, 2003). In contrast, avoidant individuals tended to demonstrate a fear of having a romantic partner. Most avoidant individuals participated in sexual intercourse

in order to lose their virginities, rather than to be involved in close, romantic relationships. As well, avoidant individuals demonstrated less sexual activity, did not have a high sex drive, and appeared to doubt their sexual abilities (Tracy et al., 2003). Individuals with secure attachment styles were more likely to participate in romantic relationships, and did not fear becoming close with others in comparison to individuals with insecure attachment styles (Tracy et al., 2003). Often becoming emotionally close involves close proximity and can result in touching. Therefore it is likely that if insecure individuals are avoiding close emotional ties, they may also be avoiding close physical contact.

Although there is not a tremendous amount of research on the association between adult attachment styles and touching behavior, it is evident that attachment style may be a factor, specifically in romantic relationships. The majority of studies have indicated that individuals with different types of attachment styles demonstrate different touching behaviors (Feeney et al., 2008; Roisman, 2006; Simpson, 1990; Collins & Read, 1990; Tucker & Anders, 1998; Simpson et al., 1992; Davis et al., 2006; Bogaert & Sadava, 2002; Brassard et al., 2007; Gentzler & Kerns, 2004; Tracy et al., 2003). Individuals who were securely attached demonstrated healthy sexual lives, and did not fear separation from their partners. Avoidant individuals not only chose to avoid emotional relationships, but also attempted to participate in sexual intercourse only if it was solely for sexual pleasure. Anxious/ambivalent individuals tended to participate in more sexual intercourse than secure and avoidant individuals, especially if their partners were also considered anxious/ambivalent (Howe, 2011). This may suggest that for anxious/ambivalent individuals, fear of separation causes enough anxiety that they feel they must please their partners in whatever way to ensure they will stay.

Based on the previous research pertaining to attachment style and touching behavior in romantic relationships, it is possible that the same types of behaviors would be apparent in interactions with strangers. The current study focused on the relationship between adult attachment style and touching behavior with different individuals, including strangers. Because avoidant individuals fear becoming emotionally involved with another person, it is likely that they would avoid interactions with strangers to ensure there was no possibility of emotional involvement. Anxious/ambivalent individuals fear being abandoned and alone, so it is possible that these individuals would make an effort to touch strangers during interactions in hope that the strangers may reciprocate. For these individuals, reciprocation may indicate the possibility of a relationship, and therefore, someone to depend on. Because secure individuals enjoy both independence and intimate relationships, it is likely that they would participate in more touch than avoidant individuals, but less touch than anxious/ambivalent individuals.

Although both theoretical, and empirical evidence supports the relationship between adult attachment styles and touching behaviors with different types of individuals, it is also possible that other factors play a critical role in differences in touching behaviors. Temperament, another construct developing from infancy, could play an important role in these individuals' differences in touch. Buss and Plomin (1984) define temperament as personality traits that are inherited, therefore have a genetic component; the presence of these traits must be evident during early childhood. They suggest that these traits may be the basis for future personality traits. Buss and Plomin's (1984) definition of temperament consists of three broad traits: emotionality, activity, and sociability. All three traits are assumed to be apparent in many different situations (non-specific) and are often apparent at different points during life. Although some research has suggested that temperament does not show continuity, other research demonstrates that it is

relatively stable from approximately 5 years of age through adulthood. Studies have provided evidence for this stability by measuring participants' temperaments during childhood and then again many years later (Buss & Plomin, 1984).

Buss (1991) defines emotionality as "distress that is accompanied by intense autonomic arousal" (p. 47). The distress aspect of emotionality encompasses both fear and anger. Fear and anger can be observed through motor actions, facial expressions, as well as physiological changes (Buss, 1991). Buss and Plomin (1975) found that many variables associated with the dimension of emotionality were somewhat stable over time. Other studies examined personality traits that were correlated with emotionality and found that these traits were stable between middle and older childhood (Bronson, 1966). Buss (1991) defines activity as "the expenditure of physical energy" (p.43). Importantly, psychological effort is not included in activity because activity focuses solely on body movements. Activity examines the swiftness of different actions, and individuals' responses to other physical forces (Buss, 1991). Many studies have indicated some degree of stability for the activity dimension of temperament (Buss & Plomin, 1984). Studies have found participants' activity scores to be correlated between 1 and 3 years of age and 4 and 14-16 years of age, suggesting that the activity dimension of temperament is stable from younger childhood through adolescence (Schaefer & Bayley, 1963; Battle & Lacey, 1972).

Lastly, Buss (1991) defines sociability as "a preference for being with others rather than remaining alone" (p. 53). The biggest difference between those high and low in sociability is their desire to search for others to be around, as opposed to happily spending time alone (Buss, 1991). Sociability was the focus of the current study. Because temperament theory suggests that individuals higher in the dimension sociability may be more likely to participate in specific types of touching behaviors (Buss, 1991), the current study was interested in the relationship between

sociable people and their touching behaviors, specifically with strangers. Sociability is characterized by a preference for being around other people (Buss, 1991). People who are high in sociability actively search for others to be around, and can become extremely upset and irritated when they are required to spend time alone. Sociable people tend to have a greater number of friends, and may attempt to become acquaintances with new people more often than less social people do. Those low in sociability also desire company from others, but they are less concerned with finding this company, and they can accept the idea of spending some time alone (Buss, 1991). Thus it would be expected that individuals who enjoy spending more time in close proximity with others, would also engage in more touching behaviors.

Buss (1991) has suggested that there are rewards for being around other people, such as being able to share activities. Such sharing does not necessarily have to involve interaction, but just having others' company may be enough to fulfill this need. As well, being around others allows individuals to receive attention and be listened to. In general, people do not appreciate being ignored by others, but those who are high in sociability find being ignored to be extremely agonizing. Sociability also provides the opportunity to receive a response from others. Specifically, the conversation allows others to respond in a way that is somewhat mediated by the other person's response (Buss, 1991). Therefore, it is likely that sociable people would choose to touch those with whom they are interacting in order to ensure they will be given a response.

Importantly, all three of these rewards can only exist if an individual is in the presence of others. Although sociable people are accepting of only achieving some of these rewards, achieving responses from others during a conversation is the way in which they can receive the highest level of social stimulation (Buss, 1991). As well, interactions that involve conversation

allow sociable people to demonstrate their enthusiasm for social situations. Specifically, sociable people express their desires to be in social situations through the way in which they express themselves facially, their tone, and the general vibe they give off. By being able to present themselves in this way, sociable people hope to achieve the reward of responsivity (Buss, 1991). Because individuals express themselves in multiple ways to ensure a response from others, it is likely that sociable individuals could use touching behavior as another way to achieve this goal. Sociability allows individuals to attain happiness in times of distress by being comforted by others. As well, it gives people the ability to feel liked if others accept them. These types of affection, as a result of interaction with others, help motivate sociable people to increase contact with others (Buss, 1991). Therefore, if sociable people are interested in gaining contact with others to feel accepted, it is probable that they would use touch (a physical contact) more, than less sociable people.

