

Being “in Touch”: The Role of Daily Empathic Accuracy and Affectionate Touch Fulfillment in
Shaping Well-Being

by

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Abstract

The receipt of affectionate touch from a relationship partner has been found to influence one's social, personal, and physical well-being. However, simply receiving a hug or a kiss from a spouse may not be enough, as recent research suggests that the benefits of affectionate touch may only be realized when a person receives the amount of affectionate touch that they desire. This implies that a relationship partner must recognize the extent to which a person desires touch for that person to reap the relational and personal benefits of affectionate touch. Using data collected from a sample of community couples ($N = 144$) across 21-days, the current study assessed whether having more accurate perceptions of a partner's desire for affectionate touch (i.e., empathic accuracy) would be associated with the partner, and self, experiencing greater relational and personal well-being. It was hypothesized that at the within- and between- persons levels having a partner who experiences more empathic accuracy for a person's desire for affectionate touch would be associated with a person reporting greater affectionate touch fulfillment, which would consequently be related to that person experiencing greater relational and personal well-being. The nuances of this association were also examined to determine whether these associations were more important on certain days (i.e., stressful vs. non-stressful) and for certain people (e.g., those who are less avoidantly attached vs. those who are more avoidantly attached). Multilevel modeling in combination with actor partner interdependence modelling was used to test the hypotheses of the current study. Overall, the findings suggested that a partner's empathic accuracy is important for person's relational well-being, and that a person's affectionate touch fulfillment plays a pivotal role in explaining the association between a partner's empathic accuracy and a person's relational and personal well-being, especially on stressful days.

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Being “in Touch”: The Role of Daily Empathic Accuracy and Affectionate Touch Fulfillment in
Shaping Well-Being

From the moment that Harry Harlow (1958) showed that the opportunity to receive affectionate contact could override an animal’s most basic need for nourishment, researchers have become interested in examining the importance of receiving affection. Beyond contributing to the formation (Owen, 1987), maintenance (Bell & Healey, 1992; Guerrero & Bachman, 2006), and quality (Floyd & Mormon, 1997, 1998, 2000) of interpersonal relationships, there is a large body of literature supporting the claim that from birth onward, the receipt of affection, predominately affectionate touch, is strongly related to various aspects of one’s social, personal, and physical well-being (e.g., Floyd, 2008; Floyd & Deiss, 2012; Floyd & Rforgiate, 2008; Horan & Booth-Butterfield, 2010; Jakubiak & Feeney, 2016). However, more recent research suggests that it may not solely be the receipt of affectionate touch that matters, but rather the amount that is received and how that compares to the amount of affectionate touch that one desires (Floyd, 2014). In other words, the benefits of affectionate touch may accrue primarily for those who appropriately receive the amount of affectionate touch that they desire.¹ In this sense, it is up to a relationship partner to recognize the extent to which an individual desires such touch. This ability to understand or accurately judge the thoughts and feelings of others is referred to as empathic accuracy (Ickes, 1993) and has been shown to be associated with several positive relationship experiences, including greater relationship satisfaction, fewer negative relationship evaluations, and greater responsiveness (Cohen et al., 2012; Gregory et al., 2020; Kilpatrick et al., 2002; Rafaeli et al., 2017; Winczewski et al., 2016). Based on the notion that a person can

¹ The current study focuses on the amount of affectionate touch desired and received from a spouse. However, receiving the desired type or quality of affectionate touch may also play a role in facilitating the benefits of affectionate touch.

only provide what they interpret their partner needs, this study aimed to examine the role that being “in touch” with a partner’s desire for affectionate touch (i.e., empathic accuracy) plays in determining the partner’s relational and personal well-being. Specifically, I hypothesized that on days when a person’s partner has higher empathic accuracy for their desire for affectionate touch, that individual would experience greater affectionate touch fulfillment, which would be associated with greater relational and personal well-being. Further, I assessed whether there were certain times (i.e., stressful days) in which being accurate is more important for these outcomes. Lastly, for exploratory purposes, I examined whether certain people (e.g., those who are less avoidantly attached) are more likely to be accurate, and whether empathic accuracy (via affectionate touch fulfillment) could help to mitigate the negative consequences that attachment avoidance and anxiety have on personal and relational well-being. In summary, the current study examined the extent to which being accurate concerning a partner’s desire for affectionate touch is important for one’s partner’s, as well as one’s own, well-being.

Affectionate Touch

Affection has long been believed to be required for optimal human functioning. In 1943, Maslow proposed in his hierarchy of needs that people have a need for belongingness and affection, which when left unmet can result in psychological deficits (e.g., anxiety, depression). Similarly, Baumeister and Leary (1995) maintained that although human beings are innately motivated to maintain interpersonal relationships, these relationships must be marked by affectionate interactions to be beneficial to the person. Affection is most often defined as a feeling of warmth, fondness and intense positive regard that is either directed towards or perceived from another person (Floyd, 2008; Gullidge et al., 2003). Although, affection can be exhibited using a variety of verbal and nonverbal behaviours (Floyd, 2006), touch is one of the

most frequent and effective methods for communicating affection within romantic relationships (Debrot et al., 2013; van Andres et al., 2013). In fact, people can accurately communicate many affectionate feelings such as gratitude, love, sympathy, and happiness during short intervals of touch (Hertenstein et al., 2006). Touch can be exchanged between partners for many reasons (Jones & Yarbrough, 1985; Pisano et al., 1986), but affectionate touches are those that are intended to express and promote feelings of love, care, fondness, or appreciation (Floyd, 2006). Typically, this includes hugging, kissing, caressing, holding hands, cuddling, and other forms of physical contact that can encourage these feelings in another person (e.g., Gullledge et al., 2003; Johnson & Edwards, 1991; Pisano et al., 1986). Affectionate touch can be differentiated from another prominent form of touch that occurs frequently in romantic relationships: sexual touch. Sexual touches are physical behaviours that stimulate feelings of sexual interest, desire, arousal, and pleasure (Galinsk, 2012), such as passionate kissing, intimate touching, and playful sexual behaviors (Callister et al., 2011). Broadly, sexual touches are enacted to initiate sexual intercourse, whereas affectionate touches are motivated by one's propensity to provide comfort, support, and security to close others (Birnie-Porter & Lydon, 2013; Floyd, 2006).

Benefits of Receiving Affectionate Touch

Jakubiak and Feeney (2017) proposed a theoretical model of affectionate touch arguing that when a person receives affectionate touch from a romantic partner, they experience relational-cognitive (e.g., self- and relational-perceptions) and neurobiological changes (e.g., oxytocin and endogenous opioids) that contribute to personal, relational, and physical well-being. Here I will focus on describing the ways in which affectionate touch has been demonstrated to improve relational (i.e., relationship satisfaction and connection) and personal (i.e., affect and life satisfaction) well-being. This focus is based on evidence that receiving

affectionate touch from a romantic partner allows one to feel more cared for and understood by one's partner (Debrot et al., 2013) and promotes personal feelings of security and calmness (Jakubiak & Feeney, 2016), which are important factors in determining relational and psychological health.

It is believed that affectionate touch helps to create, maintain, and enhance physical and emotional closeness within a relationship by facilitating feelings of support, security, inclusion, and love (Ben-Ari & Lavee, 2007; Horan & Booth-Butterfield, 2010; Jakubiak & Feeney, 2017). Thus, it follows that the receipt of affectionate touch would be associated with positive relationship outcomes. For instance, Floyd and colleague (2009) showed that increasing the frequency and duration of kissing (i.e., a form of affectionate touch) in a romantic relationship led to greater relationship satisfaction when compared to maintaining the same kissing routine. Similarly, cross-sectional studies have found that people who report experiencing more affectionate touch with their romantic partner tend to experience greater relationship satisfaction and commitment than people who engage in less touch (Gulledge et al., 2003; Heiman et al., 2011). In a qualitative study of couples who had been together for at least 30 years, the expression of physical affection was cited as one of the most important factors shaping the quality of a relationship (Mackey et al., 2000). Beyond these typical indicators of relationship well-being, affectionate touch has also been linked to greater sexual satisfaction and intimacy (Dainton et al., 1994; Fisher et al., 2015; Gulledge et al., 2003; Muise et al., 2014; Vannier et al., 2016). These benefits seem to be enduring as Vannier and colleagues (2016) found that exchanging affectionate touch with a romantic partner is positively associated with greater relationship and sexual satisfaction not only on the day that the affectionate exchanges occur, but also the day following these exchanges.

Although affectionate touch occurs between two people within the context of a specific relationship, the benefits associated with this form of touch influence each of the individual members of the relationship. The advantages of affectionate touch are prominent when evaluating two critical indicators of personal well-being: affect and life satisfaction. Several researchers maintain that touch and physical proximity serve to regulate affect and promote quality of life (Coan, 2008, 2010; Debrot et al., 2013; Gallace & Spence, 2010). For instance, people who report engaging in more affectionate touch with a romantic partner tend to experience greater life satisfaction and more positive affect (Debrot et al., 2017; Steverink et al., 2019). In the daily lives of romantic couples, exchanging more affectionate touch on a given day is associated with having more positive and fewer negative affective experiences on that day (Burleson et al., 2007; Debrot et al., 2013; Ditzen et al., 2008), as well as the day following the touch interaction (Burleson et al., 2007). Indeed, the receipt of affectionate touch is so integrally tied to emotion that people who experience more affectionate touch appear to be at a lower risk for many mood-related maladies, including depression, stress, and anxiety (Burleson et al., 2007; Floyd, 2008; Floyd et al., 2009; Jorm et al., 2003). Further, Debrot and colleagues (2013) found that people who reported receiving more affectionate touch over a one-week period reported greater improvements in personal well-being over a six-month period.

The benefits that receiving affectionate touch have on relational and personal well-being are thought to stem from the notion that affectionate touch demonstrates the physical and emotional closeness that one has to another person (Coan et al., 2017; Jakubiak & Feeney, 2017). By establishing this closeness, it enables a person to feel socially included, which is believed to play a key role in satisfying one's fundamental need to belong (Baumeister & Leary, 1995). Further, to the extent that affectionate touch implies physical and emotional closeness, it can also

promote a sense of security in a romantic relationship (Jakubiak & Feeney, 2016) which allows a person to feel satisfied within their relationship while encouraging one's own personal well-being (Jakubiak & Feeney, 2016; Sbarra & Hazan, 2008).

Consequences when Affectionate Touch is Lacking

The notion that a deficiency in affectionate touch can be detrimental to well-being can be traced back to early psychological theory. Within his hierarchy of needs, Maslow proposed (1943) that after one's most basic physiological and safety needs have been met, the next most prominent human needs are those of belongingness, affection, and love. Maslow (1943) theorized that if one's needs in these areas were not satisfied, the result would be a form of psychological malnutrition. These notions are consistent with Harlow's (1958) foundational research, in which he demonstrated that the deprivation of affectionate contact in rhesus monkeys can lead to a variety of behavioral difficulties and social deficits. Of course, this body of research examined the consequences of a lack of affection in its most extreme form. However, most people do not experience such an extreme level of deprivation. Instead, people tend to receive affectionate touch from close others, but, inevitably, there are times when a person does not receive an adequate amount of affectionate touch. In such instances, a person is believed to experience frustration with the lack or abundance of affectionate touch received, which generally manifests itself internally and externally resulting in the individual and relationship being negatively affected (Drigotas & Rusbult, 1992; Kirby et al., 2005).

The long-term consequences of inadequate affectionate touch are evident when considering people's accounts of their dissolved marriages. Divorced individuals often state that one reason for their divorce was that they were not receiving a satisfactory amount of love and affection within the relationship (Buehlman et al., 1992; Kayser, 1993; Kitson, 1992). Based on

this research, Floyd (2014) hypothesized that experiencing a discrepancy between one's desired and received amount of affectionate touch would be associated with poor relationship quality and personal well-being. In support of this hypothesis, he found that experiencing less affectionate touch than desired (i.e., less affectionate touch fulfillment) was associated with relationship dissatisfaction and a perceived lack of social support. Further, in relation to the integral association between affectionate touch and emotion, Floyd (2014) found that experiencing less affectionate touch fulfillment was also related to higher levels of stress, lower levels of general happiness, and greater reporting of symptoms related to depression and anxiety disorders. These results are important because, unlike many other desires, affectionate touch is highly dependent upon the actions of close others. Specifically, whether a person receives enough affectionate touch quite literally falls into the hands of those around them.

When considering affection more broadly (i.e., beyond affectionate touch), perceiving less affection than one desires has detrimental consequences not only to one's relationship functioning, but also to one's personal well-being. For instance, recent studies have shown that receiving less affection than one desires is associated with lower relationship satisfaction, closeness, and marital quality, as well as greater relationship uncertainty (Hesse & Floyd, 2019; Hesse & Mikkelsen, 2017; Hesse & Tian, 2020). At the level of the individual, receiving suboptimal levels of affection is related to experiencing greater depression, as well as more feelings of loneliness while in a romantic relationship (Hesse & Floyd, 2019; Hesse & Tian, 2020).

In sum, the receipt of affection and affectionate touch is associated with several relational and personal benefits (e.g., Debrot et al., 2013; 2017; Floyd et al., 2009; Gullledge, et al., 2003; Heiman et al., 2011). However, given that receiving an insufficient amount of affection can be

detrimental to one's relationship and well-being (Floyd, 2014; Hesse & Floyd, 2019; Hesse & Mikkelsen, 2017; Hesse & Tian, 2020), it may not be the receipt of affectionate touch that matters, but instead how the amount received compares to the amount that one desires to receive from one's partner. Thus, given that people often rely on their romantic partner to provide affectionate touch, it becomes important to ask questions concerning how a partner's perceptions of an individual's desire for affectionate touch may influence the benefits that the individual gains from these experiences. For instance, are people with partners who are more "in touch" with their desires for affectionate touch more likely to reap the benefits associated with these behaviours?

Applying the Empathic Accuracy Model to Affectionate Touch

The empathic accuracy model (Ickes & Simpson, 1997; 2001) points to the importance of correctly identifying the desire for affectionate touch. *Empathic accuracy* is a person's ability to accurately judge the thoughts, feelings, and internal states of others (Ickes, 1993; Ickes & Hodges, 2013; Ickes et al., 1990). This concept was developed based on Carl Rogers' notion of accurate empathy (Rogers, 1975; Ickes & Hodges, 2013). Within therapy, Rogers believed that the intent of a therapist should not be to make a client feel as if he or she is being pitied, but instead the therapist should intend to make the client feel understood. To convey this understanding, it is a therapist's job to be in tune with the client's emotions, needs, and perspectives (Rogers, 1975). Thus, a therapist should be accurately evaluating the moment-to-moment experiences of a client and appraising the client's inner states as if they were the therapist's own. To do all of this, the therapist must be an accurate "reader" of these experiences (Rogers et al., 1967). This form of accuracy was termed accurate empathy. Rogers believed that in exercising accurate empathy, a therapist would be better able to understand the client's needs, as well as his or her emotions and issues, allowing the therapist to appropriately respond to these

emotions and issues in a timely manner within the therapy session (Roger et al., 1967). Based on the importance of accurate empathy within a therapy context, Ickes and his colleagues (1990) proposed that a similar style of accuracy occurs in everyday life that is important for the functioning of all other interpersonal relationships. They coined the term empathic accuracy to describe this more “everyday” form of mind reading that is focused on perceiving the thoughts, feelings, and internal states of others within one’s social environment.

Most of the literature examining accuracy in romantic relationships has focused on the extent to which romantic partners are able to accurately assess one another’s more stable and enduring traits rather than on accurately assessing one’s thoughts and feelings (for review see Fletcher & Kerr, 2010). In general, this body of research suggests that people are, on average, moderately accurate when assessing their romantic partner’s personality (Fletcher & Kerr, 2010; Neff & Karney, 2002; Wood et al., 2017) with correlations between self and partner ratings of personality typically ranging between .40 and .60 (McCrae et al., 2008). Although this form of accuracy has been shown to be correlated with one’s relationship outcomes (e.g., Letzring & Nofle, 2010; Luo & Snider 2000; Neff & Karney, 2005), empathic accuracy is conceptually distinct from recognizing another person’s more stable and enduring traits in that it requires an individual to be aware of the internal states that another person is experiencing on a moment-to-moment basis (Ickes, 1993). In fact, empathic accuracy refers to the ability to perceive the “specific content of another person’s thoughts and feelings” (Ickes, 1993, p. 588). When examining empathic accuracy more specifically, it appears as though romantic partners are still relatively accurate when assessing one another’s positive and negative emotional states (i.e., feelings; Clark et al., 2017; Howland & Rafaeli, 2010; Overall et al., 2015; Wilhelm & Perrez, 2004). However, the extent to which a person is accurate concerning their partner’s internal

thoughts and feeling is not important in and of itself. Instead, what is meaningful is the extent to which empathic accuracy allows the couple to flourish on a relational and personal level.

The ability to make accurate inferences about another person has long been thought to be adaptive to one's psychological (e.g., Taylor & Brown, 1994) and social well-being (Fletcher & Kerr, 2012; Haselton & Funder, 2006). Intuitively, having more accurate impressions of those around you should allow for better navigation of one's social environment by facilitating feelings of confidence, control, and comfort (Letzring & Noftle, 2010; Swann et al., 1989). When it comes to empathic accuracy more specifically, it is believed that the benefits of this form of accuracy stem from the fact that it allows a person to enact empathic expressions, which are verbal and non-verbal behaviours that match the actual experiences of another person (Barrett-Lennard, 1981; Elliott et al., 1982; Goldstein & Michaels, 1985). In this sense, empathic accuracy allows people to respond more appropriately to others, which allows for higher quality interactions (Mayer et al., 2008). Similarly, but within the context of romantic relationships, Reis and colleagues (2013; 2015) have suggested that a person can only react responsively to their partner if they are first able to understand their partner's internal thoughts and feelings. This is important as within romantic relationship, the partners are motivated to react responsively to meet one another's needs due to the communal nature of these relationships (Mills & Clark, 2001). Thus, those who are more empathically accurate should be more effective at recognizing and responding to their partner's needs and wishes, which should encourage greater relational and personal well-being in their partner.

Indeed, there is a large body of evidence that supports the idea that empathic accuracy benefits people by facilitating various positive relationship outcomes. Specifically, the ability to accurately assess the negative and positive emotional experiences of a romantic partner has been

found to be associated with the partner experiencing greater relationship satisfaction (Cohen et al., 2012; for a meta-analysis see Sened et al., 2017), greater commitment (Kilpatrick et al., 2002), better relationship functioning (Kilpatrick et al., 2002), and fewer negative relationship evaluations (Rafaeli et al., 2017). Presumably, those who are more empathically accurate have better relationships because they are better able to provide appropriate and timely support to their partner than those who are less empathically accurate (Howland, 2016; Verhofstadt et al., 2008). In support of this notion, empathic accuracy for a romantic partner's emotional experiences has been shown to be associated with being perceived as more responsive (Gregory et al., 2020; Winczewski et al., 2016). Those who are less empathically accurate also provide more accommodative and less aggressive behaviours than their peers who are less empathically accurate (Cohen et al., 2015; Kilpatrick et al., 2002; for review see Baucom & Atkins, 2013). Further, greater empathic accuracy appears to also foster more relationship quality for the partner who is doing the perceiving (Cohen et al., 2012; Rafaeli et al., 2017).

Although a person's affect and quality of life may be influenced by the perceptions that other's have of their thoughts and feelings, there is currently no research examining how empathic accuracy is related to one's partner's and one's own personal well-being. This may be because the majority of studies examining this phenomenon have focused on the accurate assessment of positive and negative emotional experiences (i.e., feelings). Given that affect is a key component of well-being (Diener, 1984; Diener et al., 2018), it would be inappropriate to use affective experiences as both a predictor and outcome variable within these studies. However, although previous research has been focused on the empathic accuracy of normative mood states, the definition of empathic accuracy considers a much broader scope of perception. People often experience many other more nuanced thoughts and feelings on a regular basis that

are associated with relationship quality and personal well-being when recognized by a romantic partner. For instance, people often have thoughts concerning their desires and needs (e.g., belongingness, autonomy, security, competence, self-expansion), which when left unmet can negatively influence one's personal and relational well-being (Drigotas & Rusbult, 1992; Le & Agnew, 2001). For many, regardless of whether these desires and needs are relationship-related (e.g., intimacy; Le & Agnew, 2001) or more personal in nature (e.g., autonomy; Patrick et al., 2007), one's romantic partner is generally a primary contributor to the fulfillment of these needs and desires. Indeed, Finkel and colleagues (2014) suggested people often look to romantic partners to help them fulfill their needs and that the satisfaction of these needs requires that partners have substantial insight into one another. Thus, given the importance of affectionate touch fulfillment to one's personal and relational well-being, I proposed that it would be important for romantic partners to be accurate in assessing each other's desire for affectionate touch on a daily basis. Being more empathically accurate in this context would allow a partner to provide an appropriate amount (i.e., no discrepancy between one's desired and received amount of affectionate touch) that should facilitate greater well-being.

Measurement of Empathic Accuracy

Previous research has measured empathic accuracy in several ways, including the dyadic interaction paradigm, mean-difference scoring, and, more recently, response surface analysis. The dyadic interaction paradigm, a laboratory-based video-recall interaction, has been used by most studies examining the benefits and consequences of being in tune with one's partner's internal states (e.g., Cohen et al., 2015; Howland, 2016; Overall et al., 2012). This method, developed by Ickes and colleague (1990), begins with couples being videotaped while having an unstructured conversation within a lab setting. Following this interaction, the partners

independently view the videotaped conversation twice: first to report their own thoughts and feelings during the conversation and then to make assessment concerning their partner's thoughts and feelings. Within this paradigm, the extent to which partners recognize each other's feelings and thoughts (i.e., empathic accuracy) is measured by comparing the degree of correspondence between a person's recollection of his or her own inner experiences during the interaction and the partner's assessments about that person's inner experiences. These ratings of correspondence are then aggregated to create a measure of empathic accuracy that ranges from 0 (no accuracy) to 100 (perfect accuracy; Ickes et al., 1990). Although this paradigm has many strengths including moment-by-moment assessments of accuracy, there are a few concerns about its ecological validity. For instance, given that the video-recall interaction paradigm relies on non-spontaneous lab interaction, it may not be generalizable to typical day-to-day situations. Further, within the procedure instructions for this paradigm (Ickes, 1993), it is specified that the participants be explicitly told to be as accurate as possible when making assessment concerning their partner's thoughts and feelings. This creates a situation where the participant is motivated to correctly recognize the experiences of their partner, which is not likely the case in the day-to-day life of most couples.

To remedy the ecological validity concerns with the laboratory method, some researchers have begun to use daily-diary methods to evaluate the associations between empathic accuracy and relationship quality (e.g., Howland & Rafaeli, 2010; Rafaeli et al., 2017; Wilhelm & Perrez, 2004). That is, every day (generally once a day) for a set length of time, partners are asked to provide information on the thoughts and feelings that they experienced on that day, as well as their perceptions of their partner's thoughts and feelings. The use of this method allows each member of the couple to assess their own and their partner's thoughts and feelings in the context

and privacy of the couple's everyday life, thereby addressing the validity issues of the laboratory-based method. Further, this paradigm uses a more traditional method for assessing the extent to which partners recognize each other's feelings and thoughts. Specifically, researchers who have evaluated empathic accuracy using a daily-diary method (e.g., Rafaeli et al., 2017) have operationalized accuracy with mean-difference scores. That is, the extent to which an individual's perceptions diverge from the partner's experience is measured by subtracting the individual's perceptions from the partner's reported experience (Fletcher, 2015). Despite the ecological validity of this method, operationally defining empathic accuracy as a difference score is not without its limitations (e.g., Cronbach & Furby, 1970; Griffin, Murray, & Gonzalez, 1999). In essence, the use of difference scores to predict outcomes risks confounding the effect of the difference score with that of each one of its components. To address this issue, Edwards (1994) proposed using response surface analysis to measure accuracy.

Response surface analysis (RSA) overcomes the issues concerning difference scores by preserving all reported information on separate continuous scales. Broadly, this statistical method tests the extent to which congruence between two variables is associated with a specific outcome variable (i.e., the congruence hypothesis). In relation to examining accuracy, RSA allows researchers to assess whether the degree to which alignment in a person's perception of their partner's thoughts and feelings and the partner's reported thoughts and feelings is associated with a particular outcome. However, due the complexity of this statistical approach, it is currently recommended that RSA only be used when there is a single outcome variable (Schonbrodt, Humberg, & Nestler, 2018). Thus, although a promising statistical method for studying empathic accuracy, response surface analysis has only been used on a few occasions to

examine this phenomenon (Lazarus, Bar-Kalifa, & Rafaeli, 2018; Le, Cote, Stellar, & Impett, 2020; Muise, Stanton, Kim, & Impett, 2016).

Although empathic accuracy has been measured using a variety of approaches, the main theme of the results is: greater empathic accuracy is associated with more positive relationship outcomes (e.g., Cohen et al., 2012; Howland & Rafaeli, 2010; Kilpatrick et al., 2002; Le et al., 2020; Rafaeli et al., 2017). However, relatively little is known about whether there are times or contexts in which recognizing and attending to a partner's internal states is especially consequential for relationship quality (and possibly personal well-being). Specifically, given that people tend to require more attention and support from a partner in times of stress (Bowlby, 1969, 1973), these may be moments when being more attuned to a partner's thoughts and feelings matter more to relationship quality and well-being.

Stress Emphasizes the Importance of Empathic Accuracy for Affectionate Touch

Stress occurs when a person believes that they do not have the resources necessary to cope with an obstacle (e.g., Lazarus & Folkman, 1984). Fortunately, the presence and availability of close others can diminish the experience of stress by reducing this perceived resource imbalance as close others are expected to provide assistance and support when necessary (e.g., Coan, 2010; Beckes & Coan, 2011). Thus, although people are perpetually inclined to maintain close connections to others, these connections are particularly essential during times of stress when people rely on receiving help and comfort (Beckes & Coan, 2011; Bowlby, 1969, 1982). In fact, during stressful moments, the perceived availability of those important to a person has been strongly associated with one's well-being (e.g., Hobfoll, 2009; Taylor, 2007; Uchino, 2009). From an evolutionary viewpoint, the increased motivation to seek social proximity during times of stress promotes survival by protecting vulnerable people from danger. From a psychological perspective, social proximity serves to reduce the experience of

debilitating negative emotions and cognitive load, which subsequently allows a person to pursue other important tasks and goals that promote well-being (Beckes & Coan, 2011; Simpson & Rholes, 2012). Although solely referenced as social proximity above, the experience of stress prompts a person, whether consciously or not, to seek out physical and emotional closeness to those important to them (Mikulincer & Shaver, 2016; Simpson & Rholes, 1994). That is, in these moments, people become focused on engaging in and receiving verbal and non-verbal behaviours that promote feelings of proximity, support, comfort, and reassurance to manage distress (Mikulincer, 1998; Mikulincer & Shaver, 2016). It is thought that when a person has received sufficient verbal and nonverbal behaviours that promote these feelings, he or she will be more effective at managing external stressors and refocusing attention on previous goals and explorations (Beckes & Coan, 2011; Bowlby, 1969, 1980; Cohen & McKay, 1984; Sroufe & Waters, 1977).

When considering the different behaviours that may instill these positive feelings in a person, affectionate touch appears to qualify given that this form of touch is meant to arouse feelings of love, care, fondness, and appreciation. In fact, affectionate touch has been shown to demonstrate the physical and emotional closeness that one has to another person, which promotes a sense of security (Jakubiak & Feeney, 2016; 2017). This felt security allows a person to experience an immediate sense of safety and calmness, along with a general impression that one is cared for by one's partner (e.g., Collins & Feeney, 2004). Given that affectionate touch can promote these feelings within an individual, it seems reasonable to suggest that a person may have a greater desire for affectionate touch during times of stress. Although this hypothesis has not been tested directly, the exchange of affectionate touch with a partner has been demonstrated to attenuate the effects of stress during and facilitate recovery following stressful events. During

conflict discussions with a partner, participants told to engage in affectionate touch reported experiencing less stress than participants not given this instruction (Jakubiak & Feeney, 2019).

Likewise, holding hands (i.e., a form affectionate touch) with a partner during a stressful laboratory task, when compared to holding hands with a stranger, was found to be associated with less activation of neural systems responsible for responding to stress (e.g., Coan et al., 2017; Brown et al., 2017). Following a stressful laboratory task, greater amounts of affectionate touch from a romantic partner was related to experiencing greater reductions in distress (Robinson et al., 2015).

Despite the positive influence that affectionate touch has on stress, previous research has found that support provided from a partner can sometimes worsen an individual's response to stress and undermine coping (Bolger & Amarel, 2007; Bolger et al., 2000). Several studies have suggested that whether support is beneficial may depend upon how well a person is able to identify and respond to their partner's needs (Cutrona, 1990; Revenson & DeLongis, 2010; Rini & Dunkel Schetter, 2010; Rini et al., 2006). In fact, a new theoretical framework proposed by Zee and colleagues (2020) suggests that support will only be beneficial to the extent that an individual addresses the partner's self-regulatory needs and allows the partner to feel capable of managing stress. These researchers posit that support that addresses these needs will facilitate thoughts and behaviours that help the partner handle stress more efficiently (Zee et al., 2020). Thus, although affectionate touch can influence how one responds to stress, it may be especially important for a person to accurately assess their partner's desire for affectionate touch during times of stress to ensure that the beneficial intentions behind these behaviours are actualized.

Apart from determining whether there are specific times or contexts in which empathic accuracy is especially important, it is also valuable to determine if there are certain qualities of

an individual that influence empathic accuracy. For instance, given that a person's attachment orientation can guide how one approaches, perceives, and behaves within a romantic relationship (Mikulincer & Shaver, 2016), attachment may be one trait that influences the extent to which a person has accurate perceptions of their partner's thoughts and feelings.

Attachment Theory and Empathic Accuracy

Early research on interpersonal accuracy suggested that the ability to read the minds of others was a stable individual difference (Taft, 1955). However, over the years, empirical research in this area has yielded inconsistent and contrary findings resulting in the near abandonment of the notion that people can be categorized according to their mind-reading abilities (e.g., Kenny, 1994). Instead, researchers now suggest that the extent to which a person is empathically accurate may be influenced by various qualities of that person (e.g., Davis & Kraus, 1997). Although there may be many aspects of an individual that can affect one's likelihood to make more accurate perceptions, one's attachment orientation may be especially influential as this personality factor is thought to influence information processing within close relationships.