Sociability also has an effect on the type of environment people seek to be a part of. Those high in sociability attempt to spend more time in areas where there are a large number of people. As well, sociable people choose occupations that involve increased interactions with others, and/or teamwork (i.e. coaches, teachers). They also participate in activities that involve responses from their partners or opponents, depend on interactions among participants, and require group effort (i.e. athletic teams, chess; Buss, 1991). These individuals like to talk when they are in a group situation, and usually compliment their speech with facial expressions. As well, they are very attentive to others, giving a response when necessary, in the hope that it will lead to another response in return (Buss, 1991). If they find themselves alone, they will actively attempt to find others to spend time with. For activities that are normally done alone, sociable people will attempt to complete them with others, and often will request feedback in order to

interact. Lastly, if they cannot find another human to spend time with, they may resort to engaging in interactions with pets (Buss, 1991).

Individuals low in sociability tend to choose occupations where they spend more time alone, and less time interacting with others (i.e. writers, park rangers). They tend to participate in activities that can be completed alone, and allow the opportunity to think or reflect on different things (i.e. running, reading; Buss, 1991). As well, they tend to be quieter in social situations, do not display as many expressions, and do not attempt to keep conversations going. They do not need to be rewarded with responsiveness, thus resulting in shorter conversations with others (Buss, 1991).

Studies examining the stability of sociability suggest that sociability is the most stable dimension of EAS (Buss & Plomin, 1984). The Berkeley Growth Study (Schaefer & Bayley, 1963) indicated that participants' shyness and responsiveness ratings were significantly correlated between ages 1 and 3. As well, there was a correlation between friendliness at 2 year and 4 years of age, though not from 2 to 8 years of age (Schaefer & Bayley, 1963). Similarly, another study indicated that between ages 6 and 15 years, there was a significant correlation for shyness and social easiness (Bronson, 1966).

Importantly, when researchers in the Berkeley Guidance Study did a follow-up with their participants at age 30, results indicated that sociability had remained stable. Similarly, Kagan and Moss (1962) found a strong correlation between sociability scores at age 12 and in adulthood. Other researchers have examined the stability of sociability over a 17-year period by collecting parents' temperament ratings of their children, as well as the children's ratings of their own temperaments in adulthood. Results indicated there was a correlation between lack of social interest as children and an increase in anger as adults, suggesting stability based on related traits

(Pesonen, Räikkönen, Keskivaara, & Keltikangas-Järvinen, 2002). Similarly, Kelly (1955) demonstrated the stability of sociability over a 20-year period. This evidence suggested that sociability not only showed continuity starting in middle childhood through adulthood, but also had the greatest amount of stability in comparison to the other dimensions of temperament.

As evident by the studies focused on the stability of temperament, sociability appears to be the dimension of temperament with the most continuity. As well, sociability plays an important role in adulthood, including its relationship to other behaviors. The current study focused on the sociability aspect of temperament and its relation to touch because people who tend to demonstrate social behaviors, participate in activities with others who are often in close proximity. Therefore, it is possible that people who are more sociable also participate in more touching behavior. Unfortunately, little research has focused on the nonverbal behavior of touch and its relation to sociability (or any other dimensions of temperament). However, some research has looked at the relationship between touch and specific personality traits. Because Buss (1984) suggested that temperament was the basis for personality traits, the evidence for personality traits' influence on touch is relevant to the topic of temperament and touch, specifically the influence of sociability on touch.

Many studies have examined the influence of the Big Five Personality traits, conscientiousness, agreeableness, neuroticism, extraversion and openness, on individuals' interpretations of different types of touch, as well as on their sexual attitudes (Dorros, Hanzel, & Segrin, 2008; Fernández & Castro, 2003). Research on perceptions of touch has indicated that there is a relationship between the personality trait of agreeableness and individuals' positive interpretations of touch on many areas of the body, both non-intimate and intimate. Individuals high in agreeableness are trustful, cooperate well with others, and are usually good-natured (John

& Srivastava, 1999). Importantly, agreeableness has been found to be associated with social behavior (Jensen-Campbell, Gleason, & Adams, 2003), suggesting that individuals with a desire to be more sociable might take pleasure in touch more than less sociable individuals (Dorros et al., 2008). As well, individuals demonstrating neurotic personality traits tend to interpret touch in more negative ways (Dorros et al., 2008). Lastly, researchers have found that openness was also associated with a positive interpretation of touch if the touch was associated with a non-intimate area of the body. Individuals high in openness demonstrate both intellectual and imaginative capabilities, and can think independently of others (John & Srivastava, 1999). Similar to agreeableness, openness was found to be associated with social behavior, again suggesting that individuals who are more sociable may desire more touch than less sociable individuals (Dorros et al., 2008). Therefore, if individuals who are high in agreeableness and/or openness are more likely to participate in touching behavior, and agreeableness and openness are associated with social behavior, it suggests that more sociable people would also be likely to participate in more touching behavior.

In addition, research has indicated that openness is related to communication in that individuals who exhibit an open style tended to participate in more verbal and nonverbal communication; they were less likely to refrain from speaking with others, they tended not to keep secrets, and they would speak whenever they felt it was necessary (Norton, 1978). Andersen et al. (1987) found that touch avoidance was significantly correlated with openness in that individuals demonstrating more touch avoidant behavior exhibited less openness. In addition, openness was related to self-disclosure. Importantly, studies demonstrated a correlation between touching behavior and self-disclosure (Jourard & Rubin, 1968; Andersen & Leibowitz, 1978). Specifically, results indicated that individuals who are less likely to self-disclose are more

likely to avoid both intimate and non-intimate touch (Andersen & Leibowitz, 1978). This suggests that individuals who are more self-disclosing, will participate in more touching behavior. Self-disclosing is a trait possessed by people who are high in openness, and openness is a characteristic of people high in sociability (Dorros et al., 2008; Jourard & Rubin, 1968; Andersen & Leibowitz, 1978). Therefore, if more self-disclosing is associated with openness, a characteristic of sociable people, then it is possible that participation in more touching behavior would be associated with sociable people.

Furthermore, when examining individuals' sexual attitudes, researchers found an association between neurotic individuals and their sexual beliefs. Specifically, more neurotic individuals found sexually explicit material to be more negative, whereas those who demonstrated less neuroticism found sexually explicit material to be more pleasing. Similarly, both men and women demonstrating a greater degree of openness tend to have positive views of sexually explicit material, and, for women only, positive views of same-sex attraction (Fernández & Castro, 2003). Because sexually explicit material contains a significant amount of touching, it is possible that those who are more open (less neurotic) find touching to be a more positive behavior, and may participate in touch more often.

In another study, Chaplin, Phillips, Brown, Clanton, and Stein (2000) examined the relationship between personality traits and handshaking. Results indicated that individuals higher in extraversion were more likely to give a firm handshake. As well, openness to experience was also associated with a firmer handshake. In contrast, individuals who demonstrated neuroticism, as well as individuals who were shy, gave less firm handshakes. These results suggest that individuals higher in extraversion and openness demonstrate a greater desire to participate in the touching behavior of hand shaking (Phillips et al., 2000). Importantly, researchers have found, in

both child and adult participants, that extraversion and sociability are positively correlated (Hampson, Andrews, Barckley, & Peterson, 2007; Campbell & Heller, 1987). Therefore, if individuals who are higher in extraversion have a greater desire to participate in touching behavior, then it is likely that individuals high in sociability would also have a greater desire to participate in touch.

Thus, there seems to be some relationship between touching behavior and personality, and therefore, it is likely that a relationship also exists between touch preferences and temperament. Buss (1991) indicated that social people enjoy being around others and put much effort into ensuring they will receive a response from others around them. Other research has indicated that individuals high in the personality trait agreeableness, often associated with social behavior, were more likely to interpret touch in a positive way. As well, openness was associated with a positive interpretation of touch (Dorros et al., 2008), and less touch avoidance (Andersen et al. 1987), whereas neuroticism indicated a more negative interpretation of touch (Dorros et al., 2008). Individuals who scored low in neuroticism (therefore more open), had more positive opinions of sexually explicit material, and sexually explicit material involves a large amount of touching behavior. Similarly, more open people were more likely to give firmer handshakes than neurotic individuals.

In summary, research indicates that touch is an important factor in communication including understanding others and expressing oneself. Much research has found that the type of touch given or received, and the sex of the person receiving or giving the touch, plays a role in perception (Gallace & Spence, 2010; Heslin et al., 1983; Rytting, 1976; Fisher et al., 1976; Hall & Veccia, 1990; Andersen et al., 1987; Martin & Anderson, 1993). Importantly, touch can be a significant factor in different relationships such as romantic ones. Research on adult attachment

style has indicated that individuals' desires to give and receive touch differs depending on the security of their attachments (Feeney et al., 2008; Roisman, 2006; Simpson, 1990; Collins & Read, 1990; Tucker & Anders, 1998; Simpson et al., 1992; Davis et al., 2006; Bogaert & Sadava, 2002; Brassard et al., 2007; Gentzler & Kerns, 2004; Tracy et al., 2003). As well, different personality traits have been linked to perceptions of touch, and one's desire to participate in touching behaviors (Dorros et al., 2008; Fernández & Castro, 2003; Deethardt & Hines, 1984; Phillips et al., 2000).

The goal of the current study was to extend research on touching behavior to other situations, specifically with strangers and acquaintances. In particular, it examined the relationship between adult attachment style and touching behavior with different people. As well, it examined the possible association between the sociability dimension of temperament and individuals' touching behaviors. Participants were asked to complete a questionnaire assessing their degrees of sociability, attachment style to their mothers, and the frequency of different types of touching behavior with nine different types of individuals.

Based on research indicating that avoidant individuals in romantic relationships avoid touching behavior and sexual intercourse with their partners (Davis et al., 2006; Bogaert & Sadava, 2002; Brassard et al., 2007; Gentzler & Kerns, 2004; Tracy et al. 2003), I hypothesized that individuals who demonstrated an avoidant style of attachment would be less likely to report touching strangers and acquaintances. Specifically, avoidant individuals would be more likely to avoid physical contact. Based on the research suggesting that anxious/ambivalent individuals participate in more sexual activity with their romantic partners (Davis et al., 2006; Bogaert & Sadava, 2002; Brassard et al., 2007; Gentzler & Kerns, 2004; Tracy et al. 2003), I hypothesized that individuals who demonstrated anxious/ambivalent attachment style would participate in a

higher degree of touching. Specifically, they would seek to touch others more often even when they had just met the other person. Based on the research indicating securely attached individuals participate in sexual activity with their romantic partners, but not as frequently as anxious/ambivalent individuals (Davis et al., 2006; Bogaert & Sadava, 2002; Brassard et al., 2007; Gentzler & Kerns, 2004; Tracy et al. 2003), I hypothesized that securely attached individuals would participate in touching behavior with strangers, but less than anxious/ambivalent individuals would. Further, based on the research indicating that individuals with personality traits related to sociability participated in more touching behavior (Dorros et al., 2008; Fernández & Castro, 2003; Deethardt & Hines, 1984; Phillips et al., 2000), I hypothesized that individuals who were high in sociability would be more likely to participate in touching strangers and acquaintances than individuals who were lower in sociability.

## Methods

### Participants

One hundred and twenty-five Union College undergraduate students participated in the current study. The average age of all participants was 19.26 years. The participants consisted of 90 females, and 35 males. Some Participants received either out-of-class activity credit for their introduction to Psychology course or Research Methods in Psychology course, or cash. Participants were recruited through Freud Online, an online system that allows participants to sign up for studies.

### Materials and Procedure

The study was held in a classroom located in the Union College Psychology department. Participants were given the informed consent to read and complete before participating in the study. After completion, participants returned the informed consent to the researcher and were

given a six-page questionnaire. Participants were asked to complete the questionnaire individually. The questionnaire contained three different measures, as well as a demographic section. The three measures were administered in a fixed order. Participants were then debriefed, and received compensation (cash or out-of-class activity) for their participation.

*Informed Consent*

All participants completed an informed consent prior to receiving the questionnaire. The consent indicated a brief purpose of the study, participants' termination rights, right to anonymity, compensation for completion of the study, and thanked them for participating (see Appendix A).

*EAS Temperament Survey*

The first questionnaire participants completed was the *EAS Temperament Survey,* in order to determine individuals' scores on three different dimensions of temperament. Specifically, the survey measured participants' emotionality, activity, and sociability (Buss & Plomin, 1984). For the purpose of the current study, only the participants' scores on the sociability dimension were used. The survey consisted of 20 questions, four of which related to sociability. Participants were asked to indicate how characteristic each item was of them on a scale from *1 (not characteristic)* to *5 (very characteristic)*. For example, item 1 read: *I like to be with people*; item 6 read: *I am something of a loner*; item 15 read: *I prefer working with others rather than alone*; and item 20 read: *I find people more stimulating than anything else* (Buss & Plomin, 1984). (Note that question number 6 was reverse scored). Participants' responses on the four questions were averaged together in order to determine participants' overall sociability score. A higher score on the sociability subscale indicated a more sociable temperament.

Buss and Plomin (1984) reported test-retest reliability of .82 for the temperament questionnaire as a whole. Specifically for sociability, the test-retest reliability was .85 (Buss & Plomin, 1984). In the current study, Cronbach's alpha for the sociability scale was .642).

*Experiences in Close Relationships (ECR)*

Next, participants completed the *Experiences in Close Relationships*, modified to be specific to the relationship with participants' mothers, in order to determine individuals' adult attachment styles (Brennan, Clark, & Shaver, 1998). The questionnaire consisted of 34 items. The scale contained two subscales, one for anxiety and one for avoidance. Eighteen of the questions measured avoidance, and 16 of the questions measured anxiety. For example, item nine on the avoidance subscale read: *I don't feel comfortable opening up to my mother*. Item two on the anxiety subscale read: *I worry about being abandoned by my mother*. For each item, participants were asked to indicate the strength of agreement or disagreement. Participants reported a *1* for *disagree strongly*, to a *7* for *agree strongly* (Brennan et al., 1998). For the anxiety and avoidance subscales individually, all items were averaged together. A higher score on the avoidance subscale indicated a more avoidant attachment style, whereas a higher score on the anxiety subscale indicated a more anxious attachment style (Brennan et al., 1998). Brennan et al. reported validity information, as well as Cronbach's alpha for both the avoidance ($\alpha$ = .94) and anxious ($\alpha$ = .91) subscales (Brennan et al., 1998). In the current study, Cronbach's alpha was computed for both the avoidance ($\alpha$ = .957) and anxious ($\alpha$ = .849) subscales.