Attachment theory was originally developed to describe and explain the different close emotional bonds that develop between an infant and a primary caregiver (Bowlby, 1969). Although originally created with the parent-child dynamic in mind, attachment theory quickly expanded to describe the interpersonal relationships that develop in adulthood. This expansion to the original theory occurred after the attachment processes responsible for the bonds that develop between adults were observed to be similar to the ones responsible for the bond that develops between an infant and primary caregiver (Fraley & Shaver, 2000; Hazan & Shaver, 1994). Accordingly, regardless as to whether we are referring to children or adults, the underlying notion behind attachment theory is the same: people develop an *attachment orientation*—

patterns of interpersonal cognitions, emotions, and behaviors—based on their unique interactions and experiences with attachment figures. Within adulthood more specifically, people are thought to vary on two independent dimensions of attachment, *attachment anxiety* and *attachment avoidance*, which ultimately guide how a person interprets, experiences, and behaves within their close relationships (Fraley & Shaver, 2000; Shaver & Mikulincer, 2007). In fact, each attachment orientation is believed to shape which aspects of a partner are attended to and remembered, as well as which judgments and attributions are made concerning these aspects (Collins & Allard, 2001; Collins et al., 2004). Thus, a person's attachment orientation may influence how they assess and perceive the thoughts and feelings of their romantic partner.

The attachment anxiety dimension of attachment gauges the extent to which one has a strong desire for closeness and acceptance, while also harbouring intense fears of rejection and abandonment. These fears encourage people with a more anxious attachment orientation to be motivated towards maintaining a sense of closeness with important others resulting in an obsessive tendency to ruminate and think about their close relationships (Hazan & Shaver, 1994; Shaver & Mikulincer, 2007). Thus, when in a romantic relationship, people who score high on this dimension tend to be overly attentive to their partner and relationship, but also preoccupied with their own personal needs for reassurance and comfort (Hazan & Shaver, 1994; Mikulincer et al., 2002; Rholes et al., 2007; Shaver & Mikulincer, 2007). Given their attentive nature, it would seem reasonable to suggest that people who exhibit more attachment anxiety may be more attuned to their partner's thoughts and feelings relative to those scoring low on this dimension (Simpson et al., 1999). However, due to their preoccupation with the possibility of abandonment and their focus on proximity, attention, and support, it is also conceivable that these individuals may have difficulties accurately perceiving their partner's thoughts and feelings (Mikulincer &

Shaver, 2016). The uncertainty surrounding these conflicting theoretical standpoints is echoed in the result of studies examining the association between attachment anxiety and empathic accuracy. Specifically, although some research has found that those who are more anxiously attached experience greater accuracy concerning their partner's emotions relative to those who are less anxiously attached (Simpson et al., 1999, 2011), there are a few studies that find that these individuals generally experience lower accuracy than their less anxiously attached peers (Arriaga et al., 2006; Tucker & Anders, 1999). More recently, Overall and colleagues (2015) failed to show any significant association between attachment anxiety and empathic accuracy for emotion.

In contrast to attachment anxiety, the attachment avoidance dimension of attachment assesses the extent to which a person experiences discomfort in situations of physical and emotional closeness (Brennan et al., 1998; Campbell & Marshall, 2011; Fraley & Shaver, 2000). To avoid experiencing this discomfort, people with a more avoidant attachment orientation tend to defensively evade feelings of dependence and vulnerability by maintaining a sense of separation and independence while within a romantic relationship. This results in these individuals avoiding relationship experiences that may promote feelings of reliance or closeness and experiencing animosity towards their partners' needs (Collins & Feeney, 2000; Pietromonaco & Feldman Barrett, 1997; Simpson et al., 2002). In general, people with a more avoidant attachment orientation disengage from their partner by ignoring their emotional states and the status of their relationship (Mikulincer & Shaver, 2016; Simpson et al., 1992; Tan et al., 2012). Accordingly, people who exhibit a more avoidant attachment orientation (when compared to those exhibiting a less avoidant orientation) tend to perceive the emotions and thoughts of their partner in a way that correspond poorly with those being experienced by their partner

(Simpson et al., 2011; Noller & Feeney, 1994; Overall et al., 2015; Shallcross et al., 2011). In other words, greater attachment avoidance is associated with experiencing lower empathic accuracy. This poor accuracy is believed to stem from these individuals engaging in a cognitive process which includes defensively excluding (or ignoring) attachment-relevant information that can encourage emotional and physical closeness (Bowlby, 1980; Overall et al., 2015). To the extent that those who are more avoidantly attached experience great discomfort with closeness, the cognitive ignorance of attachment-relevant information should inhibit these individuals from paying attention to and accurately detecting their partner's desire for affectionate touch.

Apart from influencing one's ability to be empathically accurate, the behavioural tendencies of each attachment orientation also influence a person's relationship and personal outcomes. Previous research has consistently demonstrated that people who had a more anxious or avoidant attachment orientation experience lower levels of relationship satisfaction and commitment in romantic relationships compared to those who had a less anxious or avoidant attachment orientation (see Mikulincer & Shaver, 2016 for detailed review). In fact, these individuals report lower daily relationship quality (Campbell et al., 2005; Lavy et al., 2013; Neff & Karney, 2009) and tend to be less satisfied with their relationships in the first three years of marriage (Davila et al., 1999). Additionally, attachment is thought to play a significant part in influencing a person's affect and life satisfaction (Kafetsios & Sideridis, 2006; Karreman & Vingerhoets, 2012; Magai et al., 2016). It has been found that people who had more anxious or avoidant attachment orientations tend to experience less personal well-being (Calvo et al., 2020; Magai et al., 2016; Mikulincer & Shaver, 2016). Given that affectionate touch is associated with several beneficial relational and personal outcomes (e.g., Debrot et al., 2013, 2017; Heiman et al., 2011; Steverink et al., 2019; Vannier et al., 2016), it may be that receiving a

satisfactory amount of affectionate touch from a spouse could mitigate some of the detrimental consequences that being more anxiously or avoidantly attached has on these well-being outcomes.

The Current Study

Receiving affectionate touch is beneficial to one's relational (i.e., relationship satisfaction and connection) and personal (i.e., affect and life satisfaction) well-being. However, recent research suggests that these benefits may not accrue when a person receives less affectionate touch than they would have liked to receive (Hesse & Floyd, 2019; Hesse & Mikkelsen, 2017; Hesse & Tian, 2020). Given that affectionate touch is received from close others – primarily romantic partners – I propose that high empathic accuracy for affectionate touch will ensure that each member of the relationship can experience the relational and personal benefits that are associated with this behavioural exchange. This builds on past research examining empathic accuracy which has commonly focused on the outcomes associated with accurately assessing a partner's emotional experiences; ignoring the more nuanced thoughts and feelings that people have on a regular basis that may also affect relationship and personal well-being (e.g., desires, needs, and goals). Further, it is currently unclear whether empathic accuracy matters more on certain days. Thus, I examined whether empathic accuracy for a partner's desire for affectionate touch was more influential on stressful days when people are focused on engaging in and receiving verbal and non-verbal behaviours that promote feelings of proximity, support, and comfort. Lastly, for exploratory purposes, I assessed whether empathic accuracy (via affectionate touch fulfillment) could help to mitigate the negative consequences that attachment avoidance and anxiety have on relational and personal well-being, and whether attachment influenced the extent to which a person is empathically accurate. The current research is based on the theoretical notion that partners rely on one another to satisfy their needs and desires, and that to

satisfy these needs and desires (and enhance relational and personal well-being) partners must first accurately perceive and understand each other's needs and desires.

The current study uses a longitudinal, dyadic daily diary method to examine the effect that empathic accuracy for affectionate touch has on partners' relational and personal well-being. The use of the daily diary method allowed for the associations proposed to be evaluated over an extended period of time (i.e., over 21 days) within naturally occurring environments. By measuring empathic accuracy on a daily basis, empathic accuracy was able to be examined as a within-person (i.e., how are fluctuations in empathic accuracy from one day to the next associated with the outcomes?) and a between-person variable (i.e., do actors who have partners who experience greater empathic accuracy across the three-weeks of the study experience better or worse outcomes?). Traditionally, empathic accuracy studies have only evaluated between-person differences. However, much can also be learned from investigating the within-person fluctuations in empathic accuracy, including how daily accuracy is associated with relationship and personal well-being. Despite the advantages of this experiential sampling methodology, few studies (Howland & Rafaeli, 2010; Rafaeli et al., 2017; Wilhelm & Perrez, 2004) have used the daily diary paradigm to assess empathic accuracy.

Given that this study aimed to assess the extent to which an individual recognizes their partner's thoughts and feelings, it was necessary to collect data from both members of the couple. This necessity stems from the fact that an individual's perception of another person can only be deemed to be accurate if it aligns with the subjective experience of the individual who is being perceived (e.g., Kenny & Acitelli, 2001; Pollmann & Finkenauer, 2009). However, couples share many relationship experiences with one another and can develop more similar attributes over time (Kenny et al., 2006). For this reason, any research that is examining both

members of a dyad should account for the interdependence between the partners. The Actor-Partner Interdependence Model (APIM; Kashy & Kenny, 2000; Kenny et al., 2006) allows researchers to assess the extent to which partners influence one another while accounting for interdependence among couple members. Given that the APIM model will be used to analyze the data, the hypotheses are stated in terms associated with this model. Specifically, the term ‘actor’ will be used to refer to an individual within a relationship, whereas the term ‘partner’ will be used to refer to the partner of a specific actor.

Using the proposed model presented in Figure 1, I investigated the extent to which the partner’s empathic accuracy for the actor’s desire for affectionate touch was associated with the actor’s as well as the partner’s relational and personal well-being. Further, I examined whether these associations were mediated by the actor’s daily affectionate touch fulfillment. Moreover, I examined whether the strength of the association between actor’s daily affectionate touch fulfillment and actor’s daily relationship and personal well-being was moderated by the actor’s daily level of stress. Finally, within a series of exploratory analyses, I examined whether the partner’s attachment orientation was associated with their empathic accuracy for the actor’s desire for affectionate touch, and whether the association between a partner’s empathic accuracy and actor’s daily well-being (via affectionate touch fulfillment) was moderated by the actor’s attachment orientation.

Primary Hypotheses

Within-Person Daily Effects

The first series of hypotheses are focused on whether fluctuations in empathic accuracy and affectionate touch fulfillment from one day to the next are associated with relational and personal well-being. Specifically, I hypothesized that...

1. actors would report experiencing greater relational (i.e., daily relationship satisfaction and daily relationship connectedness) and personal well-being (i.e., positive and negative affect and life satisfaction) on days when they and their partners had more accurate perceptions concerning one another's desire for affectionate touch.
2. actors would report greater affectionate touch fulfillment on days when their partner had more (compared to their average) accurate perceptions concerning their desire for affectionate touch than when their partner had less accurate (compared to their average) perceptions.
3. on days when actors and their partners experience more (vs. less) affectionate touch fulfillment, the actors would report experiencing greater relational and personal well-being.
4. the association between affectionate touch fulfillment and the outcomes (i.e., relational and personal well-being) would be moderated by daily stress levels, such that the association between fulfillment and the outcomes would be stronger on more stressful days (vs. less stressful days).
5. the previous four hypotheses would collectively function within a moderated mediation model, such that on days when partners were more accurate concerning the actors' desire for affectionate touch, the actors would experience greater affectionate touch fulfillment and, in turn, experience greater relational and personal well-being, especially on days that the actors considered to be stressful.

Between-Person Effects

The hypotheses presented above (with the exception of the moderation of stress) were also examined at the between-person level by averaging each partner's daily empathic accuracy, affectionate touch fulfillment, and well-being scores across the three-week period. This allowed for the second series of hypotheses to focus on the extent to which differences in empathic accuracy and affectionate touch fulfillment between people influenced relational and personal well-being. In relation to these between-person differences, I hypothesized that:

6. actors with partners who were generally more accurate concerning their desire for affectionate touch (relative to those with partners who were generally less accurate) would report experiencing greater relational and personal well-being. Similarly, actors who generally had more accurate perceptions concerning their partner's desire for affectionate touch (relative those who were generally less accurate) would report experiencing greater relational and personal well-being.
7. actors with partners who were generally more accurate when perceiving their desire for affectionate touch (relative to those who had partners who were generally less accurate) would tend to experience greater affectionate touch fulfillment.
8. actors who experienced more affectionate touch fulfillment (relative to those who experienced less fulfillment) would report greater relational and personal well-being. Further, actors with a partner who experienced more affectionate touch fulfillment (relative to those who had a partner who experienced less fulfillment) would also report greater relational and personal well-being.
9. actors with a partner who was generally more accurate perceiving their desire for affectionate touch would tend to experience greater affectionate touch fulfillment,

which would in turn result in them experiencing greater relational and personal well-being.

Exploratory Between-Person Hypotheses. To determine whether certain people are more likely to be empathically accurate than others, I examined the extent to which one's attachment orientation correlated with empathic accuracy for one's partner's desire for affectionate touch. Based on evidence (reviewed earlier) that avoidantly attached individuals tend to ignore and exclude attachment relevant information, I hypothesized that there would be a significant negative association between attachment avoidance and empathic accuracy. Specifically, I proposed that having a more avoidant attachment orientation would be associated with having lower empathic accuracy for a partner's desire for affectionate touch. In contrast, due to the mixed findings concerning attachment anxiety and empathic accuracy, I did not make any specific hypotheses concerning the association between attachment anxiety and empathic accuracy.

Additionally, when considering the consequences that attachment anxiety and avoidance have on personal and relational well-being alongside the benefits that affectionate touch has on these same outcomes, it seems reasonable that affectionate touch fulfillment may help to mitigate the negative consequences that attachment anxiety and avoidance have on these well-being outcomes. Therefore, I examined whether the association between a partner's empathic accuracy and actor's daily well-being (via affectionate touch fulfillment) was moderated by the actor's attachment orientation. In essence, I expected (posteriori) a moderated mediation model, such that for actors with a more anxious or avoidant attachment orientation, it would be particularly important for a partner to be more accurate concerning the actor's daily desire for affectionate

touch as this would be associated with the actor experience greater affectionate touch fulfillment and, in turn, greater relational and personal well-being.²

Method

Data Source

The current study was part of a larger project conducted by C. Harasymchuk (principal investor), A. Muise, and E. Impett (SSHRC grant number 109658) investigating daily relationship experiences and self-expansion. The data were collected between December 2020 and May 2021. I was given permission to add measures related to the current research to their study.

Participants

The data set contains 144 couples recruited from the community to participate in a daily diary study focused on romantic relationships. The couples who participated in this study were recruited using advertisements posted on various online forums (e.g., Kijiji, Reddit). Within these advertisements, and common to other studies in this line of research examining established relationships (e.g., Impett, Paplau, & Gable, 2005; Muise, Impett, Kogan, & Desmarais, 2012), it was stated that only couples in long-term monogamous relationships that have lasted at least two years, and who currently live together for a minimum of five days per week, would be eligible to participate in the current study. The advertisements stated that each couple would need to be available to complete a short daily survey for 21 consecutive days. Based on the recommendations and practises of past researchers, it was determined that a sample size of 120–150 couples would be sufficient (e.g., Algoe et al., 2010; Impett & Gordon, 2010; Impett et al., 2010; Kenny et al., 2006; Laurenceau et al., 2005; Muise et al., 2012). The target sample for this

² The hypotheses and analytic strategy for the current study was not pre-registered on the Open Science Framework. However, they were disclosed within a Dissertation Prospectus prior to data collection.

study was 150 couples ($N = 300$). However, two couples were excluded after being deemed to be dishonest during the screening process, one couple was excluded due to a false start to the study, and three couples were excluded for completing either no surveys or only the initial survey. The final sample included 144 couples ($n = 288$; 50.7% female; 47.6% male, 1.4% other; $M_{age} = 32.44$, $SD_{age} = 7.46$). Of these couples, 77.4% were married or common-law, and the remainder described their relationship as a ‘serious dating relationship’. The mean relationship length was 92.98 months ($SD = 61.83$ months). Approximately one quarter (26.7%) of the participants had children who were living at home; of those with children, most reported having one child living in their home (13.9%). The remainder reported living with two (10.4%) or three (1.4%) children. The majority of the participants identified as heterosexual (82.3%) with the remainder identifying as homosexual (6.6%), bisexual (8.3%), and other (2.8%).