*A Self-Report Measure of Touching Behavior*

Then participants completed *A Self-Report Measure of Touching Behavior* (Shutte et al. 1987), in order to measure the frequency with which participants touch nine different types of individuals (i.e. mother, close male friend, etc.) The questionnaire was modified in order to

better fit the purpose of the study. Although the original questionnaire consisted of 10 different types of relationships, husband/wife was omitted from the revised survey based on the population being recruited. The revised questionnaire consisted of nine potential individuals with whom participants could possibly interact using different touching behaviors. The nine individuals were: *close male friend*, *close female friend*, *mother*, *father*, *male acquaintance*, *female acquaintance*, *female stranger*, *male stranger*, and *boyfriend/girlfriend*. For each hypothetical individual, participants were presented with seven different types of touch: *brief touch (less than 4 seconds)*; *touch on the arm or shoulder*; *handshake*; *hug*; *holding the person's hand*; *kiss on the cheek*; and *kiss on the lips*. Participants were asked to indicate their frequency of participation in each type of touching for each hypothetical individual. Importantly, participants were to determine the frequency of touch based on the type/amount of touching that occurs when they are around that person, not how often they actually spend time with each person. Participants reported a *1* for *never*, to an *8* for *very frequently* (Shutte et al., 1987; see Appendix B). Participants' responses for each subscale (i.e. close male friend) were averaged together. A higher score indicated a greater amount of touching behavior with the specified target. Data for one female participant was eliminated for touch with *boyfriend/girlfriend* because the participant indicated that she was married.

Shutte et al. (1987) validated the questionnaire using both self and peer ratings of touching behavior. The internal consistency of the scale as a whole was measured using Cronbach's alpha ($\alpha = .96$). The current study determined Cronbach's alpha for each individual touching subscale including *close male friend* ($\alpha = .732$), *close female friend* ($\alpha = .734$), *father* ($\alpha = .727$), *mother* ($\alpha = .736$), *male acquaintance* ($\alpha = .685$), *female acquaintance* ($\alpha = .722$), *male stranger* ($\alpha = .706$), *female stranger* ($\alpha = .705$), and *boyfriend/girlfriend* ($\alpha = .860$), as well

as *female* and *male acquaintance combined* ($\alpha$ = .826) and *female* and *male stranger combined* ($\alpha$ = .840).

*Demographic Questionnaire*

In the demographic section, participants were asked to indicate their age, gender, class year, major, and ethnicity. Participants completed the demographic section after the *ECR* (Brennan et al., 1998), but before the *Self-Report Measure of Touching Behavior* (Shutte et al., 1987; see Appendix C).

*Debrief*

Once participants completed the questionnaire and returned it to the researcher, participants were given a debriefing form, indicating the full purpose of the study and some potential hypotheses, and thanking participants for completing the study (see Appendix D).

## Results

The means and standard deviations of the major variables are found in Table 1. An Independent samples t-test indicated that males' attachment styles were significantly more avoidant than females, $t$ (122) = 3.315, $p < .01$. There was no significant difference between males and females in their levels of anxious attachment styles, $t$ (122) = -1.000, $p > .05$, as well as their sociability, $t$ (123) = -.967, $p > .05$. Females participated in significantly more touch with close male friends than males, $t$ (123) = -2.380, $p < .05$. Men participated in significantly more touch with female acquaintances than males, $t$ (123) = 2.124, $p < .05$ There was no significant difference in the amount of touching behavior with close female friends between males and females, $t$ (123) = .609, $p > .05$. There was no significant difference in the amount of touching behavior with fathers between males and females, $t$ (121) = -1.174, $p > .05$. There was no significant difference in the amount of touching behavior with mothers between males and

females, $t$ (122) = -1.831, $p > .05$. There was no significant difference in the amount of touching behavior with male acquaintances between males and females, $t$ (123) = .296, $p > .05$. There was no significant difference in the amount of touching behavior with female strangers between males and females, $t$ (123) = .252, $p > .05$. There was no significant difference in the amount of touching behavior with male strangers between males and females, $t$ (123) = .189, $p > .05$. Lastly, there was no significant difference in the amount of touching behavior with boyfriends/girlfriends between males and females, $t$ (122) = -.884, $p > .05$.

The correlations among all major variables and each touching subscale are found in Table 2. Results indicated that more sociable participants significantly participated in more touch with: their close male friends, $r$ (123) = .285, $p < .01$; fathers, $r$ (121) = .255, $p < .01$; and male acquaintances, $r$ (123) = .236, $p < .01$. As well, more sociable people were somewhat more likely to touch: their close female friends, $r$ (123) = .160; $p$ = .074, female acquaintances, $r$ (123) = .155, $p$ = .085; and boyfriends/girlfriends, $r$ (122) = .151, $p$ = .095. Participants with anxious attachment styles were likely to touch female strangers more often, $r$ (122) = .177, $p$ = .05, as well as demonstrated avoidant attachment styles, $r$ (122) = .311, $p$ = .001. Participants with Avoidant attachment styles participated in significantly less touching behavior with fathers, $r$ (120) = -.291, $p < .01$, and with mothers, $r$ (122) = -.464, $p < .001$. Lastly, participants who touched female strangers more, also participated in significantly more touching behavior with male acquaintances, $r$ (123) = .562, $p < .001$, female acquaintances, $r$ (123) = .593, $p < .001$, and male strangers, $r$ (123) = .800, $p < .001$.

The data were divided by gender in order to examine the correlations between attachment style, sociability, and touching behavior for males and females separately. The correlations for all major variables and each touching subscale for females only are found in Table 3. More

sociable females participated in significantly more touching behavior with: close male friends, $r$ (88) = .332, $p < .01$; fathers, $r$ (87) = .231, $p < .05$; male acquaintances, $r$ (88) = .266, $p < .05$; female acquaintances, $r$ (88) = .213, $p < .05$; and male strangers, $r$ (88) = .240, $p < .05$. Sociability was also somewhat positively correlated with touching female strangers, $r$ (88) = .200, $p = .059$. Females with avoidant attachment styles participated in less touching behavior with their fathers, $r$ (86) = -.289, $p < .01$, and mothers, $r$ (87) = -.461, $p < .001$. Lastly, anxiety and avoidance were correlated for females, $r$ (87) = .402, $p < .001$.

The correlations for all major variables and each touching subscale for males only are found in Table 4. In examining the males separately, more sociable males were somewhat more likely (borderline) to participate in touch with their father, $r$ (32) = .300, $p = .085$. Sociability was also negatively correlated with anxiety, $r$ (33) = -.338, $p < .05$, such that participants who were more sociable were less anxious, and participants who were more less sociable were more anxious. Males with anxious attachment styles were somewhat more likely to participate in touch with female strangers, $r$ (33) = .306, $p = .074$. Lastly, males with avoidant attachment styles were less likely to touch their mothers, $r$ (33) = -.386, $p < .05$.

Four regression analyses were used in order to predict participants' touching behaviors with male acquaintances, female acquaintances, male strangers, and female strangers for the whole sample. The regression was completed in two steps. In step one, the variables sociability, anxious attachment, and avoidant attachment were entered. In step two, the variables sociability, anxious attachment, and avoidant attachment were entered again, with the addition of the interaction between anxious attachment and avoidant attachment. Results indicated that the regression predicting the touching of female acquaintances was not significant, $F$ (4,123) = 1.594, $p = .180$. The regression predicting the touching of male strangers was not significant, $F$

(4,123) = 1.002, $p$ = .124. Sociability significantly predicted touching behavior with male acquaintances, $t$ (118) = 2.68, $p < .01$ (see table 5). An interaction between anxious attachment style and avoidant attachment style significantly predicted touching behavior with female strangers, $t$ (118) = 3.01, $p < .01$ (see table 6). Participants who were high in both avoidant and anxious attachment styles, and participants who were low in both avoidant and anxious attachment styles, participated in the greatest amount of touching behavior with female strangers, in comparison to those high in avoidant and low in anxious attachment styles, and those participants low in avoidant and high in anxious attachment styles (see figure 1).

## Discussion

The current study found that a relationship exists between sociability and touching behavior, and between anxious attachment style and touching behavior with specific people, as predicted. As well, an interaction was found between anxious attachment style and avoidant attachment style, and touching with female strangers. The study failed to find a relationship between avoidant attachment style and touching behavior with strangers or acquaintances, but did find that avoidant attachment was associated with less touching behavior with participants' mothers and fathers. A relationship also existed between anxious attachment style and avoidant attachment style, as well as anxious attachment style and sociability.

The current study also found that participants who were more sociable participated in more touching behavior than less sociable participants. Specifically, the results supported the hypothesis that participants who were more sociable indicated that they touched male and female acquaintances more often than less sociable participants. More sociable participants indicated that they also participated in more touching behavior with close male friends, close female friends, and boyfriends/girlfriends than less sociable people. More sociable females indicated

that they participated in a greater amount of touching behavior with close male friends, fathers, male and female acquaintances, and male and female strangers than less sociable females. In contrast, more sociable males indicated that they touched their fathers more frequently than less sociable males.

These findings are supported by previous research. Specifically, researchers have suggested that agreeableness and openness are personality characteristics related to sociability (Jensen-Campbell et al., 2003; Dorros et al., 2008). Studies have shown that individuals who are higher in agreeableness and openness had more positive perceptions of touching behavior than those who were lower in both traits (Jensen-Campbell et al., 2003; Dorros et al., 2008). Therefore, because both agreeableness and openness are considered to be characteristics of social people, it would be expected that more sociable people would also participate in more touching behavior. This was supported in the findings of the current study.

The results also indicated that participants with more anxious attachment styles were more likely to touch female strangers than those with secure or avoidant attachment styles. This relationship was found for the entire sample, as well as in the male participants alone. This result partially supports the hypothesis that individuals with anxious attachments would be likely to participate in more touching behavior with strangers and acquaintances, even though the relationship was not found for touching male strangers, or male and female acquaintances. It is possible that a significant relationship was found between anxious attachment style and touching behavior in the overall sample because the same relationship existed for the male sample alone. This type of relationship was not found for females alone. This finding is also supported by previous research. Research has suggested that, in romantic relationships, individuals with an anxious attachment style were likely to participate in sexual intercourse more often than those

with a secure or avoidant attachment style (Brassaed & Shaver, 2007; Gentzler & Kerns, 2004; Bogaert & Sadava, 2002). The current study also found that anxious individuals, in particular males, did participate in more touching behavior with female strangers.

Furthermore, this finding also makes sense theoretically. Individuals who were anxiously attached during infancy were most likely raised by a primary caregiver who gave the infant attention when it was convenient for them, and not every time the infant needed to be cared for. This type of parenting can lead to a child who wants attention from their caregivers, but also resents the fact that the caregivers are not always there for them (Ainsworth et al., 1978). In the findings of the current study, it is possible that participants who are anxiously attached seek physical contact with female figures because their primary caregivers (most often their mothers) were not attentive enough. Therefore, these types of people may search for female figures that could potentially give them the necessary attention they need that they did not receive regularly from their mothers. It is possible that the same finding was not apparent in female participants because of cultural views. Although female participants may desire the attention they did not receive as infants, our culture tends to promote heterosexual relationships. Even though views are changing, it is possible that females choose not to touch female strangers, as males do, because it is less culturally acceptable to be intimate with other females. Therefore, females' need to fit in with society overpowers their desire for an attentive motherly figure.

Similarly, a regression for the whole sample uncovered an interaction between anxiety and avoidance for touching behavior with a female stranger. Specifically, individuals who were both low in avoidance and low in anxiety, suggesting secure attachment, as well as individuals both high in avoidance and high in anxiety demonstrated the most touching with female strangers. The finding that secure individuals participate in more touch than avoidant individuals

supports the current studies hypothesis. Individuals who are low in avoidance, such as secure individuals, should touch others more than avoidant individuals because previous research suggests that avoidant individuals avoid contact with others in order to prevent developing relationships (Howe, 2011). In contrast, the current study also predicted that anxious individuals would touch more than secure individuals, but the findings indicate that secure individuals actually showed more touching behavior than individuals high in anxiety.

In addition, it was found that individuals who were both high in anxiety and high in avoidance participated in more touching behavior with female strangers than participants with low anxiety and high avoidance, and those with high anxiety and low avoidance. Although the current study predicted individuals higher in anxiety would touch more, I was also predicted that individuals high in avoidance avoid touch less often. Therefore, was unexpected because it suggests that individuals who are considered high in avoidance participate in the most touching behavior when they are also high in anxiety. Previous research has found that both infants and adults who are both high in avoidance and high in anxiety demonstrate both avoidant and anxious types of behaviors (Howe, 2011). Specifically, infants often appear as if they are avoiding contact with their caregivers, but then will seek attention and want to be held (Howe, 2011). As for adults, these types of individuals tend to go in and out of relationships often, and many times are found to be in violent relationships (Howe, 2011). Because these individuals demonstrate both avoidant and anxious behaviors, it is possible that when interacting with a female stranger, these individuals' anxious behavior is more dominant and that is why we find them participating in more touching behavior. If these individuals are afraid of being alone, when they meet someone new such as a female stranger they may attempt to attract attention from that individual. They do not know the stranger and therefore, the stranger has never let them down. It

is possible that we do not see this same behavior for these individuals with people whom they are closer too, such as acquaintances, because high avoidance/high anxiety individuals may fear being hurt or abandoned by people they know and therefore, avoid contact with them. As well, it is likely that the finding is apparent only with the female strangers because in some ways the females could be representing replacements for these individuals' mothers. If these individuals had mothers to whom they consistently demonstrated avoidant and anxious behaviors, then it makes sense that they would show similar behavior towards another female; perhaps these individuals are attempting to replace their mothers and therefore, demonstrate a need for attention through their touching behavior. Once high avoidance/high anxiety individuals receive the attention they desire from female strangers, it is possible that then they will demonstrate avoidant behavior because the female stranger is now a potential relationship. Because these individuals do demonstrate high avoidance, it is likely that they still fear abandonment, and therefore, will avoid the possibility of a relationship.

Interestingly, individuals who were high in anxiety and low in avoidance did not participate in more touching behavior than those high in avoidance and low anxiety as the current study predicted. Previous research would suggest that individuals who are more anxious participate in more sexual intercourse than secure or avoidant individuals (Brassaed & Shaver, 2007; Gentzler & Kerns, 2004; Bogaert & Sadava, 2002). It is possible that anxious individuals are also somewhat resentful of others because they do not know if others will be there for them. Anxious infants usually have mothers who are attentive on an unpredictable bases, and therefore, it is hard for anxious infants to predict when their mothers will care for them (Howe, 2011). Because these individuals have mothers who are both attentive and inattentive, it is possible that they choose not to interact with others often in fear of not being cared for in a time of need. If

this were true then it is likely we would see individuals with anxious attachment who avoid interacting with others, and therefore, would participate in less touching behavior.