Following data collection, couples were compensated with an online gift certificate totalling up to approximately \$130 per couple. The exact amount of this certificate was dependent on the number of diaries completed by both members of the couple. Further, to ensure consistent and continued participation in the study, for every daily diary report completed by the couple, a ticket was entered into a lottery for one of two \$100 online gift certificates. This compensation schedule followed those enacted by previous researchers conducting daily diary studies with romantic couples (e.g., Campbell et al., 2010; Muise et al., 2012, 2013).

Procedure

Couples who were interested in participating contacted the research team using the email address provided on the recruitment advertisements. Before the study began, each member of the couple completed an emailing pre-screening that asked various questions concerning their relationship (e.g., relationship status, relationship length, living situation) to ensure that all the

eligibility requirements for the current study were met. Next, following the initial email pre-screening, the couples were contacted over the phone or ZOOM and asked to confirm the information provided in the pre-screening email, as well as provide additional information about the relationship. Once each partner had been screened, eligible couples were provided with the instructions and schedule for the study. During these conversations, the personal email addresses of each member of the couple were confirmed to ensure that each participant would receive an individual survey link each evening. It was at this time that the couples were instructed that the daily surveys were to be completed individually and privately. Following the call, each participant was sent a brief information package reiterating the instructions and schedule for the study. Within this email, the participant also received a unique couple identification code which they would need to enter at the beginning of each survey. This email also included a link to the intake survey, which the participants were asked to complete that evening. The following day, and for the subsequent 20-days, each participant was sent an email that contained a personalized link to access the survey for that day. To minimize attrition and fatigue, while increasing efficiency, the number of items used in the daily measures was minimized. Thus, although the current study was part of a larger daily diary project, the surveys took no more than 15 minutes per day to complete.

Measures

Intake Measures (Appendix A). Prior to the daily diary portion of this study, all participants were asked to complete each of the following background measures as part of the initial intake survey.

Demographics. Each participant was asked to report his or her age, gender, ethnicity, and sexual orientation. At this time, the participants were also asked questions concerning their

relationship status, relationship length, number of children, and how many days per week they see their partner. Finally, the participants were asked to indicate how they heard about the study (e.g., Kijiji, Reddit).

Attachment Orientation. A revised version of the Experiences in Close Relationships – Short Form Scale (Lafontaine et al., 2015) was used to assess each participant's attachment orientation. This 12-item self-report measure asks participants to report the extent to which they agree with each item using a 7-point Likert scale, where 1 = “strongly disagree” and 7 = “strongly agree”. The scale contains two six-item subscales that each assess one of the dimensions of attachment. The anxiety subscale measures the participants' tendency towards fearing rejection and abandonment from a romantic partner. This subscale includes items such as “I worry that romantic partners won't care about me as much as I care about them” and “I worry about being abandoned”. The avoidance subscale measures the participants' tendency to feel discomfort with emotional closeness and dependence. This subscale includes items such as “I don't feel comfortable opening up to romantic partners” and “I feel comfortable depending on romantic partners” (reverse scored). The anxious and avoidant subscales demonstrated good reliability with Cronbach's alphas of .853 and .809, respectively. The correlation between these two subscales was $r = .11$, $p < .001$, which is similar with Lafontaine and colleagues (2015) reporting the correlations between the two subscales to range from .13 to .71.

Perspective-Taking. To validate the measure of empathic accuracy used in the current study, each participant was asked to complete the perspective-taking subscale of the Interpersonal Reactivity Index for Couples (IRIC; Peloquin & Lafontaine, 2010). This six-item subscale measures an individual's tendency to adopt the point of view of others. For this measure, participants were asked to report the extent to which each item described themselves

using a 5-point Likert scale, where 1 = “does not describe me at all” and 5 = “describes me very well”. The IRIC had good reliability with a Cronbach’s alpha of .797.

Daily Measures (Appendix B). The evening following the completion of the intake survey, and for the subsequent 20 evenings, participants were asked to complete the following measures between 7 p.m. and 9 a.m. After 9 a.m. on the following day, the survey was not accessible to the participants.

Empathic Accuracy. Empathic accuracy for one’s partner’s desire for affectionate touch (EA) was operationalized as the absolute difference between the actor’s perceived, and the partner’s stated, desire for affectionate touch. To assess a person’s stated desire for affectionate touch, each participant was asked the following question: “To what extent did you want affectionate touch from your partner today (e.g., touch, caress, hug)?”. This question was answered using a 7-point Likert scale, where 1 = “not at all”, 4 = “moderately”, and 7 = “a great deal”. Next, in order to assess perceived desire for affectionate touch, each participant was asked “To what extent did your partner want affectionate touch from you today (e.g., touch, caress, hug)?”. This question was answered with the same scale used for the question concerning personal desire for affectionate touch. That is, a 7-point Likert scale, where 1 = “not at all”, 4 = “moderately”, and 7 = “a great deal”. Using the same scale allowed for the comparison between an actor’s desire for affectionate touch and a partner’s perception of the actor’s desire for affectionate touch (West & Kenny, 2011). The absolute value of a discrepancy score has been shown to be a reliable indicator of EA when computed with daily diary data (Howland & Rafaeli, 2010). To simplify interpretation, EA scores were reversed so that higher scores are indicative of greater accuracy (Rafaeli et al., 2017).

Affectionate Touch Fulfillment. To assess satisfaction with the amount of touch received (i.e., affectionate touch fulfillment), each participant was asked to indicate the extent to which they had received as much affectionate touch as they wanted from their partner that day. A 7-point Likert scale was used to respond to this question, where 1 = “Not at all”, 4 = “Moderately”, and 7 = “Extremely”. In order to validate the empathic accuracy measure used in the current study, participants were asked to choose one of the following options concerning the amount of affectionate touch they received that day: a) “Today, I received too little affectionate touch (e.g., hugging, kissing, holding hands, and cuddling) from my partner”, b) “Today, I received too much affectionate touch (e.g., hugging, kissing, holding hands, and cuddling) from my partner”, or c) “Today, I was satisfied with the amount of affectionate touch (e.g., hugging, kissing, holding hands, and cuddling) received from my partner”.

Relational Well-Being. Relationship quality was measured with two items from the Perceived Relationship Quality Component Inventory (Fletcher, Simpson, & Thomas, 2000). For the current study, participants were asked to rate how satisfied they were with their relationship and how connected they were to their partner that day using a 7-point Likert scale, where 1 = “not at all” and 7 = “extremely”. The correlation between these two items was $r = .78$ ($p < .001$).

Personal Well-Being. Based on previous research, daily personal well-being was conceptualized as experiencing a high level of positive affect, a low level of negative affect, and a sense of satisfaction with life each day (Diener, 1984; see Busseri & Sadava, 2011, for a review). Daily positive and negative affect was assessed by asking participants to rate the extent to which they felt a series of positive and negative emotions that day using a 7-point Likert scale, where 1 = “Not at all”, 4 = “Moderately”, and 7 = “Extremely”. Positive affect was measured using the items “happy, pleased, joyful”, “interested, attentive”, and “amused, having fun”,

whereas negative affect was measured using “anxious, nervous”, “sad, depressed, down”, “angry, irritated, hostile”, and “bored apathetic, lacking motivation”. The positive and negative affect subscales demonstrated good reliability with Cronbach’s alphas of .919 and .821, respectively. Daily life satisfaction was measured using a single-face valid item adapted from the Diener Life Satisfaction Scale (Diener, Emmons, Larsen, & Griffin, 1985), which asked participants to indicate the extent to which they agreed with the statement “I was satisfied with my life today”. Participants responded to this item using a 7-point Likert scale, where 1 = “Strongly disagree”, 4 = “Neither agree nor disagree”, and 7 = “Strongly agree”. Given that the components of the personal well-being were not assessed using the same measure, each component at each time was transformed to a Proportion of Maximum Possible (POMP; Cohen, Cohen, Aiken, & West, 1999) before being averaged together. To calculate POMP, each person’s score on each measure was converted to a proportion of the highest possible score, such that 0 represents the lowest possible score and 100 represents the highest possible score. A personal well-being score for each individual at each timepoint was then obtained by averaging their POMP scores for satisfaction with life, positive affect, and negative affect (reverse scored).

Stress. To assess daily level of stress, each participant was asked two questions: 1) “To what extent did you have a tough time today?”, and 2) “To what extent did you feel nervous and “stressed” today?”. Each of these questions were answered using a 7-point Likert scale, where 1 = “Not at all”, 4 = “Moderately”, and 7 = “Extremely”. The correlation between these items was $r = .730$ ($p < .001$).

Results

Analytic Strategy

The data collected for the current study were analyzed using multilevel modeling in combination with actor partner interdependence modelling (APIM; Kenny et al., 1998; Kenny et

al., 2006; Raudenbush & Bryk, 2002; Singer & Willett, 2003). Multilevel modelling is the standard analytic approach for daily diary data (e.g., Bolger et al., 2003) as it allows one to control for the dependence in repeated measures while also being capable of dealing with missing data and uneven case numbers (Reis & Gable, 2000). Although the data conceptually have three-levels (i.e., days nested within persons, and persons nested within couples), two-level cross models with random intercepts were estimated, where persons were nested within dyads, and persons and days were crossed to account for the fact that both dyad members completed daily surveys on the same days (Kenny et al., 2006). It should be noted that the slopes within each model were fixed given that dyadic data do not have enough lower-level units (i.e., dyad members) to allow the slopes to vary from dyad to dyad (Kenny et al., 2006). Further, the multilevel models were specified using a compound symmetry covariance structure, which assumes that the observations for two members of a dyad are equally correlated but the observations of members from different dyads are not correlated. This allowed for the nonindependence in the data to be estimated as a covariance as opposed to a variance (Kenny et al., 2006). In accordance with APIM (Kashy & Kenny, 2000; Kenny et al., 2006), the actor and partner variables were simultaneously entered into each multilevel model to control for the interdependence between the partners. This technique is preferable to approaches that analyze data from each partner separately as the latter cannot account for the dependency of paired data and may lead to inflated Type I error rates (see Kenny et al., 2006). The models were estimated using PROC MIXED and PROC PLM in SAS Version 9.4.³

³ Based on the recommendations of Kenny and colleagues (2006), tests of distinguishability were conducted based on gender since the sample consisted of mostly heterosexual couples who may be distinguishable from other couples in the sample. The results suggested that the dyad members were indistinguishable and were analysed as such in all analyses.

There were two separate centering techniques used within the current study to test the within-person and between-person hypotheses (Hoffman & Stawski, 2009). At the within-person level (i.e., level 1), the predictor variables (i.e., actor and partner empathic accuracy and affectionate touch fulfillment) were person-mean centered, such that participants' average scores on each of these variables across the 21-days were subtracted from each daily score of these variables. This centering technique represents the variation around each person's mean value across all observations. In other words, person-mean centering reflects the fact that these variables are likely to fluctuate over time, and the corresponding impact of these variables on well-being is likely to differ on occasions where participants are above or below their typical level of that variable. At the between-person level (i.e., level 2), actor and partner empathic accuracy, affectionate touch fulfillment, perspective taking, and attachment were grand-mean centered, such that the mean values of these variables across the entire sample were subtracted from each participant's average score on these variables across the 21-days. This centering technique reflects the assumption that there are likely to be consistent differences between the participants with some people consistently reporting higher empathic accuracy and fulfillment than others.

To test the full within- and between-person effects model (i.e., hypotheses 5 and 9), four 1–1–1 and two 2–2–1 mediation models were conducted. For each mediation, the Monte Carlo Method for Assessing Mediation (MCMAM; Selig & Preacher, 2015) with 20,000 resamples and 95% confidence intervals was used to determine whether the indirect effect of these mediations were significant. It should be noted that the beta coefficients reported in the results below are the unstandardized regression coefficients.

Missing Data Management

Within the current study, a total of 5352 out of a possible 6048 (88.49%) daily reports were completed by the participants. On average, the participants completed approximately 20 daily surveys out of the possible 21 days ($SD = 2.69$), but more than half (54.51%) of the participants had some missing data. These data were primarily missing due to random item nonresponse and missed daily reports. There were missing data on all daily variables, but data were complete for most of the demographic and individual difference variables. The percentage of missingness for each variable is detailed in Table 1. To handle the missing data, maximum likelihood estimation with robust standard errors was used (for reviews, see Baraldi & Enders, 2010; Schafer & Graham, 2002). This strategy allows estimates to be made for participants with at least one measurement occasion. Further, the parameters are estimated while keeping the data intact (i.e., without discarding or imputing data) while maximizing power.

For comparison purposes, a second set of analyses were conducted that used multiple imputation to handle the missing data under the assumption that the missing values were missing at random (Schafer & Graham 2002). This assumption was made following a series of binary logistic regressions that indicated that the data missing on the key variables were not associated with the demographic or other key variables in the study. Given that there was no missing data for relationship status, relationship length, sexual orientation, attachment anxiety, attachment avoidance, and perspective taking, these variables were included in the imputation model as predictors of the imputed values. White and colleagues (2011) suggest that the number of imputations conducted during multiple imputation should be equal to at least the percentage of missing cases. Given that these data had approximately 11.5% missing cases, a total of 15 imputations were generated. Upon a visual inspection of imputation convergence, a total of 10 burn-in iterations were used in the current study. Once the data were imputed, the data across the

15 imputed datasets were pooled according to Rubin's (1987) rules. The imputed values compare quite well to observed values. For comparison, the means and standard deviations for the continuous variables calculated from the original data and those from the imputed data are presented in Table 1. The results reported below are based off analyses conducted on the original dataset with the use of maximum likelihood. However, the results obtained from the imputed dataset are presented in Appendix C. For ease of comparison, the table numbers within Appendix C match those presented in the document.

Validation of Empathic Accuracy

Given that assessing empathic accuracy using a daily diary study is still a relatively new method of assessment (e.g., Howland & Rafaeli, 2010; Rafaeli et al., 2017; Wilhelm & Perrez, 2004), the daily measure of empathic accuracy used within the current study was validated with another construct measuring cognitive empathy –namely, perspective taking (assessed within the intake survey). The cognitive component of empathy refers to one's capacity to understand the feelings of another person (Eslinger, 1998; Rankin et al., 2005; Vachon & Lynam, 2016). Given that empathic accuracy refers to one's ability to accurately perceive another person's thoughts and feelings, it is often considered a cognitive form of empathy (Murphy & Lilienfield, 2019; Winczewski et al., 2016). Similarly, perspective taking has been deemed to reflect cognitive empathy as understanding another person's emotional states requires that an individual put themselves in “the other person's shoes” to perceive the situation from that person's point of view (Reniers et al., 2011). Given that empathic accuracy and perspective taking each represent cognitive forms of empathy, there should be a positive association between these two constructs. Specifically, individuals with a better ability to imagine the unique perspectives of others should experience greater empathic accuracy for affectionate touch. Unfortunately, a person's ability to

take another person's perspective was not associated with their average level of empathic accuracy for affectionate touch across the 21-days ($r = .03, p = .472$). Similarly, when actor and partner perspective taking, attachment anxiety, and attachment avoidance were regressed on actor's empathic accuracy within a multilevel model, actor's perspective taking was not significantly associated with empathic accuracy, $b = 0.06, SE = 0.05, t(177) = 1.31, p = .193$, 95% CI [-0.03, 0.15].