Although the results did indicate that anxious attachment was associated with participants' touching behavior with certain individuals, the results did not support the same relationship for avoidant attachment style and touching behavior. Participants with avoidant attachment styles did not participate in less touching behavior with strangers and acquaintances in comparison to participants with a secure or anxious attachment style. It is likely that this occurred because of a restriction of range in participants' responses. In the questionnaire used, the majority of participants reported a *1-never* or *2-rarely* for the amount of touching behavior they participated in with strangers and acquaintances. It is possible that there is a difference in the amount of touching behavior and that those participants who indicate a *1* do in fact avoid touch more than those participants who indicate a *2*. Unfortunately, the touching scores did not vary widely because the majority of responses for touching behavior with strangers were a *1* or *2*, and there was a lack of responses greater than *2* (*rarely*). This restriction of range most likely contributed to the failure to find a relationship between touching behavior and avoidant attachment style.

The results also showed a negative correlation between anxious attachment style and sociability. This finding was unexpected because previous literature would suggest that both anxious and sociable people desire similar situations. Specifically, research suggests that sociable people enjoy being around others, will put much effort into finding social situations to be a part of, and need to receive a response from others around them (Buss, 1991). Similarly, individuals with anxious attachment styles are very dependent on others, and feel abandoned and rejected easily (Howe, 2011). This suggests that anxious individuals would want to be around

others often in order to be accepted. Because of the similarity in the needs of both sociable and anxious individuals, it is surprising that a negative correlation between these two variables was found. One explanation for this finding would be based on how an anxious attachment develops. As mentioned earlier, infants who are anxiously attached tend to want comfort and attention from their mothers, but also may reject their mothers for not being there when needed (Ainsworth et al., 1978; Howe, 2011). In this sense, anxious attachment could result in individuals who are resentful of others and assume that it is not possible to predict whether others will be there to support them in a time of need. If this is true of anxious individuals, then it is likely that they would not want to be around people often because they are unable to predict whether or not others will be there for them. If anxious individuals cannot predict the behaviors of others, they may prefer not to be around them often in order to prevent others from letting them down. Therefore, anxious individuals may avoid interacting with others often and would consider themselves to be less sociable, resulting in a negative correlation for the relationship between anxious attachment style and sociability

Interestingly, for both the entire sample and females only, it was found that there was a relationship between avoidant attachment style and participation in less touching behavior with certain individuals. Specifically, avoidant participants touched both their mothers and fathers less often than anxious and secure individuals. For males, participants with avoidant attachment styles avoided touch only with their mothers. From a theoretical perspective, this finding makes sense. During infancy, children develop a secure or insecure attachment based on the responsiveness of their primary caregiver. Specifically, Anisfeld et al. (1990) found that children who are held more are more likely to develop a secure attachment. Therefore, touch plays an important role in individuals' attachment styles as infants. If an infant develops an insecure

attachment, specifically avoidant attachment, it is likely that they were not held or touched often by their primary caregiver (Ainsworth et al., 1978; Howe, 2011). Thus, avoidant individuals who still demonstrate avoidant attachment styles with their primary caregivers as adults, most likely do not touch their caregivers often as a result of the lack of touching behavior that occurred during infancy.

Furthermore, significant correlations were found among touching female strangers, male strangers, female acquaintances, and male acquaintances. In general, people who are strangers or acquaintances tend to be represented similarly by others. Strangers are individuals whom another individual has never met, and although they may have met an acquaintance, they most likely do not hold a meaningful relationship with that person. This finding was important because it suggested that participants tended to demonstrate similar types of touching behavior with both strangers and acquaintances. In some ways, this helps to validate the touch questionnaire because strangers and acquaintances serve a similar purpose in terms of the type of relationships they have to people, and therefore participants should behave in similar ways with strangers and acquaintances.

Thus, the current study found that there is a relationship between adult attachment style and individuals' touching behaviors with certain people, as well as a relationship between sociability and touching behavior. These findings are important because they could give a possible explanation for why certain individuals may avoid touching others, including handshakes, and why others choose to participate in a greater amount of touch, such as hugging someone they have just met. The results suggest that individuals' touching behaviors may be related to their attachment with their primary caregivers that were developed during infancy. Importantly, infant attachment has been known to have affects on adult behavior (Howe, 2011),

and the current study expands these findings suggesting that attachment can affect everyday physical interactions, especially with strangers. As well, much research on temperament has suggested that sociable people need to be around others (Buss, 1991), and the current study expands these findings suggesting that sociable people also feel the need to touch others more than less sociable people.

Although the findings of the current study indicate that there is a relationship between sociability and touching behavior, and adult attachment and touching behavior depending on the recipient of the touch, there are limitations in the study. Specifically, the touching scale used did not effectively measure exactly what the study intended. Many of the participants indicated that they never or rarely touch a stranger. As a college student and a human, I know that these responses are not entirely true. In many social situations, including formal meetings, people are introduced to people they have never met. In this situation, people may only shake hands with individuals who are strangers, but nevertheless, they do participate in touching behavior. Many of the participants indicated that they never shake a stranger's hand, and this seems hard to believe. Our society teaches us that shaking hands with people you have just met is a polite and appropriate behavior.

As well, the sample consisted of 124 undergraduate college students. I suspect, based on my observations as a student, that many of the participants do meet strangers or acquaintances when they are at parties, and end up touching these people often and in multiple ways. Many college students meet people for the first time out and end up dancing, kissing, and even going home with these individuals for the night. I find it hard to believe that the majority of the participants do not go out and participate in touching behavior with strangers. Therefore, I believe that my measure of touching behavior, specifically for strangers and acquaintances may

have not been effective. It may have not accurately measured the amount of touching behavior that individuals really do participate in. I suspect that when participants read the word stranger or acquaintance that they imagined someone on the side of the street that they had never met before, or someone that they simply see in passing but have never spoken to, and not an individual they would meet out on a Friday night, or at a formal business meeting. If this is in fact how the participants interpreted the question, then the scale failed to capture participants' actual touching behaviors with strangers and acquaintances.

Another limitation of the study was that the responses were based on participants' self-reports. Although participants tend to believe that they are being accurate in their reporting, often they fail to respond to questions accurately because they are not aware of their own behaviors, or they may not feel comfortable disclosing information. Because participants were asked to indicate how much touching behavior they participated in, it is possible that they underestimated the true amount, or were unaware of how they would actually act in a real situation. In addition, the current study was a correlational study, and therefore, only the existence of a relationship can be determined by the results; it is not possible to infer causation.

Furthermore, future research is suggested. Because the results of the current study indicated an interesting relationship between adult attachment style and touching behavior with certain individuals, it is suggested that future research examine the same type of relationship, but attempt to place participants in a more realistic setting during the study where they are not required to self-report for measuring touching behavior. By placing participants in a realistic situation, it is possible that researchers would be able to better generalize the findings, and also infer causation. Specifically, it is suggested that researchers set up a situation in which participants are placed in a scenario where they are forced to interact with other people (i.e.

strangers and acquaintances) by touching each other. There are many different ways this could be measured. For example, participants could enter a room where they believe they will be waiting with other participants. The other participants could be confederates and initiate touching behavior with the participants. Another possible situation would be where the experimenter asks participants to complete certain touching behaviors with another individual. For both scenarios, it would be important to have participants in a low, medium, and high touching group. As well, it would be important that the confederates involved in the touching were counterbalanced for gender. After either of the scenarios, participants should be asked to indicate how they felt during the situation (i.e. uncomfortable, normal, etc.). By creating a situation, such as one of these, researchers would be able to observe participants' behaviors in interactions with strangers and acquaintances rather than rely on participants' self-reports. The results of such a study could help researchers to better understand the effects of adult attachment style on touching behavior in relationships other than romantic ones. It is important that the findings of the current study be further explored in order to develop a more concrete understanding of how adult attachment style affects the ways in which people touch others.

In summary, the findings of the current study suggest that adult attachment and sociability are related to individuals' touching behaviors. Specifically, individuals' touching behaviors with female strangers, mothers, and fathers differed based on adult attachment styles. As well, more sociable individuals participated in more touching behavior with close friends, fathers, acquaintances, and boyfriends/girlfriends. The findings of the current study expand on previous findings and should be examined further. If adult attachment styles and/or sociability are related to touching behavior, it could help to explain differences in individuals' desires to participate in touch with others.

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Appendix A

# Informed Consent

The purpose of the current study is to examine peoples' feelings and behaviors in relationship to different types of people that you encounter during your everyday life.

By participating in this research, you will help to contribute to research and hopefully learn more about social psychological research. At the end of the study, you will receive a more in-depth explanation of the purpose of the study, as well as the hypotheses.

You may choose not to participate or to withdraw from participation in this study at any point during the study, without being penalized.

There are no foreseeable risks to participating in the current study. You will be asked to answer some questions regarding personal relationships and specific behaviors. If you do not feel comfortable answering a question, feel free to skip it.

You will not be asked to give your name. Participants in the study will remain **anonymous**. All participants' responses during the study will be kept confidential.

You will receive $^1/_2$ of an hour of out-of-class activity credit **OR** $4.00 in cash for participation in the current study (depending on the preference of the participant).

The study will take approximately 30 minutes to complete.

If you have questions or concerns, please do not hesitate to contact Kaitlin Camilleri at Camillek@garnet.union.edu. This study is part of her senior honors Thesis.

By signing below, you agree to the terms and condition of the current study, and confirm that you are 18 years or older. As well, you understand the purpose of the research, your right to voluntary withdrawal, and that you do not have to answer any questions that you do not feel comfortable answering.

**Signature**_____ **Date**_____

# Appendix B

Using the tables below, please indicate in which ways you have actually touched each of the target people. Please enter the frequency of each type of touch for each category of person by entering a number from the scale provided below into the appropriate box. Please enter the frequency of touch with respect to the time spent with the person. For example, even if you only see your mother twice a year, if you very frequently hug her while you are together, you would probably place a "7" or "8" (indicating high frequency) into the appropriate box.

1 2 3 4 5 6 7 8
*never* *rarely* *very frequently*

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| close male friend | | | | | | | |

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| close female friend | | | | | | | |

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| father | | | | | | | |

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| mother | | | | | | | |

Using the tables below (one for same-sex and one for opposite-sex people), please indicate in which ways you have actually touched each of the target people. Please enter the frequency of each type of touch for each category of person by entering a number from the scale provided below into the appropriate box. Please enter the frequency of touch with respect to the time spent with the person. For example, even if you only see your mother twice a year, if you very frequently hug her while you are together, you would probably place a "7" or "8" (indicating high frequency) into the appropriate box.

1 2 3 4 5 6 7 8
*never* *rarely* *very frequently*

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| male acquaintance | | | | | | | |

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| female acquaintance | | | | | | | |

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| male stranger | | | | | | | |

Using the tables below (one for same-sex and one for opposite-sex people), please indicate in which ways you have actually touched each of the target people. Please enter the frequency of each type of touch for each category of person by entering a number from the scale provided below into the appropriate box. Please enter the frequency of touch with respect to the time spent with the person. For example, even if you only see your mother twice a year, if you very frequently hug her while you are together, you would probably place a "7" or "8" (indicating high frequency) into the appropriate box.

1 2 3 4 5 6 7 8
*never* *rarely* *very frequently*

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| female stranger | | | | | | | |

| | Brief touch (less than 4 seconds) | Touch on the arm or shoulder | Hand-shake | Hug | Holding the person's hand | Kiss on the cheek | Kiss on the lips |
|---|---|---|---|---|---|---|---|
| girlfriend or boyfriend | | | | | | | |

Appendix C

1. My age is ____

2. My gender is (circle one) M F

3. My year of graduation from Union is _____

4. My major is _____

5. My Ethnicity is
   ___African American
   ___Native American
   ___Middle Eastern
   ___Asian
   ___Caucasian
   ___Other

Appendix D

# Debrief

The purpose of the current study is to examine the relationship between attachment styles and touching behavior. Specifically, we are interested in seeing if there is a relationship between the type of attachment style and ones touching behavior with others whom they have just met (strangers) and acquaintances (not close friends). As well, we are interested in examining the relationship between touching behavior and temperament. Specifically, we are interested in seeing if people with certain temperament styles prefer different types of touching. Using a temperament measure, attachment scale, and a touching measure, we will determine the relationship between the different constructs. The current study is a correlational study and will not provide us with cause and effect results, but will indicate if there is an association between the different variables of interest. Previous research on relationships has indicated that more avoidant individuals are less likely to partake in touching behavior with their partners. We therefore predict that the same behavior will be apparent for avoidant individuals in interactions with people they do not know well. Please do not discuss the study with anyone else. Thank you for taking the time to complete this study.

If participation in this study made you in anyway feel uncomfortable, or in need of support, Union College's Counseling Center is available for your benefit. You can contact them at 518-388-6161 or hotalinm@union.edu. You may also visit their website at www.union.edu/counseling.

If you have questions or concerns, please do not hesitate to contact Kaitlin Camilleri at Camillek@garnet.union.edu. This study is part of her Honors Thesis.

Thank you,
Kaitlin Camilleri

Table 1

*Means and Standard Deviations*

| | Males (N = 35) | | Females (N = 90) | |
|---|---|---|---|---|
| | Mean | SD | Mean | SD |
| 1. Sociability | 3.56 | .73 | 3.69 | .70 |
| 2. Avoidant Attachment Style | 3.20 | 1.22 | 2.37 | 1.26 |
| 3. Anxious Attachment Style | 2.57 | .87 | 2.74 | .90 |

Table 2

*Correlation Between Measures for Males and Females Combined*

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | *N* = 125 | | | | | | |
| 1. Close Male Friend | -- | .49*** | .24*** | .26*** | .57*** | .32*** | .35*** | .50*** | .38*** | .29*** | -.02 | -.12 |
| 2. Close Female Friend | | -- | .27*** | .39*** | .51*** | .65*** | .45*** | .43*** | .39*** | .16* | .08 | .03 |
| 3. Father | | | -- | .71*** | .33*** | .25*** | .28*** | .31*** | .17* | .26*** | -.04 | -.29*** |
| 4. Mother | | | | -- | .29*** | .26*** | .28*** | .26*** | .23** | .13 | -.00 | -.46*** |
| 5. Male Acquaintance | | | | | -- | .71*** | .56*** | .58*** | .32*** | .24*** | .09 | .03 |
| 6. Female Acquaintance | | | | | | -- | .59*** | .43*** | .31*** | .16* | .07 | .02 |
| 7. Female Stranger | | | | | | | -- | .80*** | .31*** | .11 | .18* | .10 |
| 8. Male Stranger | | | | | | | | -- | .31*** | .14 | .04 | .11 |
| 9. Boyfriend/Girlfriend | | | | | | | | | -- | .15* | -.00 | -.02 |
| 10. Sociability | | | | | | | | | | -- | -.07 | -.13 |
| 11. Anxiety | | | | | | | | | | | -- | .31*** |
| 12. Avoidance | | | | | | | | | | | | -- |