In an additional attempt to validate the empathic accuracy measure used in the current study, the association between the categorical affectionate touch fulfillment item and partner's empathic accuracy was evaluated. Presumably, given that empathic accuracy is supposed to capture the discrepancy between the actor's perceived, and the partner's stated, desire for affectionate touch, receiving too much or too little affectionate touch from a partner on a specific day should be associated with the partner experiencing lower empathic accuracy that day when compared to people who indicated that they were satisfied with the amount touch received. Before the association between the variables was examined, a simple frequency analysis was conducted to evaluate how satisfied people were with the amount of affectionate touch that they received from their partner on a daily basis. Based on this analysis, approximately three-quarters of the time, the participants were satisfied with the amount of affectionate touch they received from their partner (76.3%). Occasionally, the participants felt that they had received too little (20.6%) or too much (3.1%) affectionate touch from their partner on a given day. To examine the association between the categorical affection touch item and empathic accuracy, the affection touch item was dummy coded for both actors and partners such that for the first dummy variable "too little" was coded as 1 and "too much" and "satisfied" were coded as 0. For the second variable, "too much" was coded as 1 and "too little" and "satisfied" were coded as 0. These

dummy coded variables were entered into a multilevel model where they were regressed on the partner's empathic accuracy for affectionate touch. The results indicated that partners had significantly less empathic accuracy on days when an actor reported experiencing too little, $b = -0.22$, $SE = 0.04$, $t(4856) = -5.61$, $p < .001$, or too much, $b = -0.16$, $SE = 0.09$, $t(5049) = -2.03$, $p = .042$, affectionate touch.

Preliminary Results

The means and standard deviations for the demographic and key variables are presented in Table 1. The correlations between these variables are presented in Table 2. Relevant to the primary analyses, experiencing greater affectionate touch fulfillment was associated with reporting significantly greater relational and personal well-being. Further, experiencing greater stress was significantly related to reporting less affectionate touch fulfillment and personal well-being. However, stress was not associated with relational well-being. The intraclass correlations between the actor and partner scores on each variable are also reported in Table 2. Additionally, a separate correlational analysis revealed that greater attachment anxiety was associated with desiring more affectionate touch ($r = .121$, $p < .001$), whereas greater attachment avoidance was associated with desiring less ($r = -.126$, $p < .001$). I also examined the association between the categorical affection touch item and affectionate touch fulfillment. The affection touch item was dummy coded for both actors and partners such that for the first dummy variable "too little" was coded as 1 and "too much" and "satisfied" were coded as 0. For the second variable, "too much" was coded as 1 and "too little" and "satisfied" were coded as 0. These dummy coded variables were entered into a multilevel model where they were regressed on the actor's affectionate touch fulfillment. The results indicated that the actor reported significantly less affectionate touch

fulfillment on days when they reported experiencing too little, $b = -0.42$, $SE = 0.11$, $t(5452) = -3.87$, $p < .001$, or too much, $b = -2.08$, $SE = 0.05$, $t(5452) = -43.87$, $p < .001$, affectionate touch.

To assess the proportion of variance at each level within the multilevel models, intercept-only (i.e., unconditional means) models for each of the outcome variables were analyzed. These analyses indicated that 52.9% of the variance in relationship well-being was within-person, whereas 19.6% and 27.5% was between-person and between-couple, respectively. For personal well-being, 47.2% of the variance in this variable was within-person, meanwhile 31.0% and 21.8% of the variance was between-person and between-couple, respectively. Finally, 59.0% of the variance in affectionate touch fulfillment was within-person, 31.0% was between-person differences, and 21.8% was between-couple variance.

Hypothesis Testing

The central goal of this research was to investigate whether having a partner who was more in tune to one's desire for affectionate touch would be associated with greater well-being for both a person and their partner. This included examining some of the nuances of this association including the mediating effect of affectionate touch fulfillment and the moderating effect of stress on the association between affectionate touch fulfillment and well-being. To this end, the first few hypotheses of the current study corresponded with the individual associations present within a mediation, including: 1) the association between the independent variable (i.e., partner's empathic accuracy) and the outcomes (i.e., actor's personal and relational well-being)⁴, 2) the relation between the independent variable (i.e., partner's empathic accuracy) and the

⁴ Although Baron and Kenny (1986) suggested that there must be a direct effect of the independent variable on the dependent variable for mediation to occur, more recent statistical research argues that mediation analyses do not require an association between the independent and dependent variables (Aguinis et al., 2016; Hayes, 2009; MacKinnon, Krull, & Lockwood, 2000; Preacher & Hayes, 2004; Rucker et al., 2011; Shrout & Bolger, 2002; Zhao et al., 2010).

presumed mediator (i.e., actor's affectionate touch fulfillment), and 3) the association between the presumed mediator (i.e., actor's affectionate touch fulfillment) and the outcomes (i.e., actor's personal and relational well-being) while controlling for the independent variable (i.e., partner's empathic accuracy).

Hypotheses 1 and 6: Association between Partner's Empathic Accuracy and Actor's Well-Being

The analyses for the current study began by examining the direct associations between empathic accuracy and the well-being outcomes. To do this, the actor and partner grand-mean and person-mean centered empathic accuracy variables were regressed on the actor's relational (i.e., a composite of relationship satisfaction and connection) and personal (i.e., a composite of affect and life satisfaction) well-being outcomes. I hypothesized that people would experience greater relational and personal well-being when they and their partner experienced greater empathic accuracy at the within- and between-person levels (Hypotheses 1 and 6). The results for these analyses are presented in Table 3. In support of the hypotheses, people reported greater relational well-being on days when their partner experienced greater than their average level of empathic accuracy for affectionate touch. On a daily basis, every 1 unit that a partner's empathic accuracy was above their average empathic accuracy was associated with an actor experiencing a .04 unit increase in relational well-being. Likewise, having a partner with higher average empathic accuracy (relative to the average of the entire sample) was associated with greater relational well-being. Contrary to the hypotheses, there were no significant associations between an actor's daily fluctuations in empathic accuracy or average empathic accuracy and their own relational well-being.

In relation to personal well-being, and contrary to the hypotheses, there was no association between a partner's daily fluctuations in empathic accuracy and actor's personal well-being.⁵ However, the results did support the hypothesis that having a partner with higher average empathic accuracy (compared to the average of the entire sample) was associated with a person reporting greater personal well-being. Further, it was found that people reported greater personal well-being on days when they experienced greater than their average level of empathic accuracy for affectionate touch. Specifically, on a daily basis, every 1 unit that an actor's empathic accuracy was above their average was associated with the actor experiencing a .64 unit increase in personal well-being. However, this effect was not found at the between-person level.⁶

Hypotheses 2 and 7: Association between Partner's Empathic Accuracy and Actor's Touch

Fulfillment

Next, the association between empathic accuracy for affectionate touch and affectionate touch fulfillment was examined. To examine this association, the actor and partner grand-mean and person-mean centered empathic accuracy variables were regressed on the actor's affectionate touch fulfillment. I hypothesized that people would report greater affectionate touch fulfillment when they were involved with a partner who experienced more empathic accuracy at the within- and between-person levels (Hypotheses 2 and 7). The results corresponding to this hypothesis are presented in Table 4. In accordance with the hypothesis, the results indicated that people reported greater affectionate touch fulfillment on days when their partner experienced greater than their average level of empathic accuracy for affectionate touch. In particular, on any given day, every

⁵ Although at the within-person level there was not a direct effect of partner's empathic accuracy on actor's personal well-being, I continued to conduct a mediation analyses based on the recommendation that mediation analyses do not require an association between the independent and dependent variables (Aguinis et al., 2016; Hayes, 2009; MacKinnon, Krull, & Lockwood, 2000; Preacher & Hayes, 2004; Rucker et al., 2011; Shrout & Bolger, 2002; Zhao et al., 2010).

⁶ Originally, gender was included in all analyses, but it was found to have no substantive effects on the results.

1 unit that the partner's empathic accuracy was above their average was associated with the actor experiencing a .09 unit increase in affectionate touch fulfillment. Further, people with partners who experienced more empathic accuracy on average (when compared to the average of the entire sample) reported greater fulfillment. Although not hypothesized, it was also found that people reported greater affectionate touch fulfillment on days when they experienced greater than their own average level of empathic accuracy for affectionate touch. This association was not as strong as the association between a partner's daily fluctuations in empathic accuracy and the actor's affectionate touch fulfillment. Similarly, people who had higher average empathic accuracy (relative to the average of the entire sample) also reported greater affectionate touch fulfillment. However, once again, this association was not as strong as the association between a partner's tendency towards accuracy and the actor's affectionate touch fulfillment.

Hypotheses 3 and 8: Association between Actor's Touch Fulfillment and Well-Being

The association between the actor's affectionate touch fulfillment and each of the actor's well-being composites (i.e., relational and personal) were tested while controlling for the partner's empathic accuracy. To do this, the actor and partner grand-mean and person-mean centered affectionate touch fulfillment and empathic accuracy variables were regressed on each of the actor's well-being outcomes. I hypothesized that when people and their partners experienced greater affectionate touch fulfillment at the within- and between-person levels, people would experience greater relational and personal well-being (Hypotheses 3 and 8). The results related to these models are presented in Table 5. In support of the hypotheses, the results indicated that people reported greater relational well-being on days when they experienced greater than their average level of affectionate touch fulfillment. Specifically, on any given day, for each 1 unit that an actor's affectionate touch fulfillment was above their own average was

associated with a .25 unit increase in their relational well-being. Similarly, people who experienced greater affectionate touch fulfillment on average (relative to the average of the entire sample) reported greater relational well-being. In relation to the partner effect, the results confirmed the hypothesis that people would report greater relational well-being on days when their partner experienced greater than their average level of affectionate touch fulfillment. That is, every 1 unit that a partner experienced in affectionate touch fulfillment above their average was associated with the actor experiencing a .12 unit increase in their relational well-being. This effect was also found at the between-persons level, such that having a partner who experienced greater affectionate touch fulfillment on average (compared to the average of the entire sample) was associated with greater relational well-being.

When personal well-being was examined as the outcome variable, the results supported the hypothesis that people would report greater personal well-being on days when they experienced greater than their average level of affectionate touch fulfillment. Specifically, every 1 unit increase that an actor experienced in affectionate touch fulfillment above their average was associated with a 3.01 unit increase in their personal well-being. Further, experiencing greater affectionate touch fulfillment on average (relative to the average of the entire sample) was associated with greater personal well-being. The partner effects within this model confirmed the hypothesis that people would report greater personal well-being on days when their partner experienced greater than their average level of affectionate touch fulfillment. That is, every 1 unit increase that a partner experienced in affectionate touch fulfillment above their average was associated with the actor experiencing a 1.52 unit increase in personal well-being. However, this effect was not found at the between-persons level.

Hypothesis 9: Association between Partner's Empathic Accuracy and Actor's Well-Being via Actor's Touch Fulfillment

Given that at the within- and between-person levels a person's affectionate touch fulfillment was associated with their well-being outcomes, the Monte Carlo Method for Assessing Mediation (MCMAM) was used to test whether a person's affectionate touch fulfillment significantly mediated the association between a partner's empathic accuracy and a person's well-being outcomes (i.e., the indirect effect). In support of hypothesis 9, the results indicated that at the between-persons level a person's average affectionate touch fulfillment significantly mediated the association between their partner's average empathic accuracy and their own relational (95% CI [.01, .12]) and personal (95% CI [.04, 1.29]) well-being. Specifically, having a partner who experienced more empathic accuracy on average was related a person reporting a higher average level of affectionate touch fulfillment, which was subsequently associated with that person experiencing greater relational and personal well-being. Within these models, the association between a partner's empathic accuracy and a person's well-being outcomes was no longer significant indicating that a person's affectionate touch fulfillment completely mediated these associations. Figure 2 depicts the between-persons APIM mediation models for relational (panel a) and personal (panel b) well-being. Although not hypothesized, the results indicated that a person's daily fluctuation in affectionate touch fulfillment also significantly mediated the association between their partner's daily empathic accuracy and their own relational (95% CI [.01, .03]) and personal (95% CI [.15, .40]) well-being. Specifically, on days when a partner experienced more than their average level of empathic accuracy, a person tended to report experiencing higher than their average level of affectionate touch fulfillment, which was subsequently associated with that person experiencing greater relational and personal

well-being. Once again within these models, the association between a partner's empathic accuracy and a person's well-being outcomes was no longer significant indicating that a person's affectionate touch fulfillment completely mediated the associations. Figure 3 depicts the within-persons APIM mediation models for relational (panel a) and personal (panel b) well-being.

Hypothesis 4: Moderating Effect of Actor's Stress on the Association between Actor's Touch Fulfillment and Well-Being

I examined whether the association between a person's affectionate touch fulfillment and well-being differed as a function of the person's daily stress level. To do this, the actor and partner affectionate touch fulfillment and stress variables (each person-mean centered), as well as their interactions, were regressed on each of the actor's well-being outcomes. I hypothesized that on more stressful days the association between a person's fulfillment and their relational and personal well-being would be larger than on less stressful days (Hypothesis 4). The results for these analyses are presented in Table 6. There was a significant main effect of affectionate touch fulfillment on relational and personal well-being. Corresponding with the results for Hypothesis 3, people reported greater relational and personal well-being on days when they experienced greater than their average level of affectionate touch fulfillment. There was also a significant main effect of stress, which indicated on days when a person experienced greater than their average level of stress, they reported less relational and personal well-being. Specifically, on a daily basis, every 1 unit that an actor's reported stress was above their average was associated with a .13 unit and 6.85 unit decrease in relational and personal well-being, respectively. These effects were qualified by significant interactions between affectionate touch fulfillment and stress. These interactions are illustrated in Figure 4 (relational well-being) and Figure 5 (personal well-being). An analysis of simple effects showed that on low stress days (i.e., one standard

deviation below the mean), affectionate touch fulfillment was significantly associated with relational, $b = 0.17$, $t(5294) = 12.61$, $p < .001$, 95% CI [.15, .20], and personal well-being, $b = 1.21$, $t(5277) = 5.73$, $p < .001$, 95% CI [0.80, 1.63]. Specifically, on low stress days, every 1 unit that an actor's affectionate touch fulfillment was above their average was associated with a .17 unit and 1.21 unit increase in relational and personal well-being, respectively. Similarly, on high stress days (i.e., one standard deviation above the mean), affectionate touch fulfillment was significantly associated with relational, $b = 0.26$, $t(5276) = 20.98$, $p < .001$, 95% CI [.24, .28], and personal well-being, $b = 2.43$, $t(5142) = 12.69$, $p < .001$, 95% CI [2.05, .2.80]. On high stress days, every 1 unit that an actor's affectionate touch fulfillment was above their average was associated with a .26 unit and 2.43 unit increase in relational and personal well-being, respectively. Given that the interaction effect is significant (and that the confidence intervals for the respective regression coefficients do not overlap), these results suggest that on stressful days, receiving greater than your average amount of affectionate touch fulfillment is more consequential to well-being outcome than on less stressful days.

Hypothesis 5: Moderating Effect of Actor's Stress on the Association between Partner's Empathic Accuracy and Actor's Well-Being via Actor's Touch Fulfillment

Finally, to test the moderated mediation model (Hypothesis 5), I followed the recommendations of Preacher, Rucker and Hayes (2007). These recommendations include: 1) demonstrating that the independent variable (i.e., partner's empathic accuracy) is associated with the outcome (i.e., actor's personal and relational well-being), 2) establishing that the presumed mediator (i.e., actor's touch fulfillment) is associated with the outcome while controlling for the independent variable, 3) showing that the interaction between the presumed mediator and moderator (i.e., actor's stress) is associated with the outcome, and 4) establishing whether the

indirect effect of the independent variable on the outcome, via the presumed mediator, differed as a function of the moderator. For relational well-being, the results related to the first, third, and fourth hypotheses coincide with the first three recommendations, respectively. With regard to the final recommendation, I regressed daily actor and partner empathic accuracy, touch fulfillment, and stress level (each variable person-centered) on actor's daily relational well-being. The interaction between actor's touch fulfillment and stress was also included in this model. These results are presented in Table 7. Since the interaction was significantly associated with relational well-being, I analyzed the simple slopes which indicated that on low stress days (i.e., one standard deviation below the mean), affectionate touch fulfillment was significantly and positively associated with relational well-being, $b = 0.17$, $t(5271) = 12.29$, $p < .001$, 95% CI [.14, .20]. That is, on low stress days, every 1 unit that an actor's affectionate touch fulfillment was above their average was associated with a .17 unit increase in relational well-being. Likewise, on high stress days (i.e., one standard deviation above the mean), affectionate touch fulfillment was significantly and positively associated with relational well-being, $b = 0.26$, $t(5254) = 20.94$, $p < .001$, 95% CI [.24, .29]. In particular, on high stress days, every 1 unit that an actor's affectionate touch fulfillment was above their average was associated with a .26 unit in relational well-being. These estimates were used within two separate MCMAM as coefficients for the b path. The results from these assessments indicated that on low stress days, a person's daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own relational well-being (95% CI [.01, .02]). Similarly, on high stress days, a person's daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in

empathic accuracy and their own relational well-being (95% CI [.01, .04]). Figure 6 depicts the APIM mediation models for relational well-being on low (panel a) and high (panel b) stress days.

For personal well-being, the results related to the first, third, and fourth hypotheses coincide with the first three recommendations, respectively. Once again for the final recommendation, I regressed actor and partner empathic accuracy, touch fulfillment, and stress on actor's personal well-being (i.e., the composite of affect and life satisfaction). The interaction between actor's touch fulfillment and stress was also included in this model. These results are presented in Table 7. Next, since the interaction was significantly associated with personal well-being, I analyzed the simple slopes which indicated that on low stress days, affectionate touch fulfillment was significantly associated with personal well-being, $b = 1.20$, $t(5253) = 5.64$, $p < .001$, 95% CI [.79, 1.62]. On low stress days, every 1 unit that an actor's affectionate touch fulfillment was above their average was associated with a 1.20 unit increase in personal well-being. Likewise, on high stress days, affectionate touch fulfillment was significantly associated with personal well-being, $b = 2.46$, $t(5124) = 12.70$, $p < .001$, 95% CI [2.08, 2.84]. On high stress days, every 1 unit that an actor's affectionate touch fulfillment was above their average was associated with a 2.46 unit increase in personal well-being. These estimates were then used within the MCMAM as coefficients for the b path. These results indicated that on low stress days, a person's daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own personal well-being (95% CI [.05, .17]). Similarly, on high stress days, a person's daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own personal well-being (95% CI [.12, .33]). Thus, as hypothesized, on days when a partner was more accurate concerning the

actor's desire for affectionate touch, the actor reported experiencing greater affectionate touch fulfillment, which in turn was associated with the actor experiencing greater relational and personal well-being, especially on days that the actor considered to be stressful. Figure 7 depicts the APIM mediation models for personal well-being on low (panel a) and high (panel b) stress days.

Exploratory Analyses

To examine the extent to which one's attachment orientation was associated with empathic accuracy for one's partner's desire for affectionate touch, a multilevel model was conducted that regressed actor and partner perspective taking, attachment anxiety, and attachment avoidance on actor's empathic accuracy. The results indicated that neither a person's attachment avoidance, $b = -0.01$, $SE = 0.02$, $t(167) = -0.07$, $p < .946$, 95% CI [-0.04, 0.04], nor attachment anxiety, $b = 0.02$, $SE = 0.03$, $t(169) = 0.68$, $p < .497$, 95% CI [-0.04, 0.09], were associated with their own empathic accuracy.

Additionally, to examine whether the mediating effect of the actor's affectionate touch fulfillment on the association between the partner's empathic accuracy and the actor's well-being differed as a function of attachment, I conducted a series of moderated mediation models. For relational well-being, I regressed daily actor and partner empathic accuracy, touch fulfillment, attachment anxiety, and attachment avoidance (each variable person-centered) on actor's daily relational well. The interactions between actor's touch fulfillment and attachment anxiety and avoidance were also included in this model. These results are presented in Table 8. Given that the interaction between actor's touch fulfillment and attachment anxiety was significantly associated with relational well-being (interaction presented in Figure 8), I analyzed the simple slopes which indicated that for people low in attachment anxiety (i.e., one standard deviation

below the mean), affectionate touch fulfillment was significantly and positively associated with relational well-being, $b = 0.22$, $t(5244) = 15.74$, $p < .001$, 95% CI [.19, .25]. That is, for people low in attachment anxiety, every 1 unit increase in affectionate touch fulfillment (above their own average) was associated with a .22 unit increase in relational well-being. Similarly, for people high in attachment anxiety (i.e., one standard deviation above the mean), affectionate touch fulfillment was significantly and positively associated with relational well-being, $b = 0.27$, $t(5236) = 20.51$, $p < .001$, 95% CI [.24, .30]. In particular, for people high in attachment anxiety, every 1 unit increase in affectionate touch fulfillment (above their own average) was associated with a .26 unit increase in relational well-being. These estimates were used within two separate MCMAM as coefficients for the b path. The results from these assessments indicated that for people who had low attachment anxiety, daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own relational well-being (95% CI [.01, .03]). Similarly, for people who had high attachment anxiety, daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own relational well-being (95% CI [.01, .04]). Figure 9 depicts the APIM mediation models for relational well-being for those who had low (panel a) and high (panel b) attachment anxiety.

For personal well-being, I regressed actor and partner empathic accuracy, touch fulfillment, attachment anxiety, and attachment avoidance on actor's personal well-being (i.e., the composite of affect and life satisfaction). The interactions between actor's touch fulfillment and attachment anxiety and avoidance were also included in this model. These results are presented in Table 8. Given that the interaction between actor's touch fulfillment and attachment avoidance was significantly associated with personal well-being (interaction demonstrated in

Figure 10), I analyzed the simple slopes which indicated that for people low on attachment avoidance (i.e., one standard deviation below the mean), affectionate touch fulfillment was significantly associated with personal well-being, $b = 2.59$, $t(5261) = 9.82$, $p < .001$, 95% CI [2.07, 3.10]. Specifically, for those low in attachment avoidance, every 1 unit increase in affectionate touch fulfillment (above their own average) was associated with a 1.20 unit increase in personal well-being. Likewise, for people with high attachment avoidance (i.e., one standard deviation above the mean), affectionate touch fulfillment was significantly associated with personal well-being, $b = 3.35$, $t(5236) = 13.67$, $p < .001$, 95% CI [2.87, 3.83]. For those high in attachment avoidance, every 1 unit increase in affectionate touch fulfillment (above their own average) was associated with a 3.35 unit increase in personal well-being. These estimates were then used within the MCMAM as coefficients for the b path. These results indicated that for people who had low attachment avoidance, daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own personal well-being (95% CI [.13, .35]). Similarly, for people who had high attachment avoidance, daily fluctuations in affectionate touch fulfillment significantly mediated the association between their partner's daily fluctuations in empathic accuracy and their own personal well-being (95% CI [.13, .35]). Figure 11 depicts the APIM mediation models for personal well-being for those who had low (panel a) and high (panel b) attachment avoidance.

Discussion

The receipt of affectionate touch from a relationship partner has been found to influence one's social, personal, and physical well-being (e.g., Floyd, 2008; Floyd & Deiss, 2012; Floyd & Rifforgiate, 2008; Horan & Booth-Butterfield, 2010; Jakubiak & Feeney, 2016). However, to

experience the benefits of affectionate touch simply receiving a hug or a kiss from a spouse may not be enough. Rather, it seems that the benefits of affectionate touch may only come to fruition when a person receives the amount of affectionate touch that they desire (Floyd, 2014). In fact, consistently receiving less affectionate touch than one desires can have detrimental consequences to the person, as well as their relationship (Buehlman et al., 1992; Floyd, 2014; Hesse & Floyd, 2019; Hesse & Tian, 2020). This implies that for the relational and personal benefits of affectionate touch to be experienced, a relationship partner must recognize the extent to which a person desires affectionate touch. Despite these findings, there is currently no research examining the role that empathic accuracy, or the ability to accurately perceive another person's thoughts and feelings, may have on the association between affectionate touch and well-being. The current study assessed: (1) whether having more accurate perceptions of a partner's desire for affectionate touch would be associated with the partner experiencing greater personal and relational well-being, and (2) whether affectionate touch fulfillment (i.e., feeling satisfied with the amount of affectionate touch received) mediated these associations. Further, the nuances of these associations were examined to determine whether these associations were more important on certain days (i.e., stressful vs. non-stressful), and for certain people (e.g., those who are less avoidantly attached vs. those who are more avoidantly attached). Overall, the findings suggest that empathic accuracy is important for relational well-being, and that affectionate touch fulfillment plays a pivotal role in explaining the association between empathic accuracy and personal and relational well-being.

Relational Well-Being

In relation to the association between empathic accuracy and relational well-being, the results supported the hypothesis that individual differences and daily fluctuations in empathic

accuracy for a partner's desire for affectionate touch would be associated with a partner experiencing greater relational well-being. When examined as an individual difference, having more accurate perceptions concerning a partner's desire for affectionate touch in general (when compared to people who were less empathically accurate in general) was associated with a partner reporting greater relational well-being. Similarly, within the context of the couple's daily life, on days when a person had more accurate perceptions of their partner's desire for affectionate touch (compared to their own average) the partner tended to report greater relational well-being. It has been stated that an essential feature of romantic relationships is believing that one's partner attends to and cares about one's desires, needs, and goal strivings (Clark & Mills, 1979, 1993; Mills & Clark, 1982). Given that affection touch plays such a pivotal role in determining the maintenance and quality of a relationship (e.g., Ben-Ari & Lavee, 2007; Horan & Booth-Butterfield, 2010; Jakubiak & Feeney, 2017), having a partner who accurately perceives a person's desires for affectionate touch may allow a person to feel as though their partner is caring and attending to their needs as well as their relationship in general. The data suggest that the feeling of acknowledgment that comes from a partner having more accurate perceptions promotes positive feelings towards the relationship.

Presumably, the relational benefits associated with empathic accuracy develop as such awareness allows a person to respond more appropriately to their partner's thoughts and feelings (Howland, 2016; Ickes, 1993; Reis et al., 2013; 2015; Verhofstadt et al., 2008). Thus, it follows that within the current study both individual differences and daily fluctuations in empathic accuracy for affectionate touch were associated with a partner's affectionate touch fulfillment. That is, and as hypothesized, being more accurate concerning a partner's desire for affectionate touch on average (compared to being less accurate on average), as well as experiencing more

accuracy on a given day (compared to one's own average accuracy), was related to the partner reporting more satisfaction with the amount of affectionate touch received (i.e., affectionate touch fulfillment). It has been suggested that empathic accuracy provides a person with the knowledge of how to be responsive to another person (Winczewski et al., 2016). When an individual is more accurate concerning their partner's thoughts and feelings, it facilitates the use of empathic expressions, which are verbal and non-verbal behaviours that acknowledge the thoughts and feelings of the other person (Goldstein & Michaels, 1985). In relation to the current findings, being more accurate concerning a partner's desire for affectionate touch enables a person to have a better understanding of the amount of affectionate touch desired, as well as the types of behaviours that may be enacted to fulfill that desire. In having this knowledge, a person is better able to provide affectionate touch behaviours that will fulfill their partner's desire.

Given the strong communal nature of romantic relationships (i.e., partner's feel a mutual responsibility to meet one another's needs; Mills & Clark, 2001), it follows that people would utilize their perceptions in an attempt to fulfill their partner's desire for affectionate touch, and that more accurate perceptions would facilitate greater fulfillment. Thus, although providing affectionate touch sporadically may be able to fulfill a partner's desire to some extent, the results suggest that by accurately perceiving a partner's desires you stand a better chance of providing sufficient affection in a manner that is most fulfilling to your partner.

It has been suggested that the extent to which a person's needs and desires are fulfilled within a relationship influences relationship quality (La Guardia & Patrick, 2008). This sentiment was echoed in the results of the current study which indicated that individual differences and daily fluctuations in affectionate touch fulfillment were associated with relational well-being. In other words, being more fulfilled by the amount of affectionate touch received

from a spouse in general (compared to being less fulfilled in general) was associated with greater relationship well-being. Also, being more fulfilled by the amount of affectionate touch received on a given day (compared to one's own average fulfillment) was related to experiencing greater relationship well-being. Previous research examining affectionate touch has demonstrated that receiving touch is associated with many positive relationship outcomes, including greater relationship satisfaction, commitment, and intimacy (e.g., Floyd et al., 2009; Gullledge et al., 2003; Heiman et al., 2011; Muise et al., 2014; Vannier et al., 2016). However, the results of the current study suggest that simply receiving affectionate touch may not be enough to facilitate these positive outcomes. Instead, the benefits associated with affectionate touch may only be actualized to the extent that the affectionate touch received from a spouse fulfills one's desire for affectionate touch. Thus, although the simple exchange of a few affectionate hugs and kisses with a spouse is enjoyable, to have the best chance of experiencing all the positive relationship outcomes that are associated with affectionate touch, it is important to receive sufficient affectionate touch to fulfill your desire.

At this point, it has been established that: (1) feeling fulfilled by the affection touch received is useful in enabling the positive relational benefits associated with affectionate touch, and (2) to ensure one's partner is satisfied with the touch received, it is important for a person to accurately perceive their partner's desire for affectionate touch. The mediational models conducted in the current study supported the process alluded to by these results. That is, when one accurately perceives a partner's desire for affectionate touch, the partner is more likely to feel that their desire for affectionate touch has been fulfilled, which in turn promotes relational well-being in the partner. These associations were found to occur both between and within persons. By accurately assessing a partner's desire for affectionate touch, a person is better able

to engage in affectionate behaviours that can fulfill these desires. As the partner experiences greater fulfillment from receiving these behaviours, they tend to experience more positive relationship outcomes. Importantly, and as hypothesized, this process was more consequential on days that the partner perceived to be stressful. Thus, although affectionate touch fulfillment fully mediated the association between empathic accuracy and relational well-being on both low and high stress days, touch fulfillment had a greater association with relational well-being on highly stressful days. That is, when a person felt less fulfilled by the amount of affectionate touch received from their partner, experiencing greater stress was especially detrimental to one's relational well-being. However, feeling more satisfied with the amount of affectionate touch received from their partner on stressful days was able prevent the negative repercussions that stress can have on relational well-being. This may be the case because during times of stress, people become focused on engaging in and receiving behaviours that promote feelings of support, comfort, and reassurance as a means of coping (Mikulincer, 1998; Mikulincer & Shaver, 2016; Simpson & Rholes, 1994). Since affectionate touch can convey and promote these feelings (e.g., Holt-Lunstad, Birmingham & Light, 2008; Grewen, Anderson, Girdler & Light, 2003; Jakubiak & Feeney, 2016; 2017), it is likely that receiving affectionate touch effectively reduces stress while preserving (or possibly enhancing) relational well-being. Thus, being more satisfied with the amount of affectionate touch received from a spouse would be particularly consequential to relational well-being on stressful days when receiving affectionate touch functions as a coping mechanism for stress. Given the satisfaction of these needs requires that partners have substantial insight into one another (Finkel et al. 2004), it is thereby particularly important to be able to identify and respond to a partner's desire for affectionate touch during times of stress. This provides support for the theoretical assumption that the benefits of

supportive behaviours depend upon how well a person identifies and responds to a partner's needs during times of stress (Cutrona, 1990; Revenson & DeLongis, 2010; Rini & Dunkel Schetter, 2010; Rini, Dunkel Schetter, Hobel, Glynn, & Sandman, 2006). The only other study to provide empirical support for this assumption focused on the provision of invisible support (Howland, 2016). Thus, the current study is the first to examine empathic accuracy for a more tangible behaviour that a partner is more aware of wanting and evaluating during times of stress. In summary, although it is important to accurately assess a partner's desire for affectionate touch everyday to promote the relational benefits associated with these behaviours, it is especially important during times of stress when fulfilling a partner's desire for affectionate touch can mitigate the negative relational consequences associated with stress.