*Note.* *p < .1, **p < .05, ***p < .01

Table 3

*Correlation Between Measures for Females*

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | *N* = 90 | | | | | | |
| 1. Close Male Friend | -- | .53*** | .19* | .23** | .55*** | .38*** | .35*** | .50*** | .39*** | .33*** | -.10 | -.16 |
| 2. Close Female Friend | | -- | .21** | .40*** | .52*** | .60*** | .47*** | .46*** | .40*** | .15 | .06 | .05 |
| 3. Father | | | -- | .68*** | .32*** | .33*** | .26** | .26** | .12 | .23** | -.01 | -.29*** |
| 4. Mother | | | | -- | .30*** | .38*** | .23** | .21** | .16 | .12 | -.03 | -.46*** |
| 5. Male Acquaintance | | | | | -- | .80*** | .58*** | .57*** | .35*** | .27** | .07 | -.01 |
| 6. Female Acquaintance | | | | | | -- | .67*** | .49*** | .32*** | .21** | .04 | -.05 |
| 7. Female Stranger | | | | | | | -- | .78*** | .29*** | .20* | .13 | .11 |
| 8. Male Stranger | | | | | | | | -- | .32*** | .24** | -.02 | .13 |
| 9. Boyfriend/Girlfriend | | | | | | | | | -- | .150 | .01 | .03 |
| 10. Sociability | | | | | | | | | | -- | .02 | -.13 |
| 11. Anxiety | | | | | | | | | | | -- | .40*** |
| 12. Avoidance | | | | | | | | | | | | -- |

*Note.* *p < .1, **p < .05, ***p < .01

Table 4

*Correlation Between Measures for Males*

| Measure | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | *N* = 35 | | | | | | |
| 1. Close Male Friend | -- | .48*** | .41** | .32* | .78*** | .41** | .40** | .59*** | .38** | .07 | .25 | .27 |
| 2. Close Female Friend | | -- | .44*** | .42** | .51*** | .75*** | .41** | .36** | .39** | .21 | .17 | -.07 |
| 3. Father | | | -- | .78*** | .38** | .18 | .34* | .48*** | .29 | .30* | -.15 | -.23 |
| 4. Mother | | | | -- | .300* | .18 | .42** | .43** | .37** | .13 | .02 | -.39** |
| 5. Male Acquaintance | | | | | -- | .60*** | .50*** | .63*** | .27 | .16 | .17 | .12 |
| 6. Female Acquaintance | | | | | | -- | .49*** | .36** | .37** | .12 | .21 | -.05 |
| 7. Female Stranger | | | | | | | -- | .86*** | .38** | -.10 | .31* | .06 |
| 8. Male Stranger | | | | | | | | -- | .30* | -.15 | .25 | .06 |
| 9. Boyfriend/Girlfriend | | | | | | | | | -- | .14 | -.04 | -.08 |
| 10. Sociability | | | | | | | | | | -- | -.38** | -.07 |
| 11. Anxiety | | | | | | | | | | | -- | .22 |
| 12. Avoidance | | | | | | | | | | | | -- |

*Note.* *p < .1, **p < .05, ***p < .01

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting Touching Behaviors with Male Acquaintance (*N* = 125*)*

| Variable | B | SE B | β |
|---|---|---|---|
| Step 1 | | | |
| Sociability | .31 | .11 | .25* |
| Anxiety | .10 | .09 | .10 |
| Avoidance | .02 | .06 | .03 |
| Step 2 | | | |
| Sociability | .30 | .11 | .24* |
| Anxiety | -.03 | .23 | -.03 |
| Avoidance | -.08 | .18 | -.12 |
| Interaction (Avoidance x Anxiety) | .04 | .06 | .23 |

*Note*. $R^2$= .068 for step 1; $R^2$= .071 for step 2 (ps < .05). *p < .05.

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Touching Behaviors with Female Strangers (*N* = 125*)*

| Variable | B | SE B | β |
|---|---|---|---|
| Step 1 | | | |
| Sociability | .15 | .10 | .14 |
| Anxiety | .14 | .08 | .17 |
| Avoidance | .04 | .06 | .07 |
| Step 2 | | | |
| Sociability | .11 | .09 | .10 |
| Anxiety | -.38 | .19 | -.45* |
| Avoidance | -.40 | .16 | -.68* |
| Interaction (Avoidance x Anxiety) | .15 | .05 | 1.13* |

*Note*. $R^2$= .052 for step 1; $R^2$= .118 for step 2 (ps < .05). *p < .05.

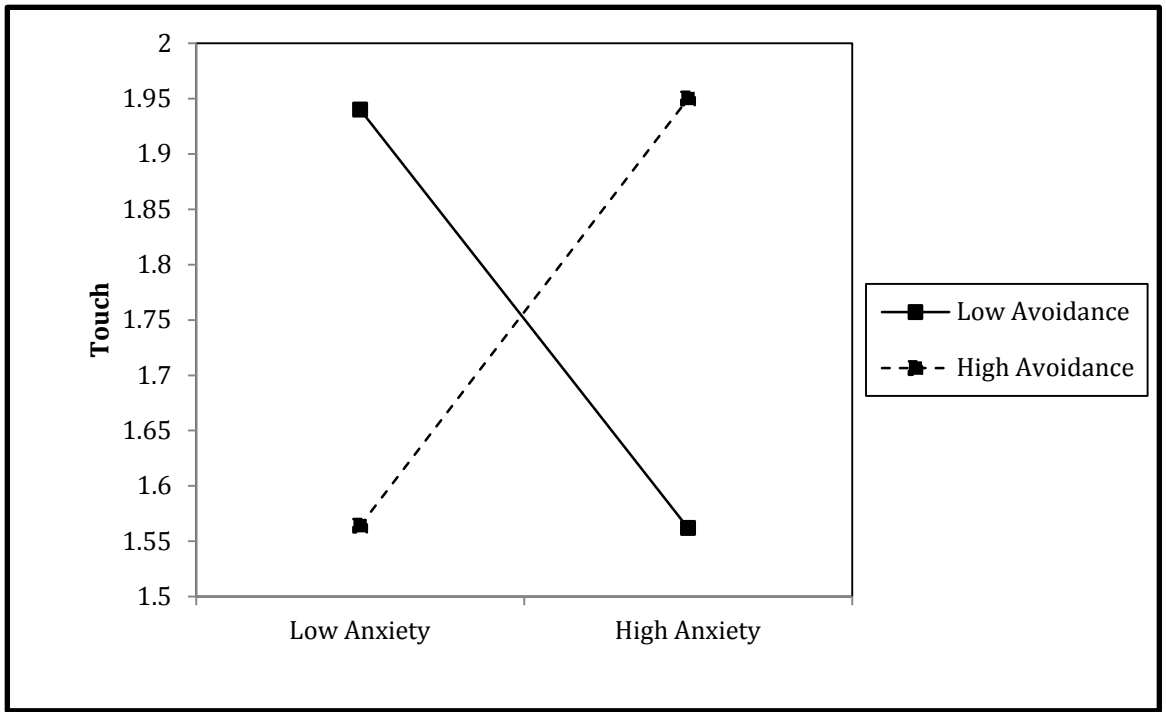


*Figure 1. Differences in Touching Female Strangers for Adult Attachment Styles.*