Beyond the benefits that empathic accuracy had on the partner, the results of the current study also demonstrated that being more accurate concerning a partner's desire for affectionate touch in general (compared to being less accurate in general), as well as being more accurate on a given day (compared to one's own average accuracy), was associated with greater fulfillment of one's own desires for affectionate touch. This result is likely due to the reciprocal nature of affectionate touch. Presumably, when a person is more accurate concerning a partner's desire for affectionate touch, the person engages in affectionate behaviours with their spouse to satisfy their spouse's desire. In providing affection, they are also simultaneously receiving affectionate touch which consequently satisfies their own desire leaving them also feeling more fulfilled. Further, fulfilling one's partner's desire for touch not only increased the likelihood that one's own desires for touch were satisfied, it also was associated with one's own relationship well-being. This effect was observed at both the within- and between-person levels. These results coincide with previous research suggesting that fulfilling a partner's broad desire to feel connected to

important others has important consequences for one's own relationship quality (Hadden, Smith, & Knee, 2013; Patrick et al., 2007). However, by focusing on one specific desire that promotes feelings of closeness, the current study begins to establish how one's distinct daily needs and experiences can be just as influential as these broader needs. Overall, having more accurate perceptions of your partner's desire for affectionate touch and satisfying your partner's desire for affectionate touch are beneficial not only for your partner, but also for yourself.

Personal Well-Being

In relation to the association between affectionate touch fulfillment and personal well-being, the results confirmed the hypothesis that individual differences and daily fluctuations in affectionate touch fulfillment were associated with personal well-being. In other words, being more fulfilled by the amount of affectionate touch received from a spouse in general (compared to being less fulfilled in general) was related to experiencing greater personal well-being. Also, being more fulfilled by the amount of affectionate touch received on a given day (compared to one's own average fulfillment) was related to experiencing greater personal well-being. Intuitively, feeling satisfied with the amount of affectionate touch received from a relationship partner should facilitate the positive personal well-being outcomes that are associated with affectionate touch, including greater life satisfaction and more positive affect (Debrot, Meuwly, Muise, Impett, & Schoebi, 2017; Steverink, Lindenberg, Spiegel, & Nieboer, 2019). Thus, the current study suggests that it may not be the receipt of affectionate touch that brings about these personal benefits, but instead the extent to which the affectionate touch received from a spouse fulfills one's desire for affectionate touch. To enable all the positive personal benefits that are associated with receiving affectionate touch, it is important to receive enough affectionate touch from your partner to fulfill your desire. Given that this finding was consistent across both the

well-being outcomes included in the current study, experiencing fulfillment with the amount of affectionate touch received from a partner may be able to facilitate better relational and personal well-being in one fell swoop.

Although many of the associations between empathic accuracy and personal well-being mirrored those of relational well-being, there was one notable exception: whereas individual differences in accuracy for a partner's desire for affectionate touch were associated with personal well-being, daily fluctuations in accuracy were not. That is, being more accurate concerning a partner's desire for affection touch in general (compared to being less accurate in general) was associated with a partner experiencing greater personal well-being, but being more or less empathically accurate than usual did not predict changes in one's partner's personal well-being. When considered alongside the findings concerning relational well-being (where daily fluctuations and average level of empathic accuracy did predict the partner's daily relational well-being), it may be that daily fluctuation in empathic accuracy may only be associated with personal well-being to the extent that the fluctuations are associated with affectionate touch fulfillment. Thus, despite the absence of a direct association between a person's daily fluctuations in empathic accuracy and their partner's personal well-being, the indirect effect was still evident. As hypothesized and identical to the results for relational well-being, having more accurate perceptions of a partner's desire for affectionate touch on average (compared to having less accurate perceptions on average), as well as being more accurate on any given day (compared to own's own average accuracy), was associated with the partner experiencing more affectionate touch fulfillment, which was subsequently related to the partner experiencing greater personal well-being. Overall, these results suggest that experiencing greater empathic accuracy for a partner's desire for affectionate touch may allow a person to better respond to the partner's

desires, which allows the partner to feel more fulfilled. As the partner experiences greater fulfillment from the affectionate touch received, they tend to experience more of the positive personal outcomes that are associated with touch. Much like for relational well-being, these associations were more consequential on days that the partner perceived to be more stressful than on days that were perceived to be less stressful. In general, experiencing greater stress was especially detrimental to one's personal well-being when a person felt less fulfilled by the amount of affectionate touch received from their partner. However, the negative consequences of stress to personal well-being were almost eliminated if a person felt more satisfied with the amount of affectionate touch received from their partner. Presumably, as a person prioritizes engaging in behaviours that promote feelings of proximity and comfort during times of stress (Mikulincer, 1998; Mikulincer & Shaver, 2016; Simpson & Rholes, 1994), the successful procurement of these behaviours alleviates stress while enabling one to experience more positive affect and a better quality of life. Thus, being more satisfied with the amount of affectionate touch received from a spouse is more influential to personal well-being on stressful days when a person relies on affectionate behaviours to relieve and cope with stress. Given that empathic accuracy for a partner's desire for affectionate touch is associated with the partner feeling more fulfilled by the amount of touch received, it is also particularly important to be able to identify and respond to a partner's desire for affectionate touch during times of stress for personal well-being. Overall, when considering the results for relational and personal well-being, empathic accuracy for a partner's desire for affectionate touch is only associated with well-being (both personal and relational) to the extent that the person uses their accurate perceptions to help satisfy their partner's desire for affectionate touch. And although this is important every day, it is especially important to utilize one's accurate perceptions on days in which a partner may be

experiencing higher levels of stress to mitigate the negative consequences that stress has on relational and personal well-being.

Attachment and Empathic Accuracy

Previous research has suggested that a person's attachment orientation may be associated with their ability to be empathically accurate (Arriaga et al., 2006; Overall et al., 2015; Simpson et al., 1999, 2002, 2011; Tucker & Anders, 1999). However, within the current study, the extent to which a person demonstrated a more anxious or avoidant attachment orientation was not associated with their ability to accurately perceive their partner's desire for affectionate touch. These results may not have conformed with those of previous research due to methodological differences. Specifically, the majority of previous research has examined the association between attachment and empathic accuracy while the couple engages in an attachment-relevant or relationship threatening conversation (e.g., Arriaga et al., 2006; Overall et al., 2015; Simpson et al., 1999, 2011) on the assumption that the attachment system must be activated for a person to engage in the attachment behaviours (i.e., hyperactivating and deactivating strategies) that would hinder empathic accuracy (Bowlby, 1969; Campbell, Simpson, Boldry, & Kashy, 2005). Thus, the null finding within the current study could be due these associations being assessed within the context of the couples' daily lives when the attachment system was not necessarily activated.

It has been found consistently that people who had a more anxious or avoidant attachment orientation tend to be less happy and committed to their romantic relationships (e.g., Fisher et al., 2015; Gullledge et al., 2003; Heiman et al., 2011; Vannier et al., 2016) while also being less satisfied with their life as a whole (e.g., Calvo et al., 2020; Magai et al. 2016., Mikulincer & Shaver., 2016). Given that the current and previous research has demonstrated the benefits that affectionate touch (more specifically affectionate touch fulfillment) can have on

relational and personal well-being, I considered (*posteriori*) whether feeling more satisfied with the amount of affectionate touch received from a partner would buffer against the detrimental relational and personal consequences of attachment anxiety and avoidance. The findings indicated that this was the case for more anxious individuals when it came to relational well-being and for more avoidant individuals when it came to personal well-being. In particular, experiencing greater attachment anxiety was especially detrimental to one's relational well-being when a person felt less fulfilled by the amount of affectionate touch received from their partner. However, the negative consequences of attachment anxiety to relational well-being were mostly negated if a person with high attachment anxiety felt more satisfied with the amount of affectionate touch received from their partner. In contrast, for personal well-being, these associations were more consequential when the partner had a more avoidant attachment orientation.⁷ Overall, despite these differences, the findings suggest that utilizing one's accurate perceptions to help satisfy a partner's desire for affectionate touch is especially important when one's partner has a more anxious or avoidant attachment orientation as it may help to mitigate some of the negative consequences that are associated with these attachment orientations. Given that the hypotheses related to these results were not developed *a priori*, future research should attempt to replicate these findings.

It should be noted that affectionate touch fulfillment may look very different for each of these attachment orientations. In particular, given the proximity-seeking tendencies of those who are more anxiously attached, it is likely that people who have more of this attachment orientation

⁷ The contrasting well-being outcomes for each attachment orientation may reflect the priorities of each attachment orientation. For instance, given that people with a more anxious attachment orientation are focused on proximity and closeness with a romantic partner, it may be that these individual concentrate on relational outcomes. In contrast, people with a more avoidant attached orientation fixate on maintaining independence while within a relationship. Thus, outcomes related to one's personal functioning may be of greater concern to these individuals.

will desire and require more affectionate touch in order to feel fulfilled. In contrast, the distancing tendencies of the more avoidantly attached would likely result in these individuals desiring and requiring less affectionate touch to feel fulfilled. In support of these assumptions, I found that being more anxiously attached was associated with desiring more affectionate touch from a relational partner and being more avoidantly attached was associated with desiring less. Thus, for more anxiously attached individuals, a partner should concentrate on providing enough affectionate touch, whereas for more avoidantly attached individuals, the focus of the partner should be on not providing too much affectionate touch.

Contributions to the Literature

The current study made several unique and valuable contributions to the literatures examining empathic accuracy, need fulfillment, and affectionate touch. With respect to the literature examining empathic accuracy, most (if not all) of the previous research examining this construct has focused on the consequences associated with accurately perceiving a partner's mood and personality (e.g., Gregory et al., 2020; Letzring & Noftle, 2010; Lou & Snider 2000; Neff & Karney, 2005; Rafaeli et al., 2017; Winczewski at al., 2016). Although this research is insightful, it has led to empathic accuracy being "type-cast" in that it is almost solely applied to accurate perceptions in these two aspects of a partner's life. This narrow application may not reflect the daily life as people often experience many more nuanced thoughts and feelings on a regular basis that are also associated with core defining features of the self. For instance, people often have thoughts concerning their desires and needs (e.g., belongingness, autonomy, security, competence, self-expansion), which when left unmet can undermine one's personal and relational well-being (Drigotas & Rusbult, 1992; Le & Agnew, 2001). The current study focused on the desire for affectionate touch as affection has also long been believed to be required for

optimal human functioning (Baumeister & Leary, 1995; Harlow, 1958; Maslow, 1943). Further, given that previous research has demonstrated that receiving insufficient affection can be detrimental to one's relationship and well-being (Floyd, 2014; Hesse & Floyd, 2019; Hesse & Mikkelson, 2017; Hesse & Tian, 2020), it was an ideal candidate for evaluating questions concerning the benefit that accurately perceiving a partner's desires has on the partner's relational and personal well-being. The support for the importance of empathic accuracy to well-being and fulfillment in the current study highlights how accurately perceiving various aspects of a partner is important to the partner's evaluations of their relationship and self. To my knowledge, this is the first study to demonstrate the utility of applying empathic accuracy to an aspect of one's life other than mood and personality that influences personal and relational well-being.

To the extent that people have an innate motivation towards engaging in affectionate behaviours with close, important others (Baumeister & Leary, 1995; Harlow, 1958; Maslow, 1943), it is no surprise that the receipt of affectionate touch is strongly related to various aspects of one's social and personal well-being (e.g., Floyd, 2008; Floyd & Deiss, 2012; Floyd & Rifforgiate, 2008; Horan & Booth-Butterfield, 2010; Jakubiak & Feeney, 2016). Although previous research has examined the benefits of need fulfillment to relationship quality (Drigotas & Rusbult, 1992; Patrick et al., 2007; VanderDrift, Wilson, & Agnew, 2012) and personal well-being (Brenning et al., 2019; Neubauer & Voss, 2016, 2018; Patrick et al., 2007; Reis et al., 2000; Sheldon et al., 1996), this study moved beyond the scope of previous research by examining a more specific desire (i.e., the desire for affectionate touch) than has been examined in the past. Previously, need satisfaction has primarily been examined within the context of the basic psychological needs outlined by Self-Determination Theory. However, these needs are

quite broad and can be satisfied by receiving and engaging in several different behaviours with or without the presence of a spouse. By focusing on the fulfillment of one specific desire, the current study begins to highlight how examining one's more discrete experiences and behaviours can provide insight into one's own relational and personal well-being, as well as that of one's partner. Since Patrick and colleagues (2007) demonstrated that fulfillment of one's need to feel connected and close to a spouse (i.e., need for relatedness) was the most important predictor of positive relationship outcomes, it is especially important for relationship scientists to examine specific desires and behaviours that may contribute to a spouse feelings a sense of closeness and proximity, as was done in the current study.

Lastly, the current literature examining affectionate touch has suggested that the receipt of affectionate touch is associated with several personal and relational well-being outcomes (e.g., Debrot et al., 2013; 2017; Floyd et al., 2009; Gullledge, et al., 2003; Heiman et al., 2011). However, the results of the current study indicated that it may not just be the receipt of affection touch that matters to these outcomes, but instead it is how the touch received from a partner compares to the touch that one desires to receive from one's partner. In other words, sporadically receiving affectionate touch from a partner may not be enough to facilitate relationship quality and personal well-being, instead these outcomes may depend on how satisfied an individual is with the amount of affectionate touch that they received from a spouse. This suggests that future research attempting to assess the benefits of affectionate touch should examine affectionate touch fulfillment, rather than simply examining the consequences of receiving more or less affectionate touch.

Methodological Strengths

There were two primary methodological strengths of the current study. The first is that the sample consisted of couples from established romantic relationships. Given that this study focused on the interdependent nature of partners' perceptions and experiences, it was essential to assess both couple members. By including the experiences of both members of a couple, this study was able to examine how each person contributed to their own as well as their partner's well-being. Additionally, the presence of both partners meant that within the analyses, the effects of the other partner were able to be controlled. For instance, in the current study, the effect of a person's affectionate touch fulfillment on their own well-being was able to be examined while partialling out the effect for the other partner's affectionate touch fulfillment. Finally, without the assessments of both partners, I would not have been able to assess partner accuracy. Empathic accuracy is a unique and important construct that truly highlights the interplay that exists between relationship partners. This is because an individual's perception of another person can only be deemed to be accurate if it aligns with the subjective experience of the individual who is being perceived (e.g., Kenny & Acitelli, 2001; Pollmann & Finkenauer, 2009).

The second methodological strength was the use of the daily diary methodology. To date, many of the previous studies examining empathic accuracy have used the dyadic interaction paradigm, which occurs on one occasion within a laboratory setting (e.g., Cohen et al., 2015; Ickes et al., 1990; Howland, 2016; Overall, Fletcher, & Kenny, 2012). As discussed within the Introduction, although this paradigm has some strengths, including moment-by-moment assessments of accuracy, there are concerns surrounding its ecological validity. By collecting daily reports that capture relationship experiences in a more naturalistic setting (e.g., within the daily lives of the couple outside of the laboratory; Bolger et al., 2003), the ecological validity of the current study was maximized. Further, the risk of retrospective bias was minimized by

assessing the experiences of the participants on consecutive days. This meant that the experiences being assessed and recalled by the participants occurred only hours before the completion of the surveys (Algroe et al., 2010; Bolger et al., 2003; Laurenceau & Bolger, 2005). Lastly, using the daily diary methodology allowed for empathic accuracy and affectionate touch fulfillment to be examined at the within- (e.g., do people experience greater well-being on day when their partner was more accurate than their average?) and between-persons levels (e.g., do people experience greater well-being when involved with a partner who is more accurate on average than one who is less accurate?). This is important as traditionally empathic accuracy studies have only evaluated empathic accuracy as a between-person difference. These strength contributed to this study by providing a greater understanding of the dyadic, within-person, and between-person influences that empathic accuracy and affectionate touch have on well-being.

Limitations and Future Directions

Despite the strengths of the current research, there are three methodological limitations that should be noted: the use of difference scores to assess empathic accuracy, validating empathic accuracy using a subjective measure of perspective taking, and the examination of mediation analyses with cross-sectional data. As discussed briefly in the introduction, there are several ways in which previous research has assessed empathic accuracy including: the dyadic interaction paradigm (Cohen et al., 2015; Howland, 2016; Ickes et al., 1990; Overall, Fletcher, & Kenny, 2012), mean-difference scores (Howland & Rafaeli, 2010; Rafaeli et al., 2017; Wilhelm & Perrez, 2004), and response surface analysis (Lazarus, Bar-Kalifa, & Rafaeli, 2018; Le, Cote, Stellar, & Impett, 2020; Muise, Stanton, Kim, & Impett, 2016). Due to the design of the current study, the mean-difference method of assessing empathic accuracy was used as it allows for mediation models to be estimated. However, there are some limitations to measuring empathic

accuracy in this manner including reduced reliability, ambiguity, confounded effects, and untested constraints (Edwards, 2002). For instance, measuring empathic accuracy as an absolute mean difference did not allow me to distinguish whether the associations would differ if a person under-estimated or over-estimated a partner's desire for affectionate touch. In other words, the results discussed cover overall inaccuracy, and cannot disentangled the effects that over- and under-estimation may uniquely have on the outcomes. To rectify these issues, future research can examine some of the more direct associations using response surface analyses (RSA; for review see Edwards, 2002; Schönbrodt, 2014; Shanock, Baran, Gentry, Pattison, & Heggestad, 2010). RSA allows researchers to assess the extent to which similarity between two variables is related to some outcome. For instance, and in relation to the current study, RSA could be used to assess the degree to which alignment in a person's perception of their partner's desire for affectionate touch and the partner's reported desire for affectionate touch relates to the partner's relational well-being. To do this, RSA uses polynomial regressions that create three-dimensional plots (i.e., response surfaces) that illustrate the linear and nonlinear relations between the predictor variables and the dependent variable. Statistical tests of the surface's features, such as the curvature or slope of the line of convergence, give guidance on how the surface may be interpreted. Due the complexity of this statistical approach, the utility of RSA is currently limited. For instance, it is only recommended for use when there is a single outcome variable (Schonbrodt, Humberg, & Nestler, 2018). Thus, although a promising statistical method for studying empathic accuracy, response surface analysis has only been used on a few occasions to examine this phenomenon (Lazarus, Bar-Kalifa, & Rafaeli, 2018; Le, Cote, Stellar, & Impett, 2020; Muise, Stanton, Kim, & Impett, 2016).

Given that the mean-difference method of assessing empathic accuracy was used within the current study, I attempted to validate this method by examining the association between a person's empathic accuracy and their perspective taking ability. I hypothesized that there would be a positive association between these two constructs, because each is believed to be a form of cognitive empathy (Eslinger, 1998; Rankin, Kramer, & Miller, 2005; Vachon & Lynam, 2016). However, the current study found no significant association between these two constructs. Despite initially expecting a significant association, recognizing what the perspective taking and empathic accuracy measures assess, it may be that perspective taking (as measured in the current study) is not the ideal construct for validating empathic accuracy. Specifically, perspective taking measures a person's own perception of their ability to adopt the point of view of others (Peloquin & Lafontaine, 2010). The subjective nature of this measure could be problematic as an individual may over- or under-estimate their ability to put themselves in another person's shoes. In comparison, the mean-difference method of assessing empathic accuracy is more objective as it does not just ask how accurate a person feels they are concerning their partner's desire affectionate touch (which would be analogous to the perspective taking measure), it compares a person's perception to the partner's actual experience. Thus, future research should attempt to validate empathic accuracy by examining it alongside more objective measures of cognitive empathy. For instance, future researchers could ask a relationship partner to assess a person's perspective taking ability and examining the association between that measure of perspective taking and empathic accuracy. Alternatively, future research could attempt to validate empathic accuracy by assessing it alongside a partner's actual experience. Presumably, being more empathically accurate should translate into a person feeling better understood by their partner. For example, in the current study, I used a person's daily assessment of whether they received

too much, too little, or a satisfactory amount of affectionate touch from their partner on a specific day as a validation for the partner's empathic accuracy for affectionate touch. Future research should validate the mean-difference method of assessing empathic accuracy using more objective measures of cognitive empathy or measures of a partner's actual experiences.

The current study was focused on examining a mediation model. However, this statistical method is not without its criticisms. Preacher (2015) argued that there are several assumptions that underlie mediation analyses that should be considered when interpreting the results. There are two major assumptions that I will focus on here regarding the current study. First, mediation is a causal process that implies temporal sequencing. This means that mediation requires a strict ordering to the variables and does not allow for reverse causation (e.g., the mediating variable does not cause the independent variable). Within the current study, causal language is avoided as the temporal sequencing of the variables cannot be guaranteed. To address this issue, it would be valuable for future research to attempt to manipulate empathic accuracy to establish whether there is a causal link between accuracy and affectionate touch fulfillment, and between affectionate touch fulfillment and well-being. The second major assumption of mediation is that the independent variable uniquely causes the proposed mediator. That is to say that the mediator is not caused by any other variables extraneous to the study or the proposed dependent variable. As mentioned above, manipulating the mediating variable can ensure that the dependent variable does not cause the mediating variable. However, measuring all possible variables that may cause the mediator is impractical. With the current study, to reduce participant fatigue, only variables necessary to the proposed research questions were measured. This eliminates the possibility of testing many of the other variables that may cause affectionate touch fulfillment. Consequently, although the mediation analyses were consistent with the theory that empathic accuracy leads to

fulfillment which leads to well-being, the results discussed in the current study should be interpreted with the assumptions of mediation in mind.

Apart from improving on the limitations of the current study, there are several other avenues for future research. Given that the results demonstrated the importance of empathic accuracy to affectionate touch fulfillment and relational well-being, future research may want to examine how empathic accuracy may be facilitated within a relationship. For example, previous work has suggested that asking more questions to gain accuracy, especially follow-up questions, leads to a person being perceived as more responsive (Huang, Yeomans, Brooks, Minson, & Gino, 2017). Thus, future studies may want to examine constructs that assess the communication skills or styles of a couple (e.g., the communication styles inventory; de Vries, Bakker-Pieper, & Schouten, 2013) to determine whether communication can influence empathic accuracy. Further, much of the past research examining empathic accuracy has focused on the implication of accurately perceiving a partner's mood (e.g., Gregory et al., 2020; Howland, 2016; Rafaeli et al., 2017; Winczewski et al., 2016). However, people often experience many more nuanced thoughts and feelings on a regular basis that are associated with core defining features of the self (e.g., needs, desires, goals, preferences), which when left unmet can negatively influence one's personal and relational well-being (e.g., Drigotas & Rusbult, 1992; Le & Agnew, 2001). The current study focused on one desire that is associated with well-being, but there are many aspects of a person that future research can consider, such as the need for autonomy or security or the desire for self-expansion. Given that recently there has been renewed interest in research examining empathic accuracy, there are many avenues for future research to improve and expand on the current study.

Future research can also broaden the scope of the current study by replicating the results in other dyads, such as parent-child or friendship pairs. Within childhood, the presence of sensitive and responsive touch from a parent fosters a secure attachment (i.e., low attachment anxiety and avoidance), which is related to later social functioning (for a review, see Cushing & Kramer, 2005). In fact, undergraduate students who reported having high levels of positive parental touch during their childhood reported lower levels of depression and better quality relationships in adolescence and early adulthood (Takeuchi et al. 2010). However, as is the case in adulthood, it may be that the benefits of affection are only actualized to the extent that the amount of affectionate touch received from a parent corresponds to the amount of touch desired by the child. Thus, the associations examined in this study may also be important within parent-child dyads. That is, a parent's empathic accuracy for their child's desire for affectionate touch may give the parent a better chance of facilitating positive well-being and developmental outcomes in their children (via affectionate touch fulfillment). In regard to friendship pairs, although adults often turn to their relational partners to fulfill their needs and desires, previous research indicates that close friendships are also important for need fulfillment (e.g., Deci et al., 2006; Demir & Ozdemir). Thus, this may be another important relationship dynamic where empathic accuracy plays an important role.

Conclusion

Previous theoretical and empirical research has highlighted the importance of affectionate touch to one's social and personal wellness. However, the current study suggests that receiving a single kiss before leaving for work or holding hands for a few minutes while watching a movie may not be enough for some people to accrue these relational and personal benefits. Instead, the extent to which a person experiences the benefits of affectionate touch may be associated with

how the amount of affectionate touch received compares to the amount that one desires to receive from a partner. The results of the current study indicated that accurately perceiving a partner's desire for affectionate touch enables a person to fulfill their partner's desire, which was subsequently associated with the partner's and one's own well-being. Importantly, this became more influential on stressful days, as well as for those with a more anxious and avoidant attachment orientation, as feeling more fulfilled with the amount of affectionate touch received alleviated some of the negative well-being outcomes that are associated with these states and traits. In sum, it is by being "in touch" with a partner's desire for affectionate touch that a person can help their partner and themselves, reap all the potential relational and personal benefits of affectionate touch.

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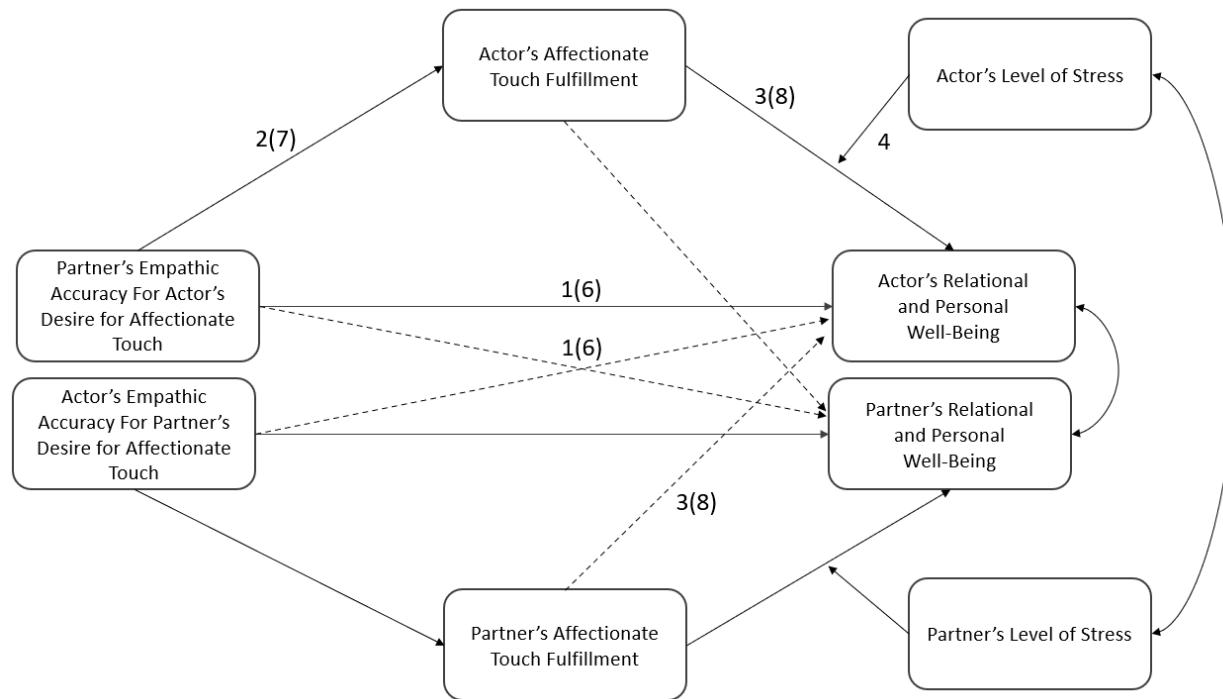
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Figure 1

Visual representation of the hypothesized model

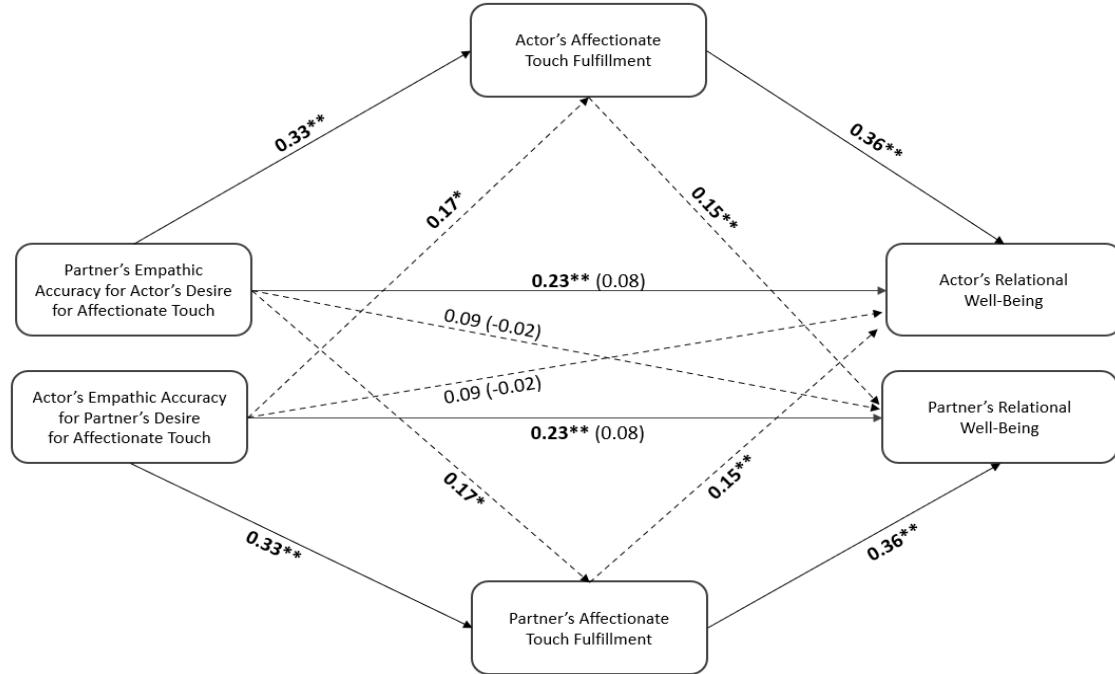


Note. The numbers within the model correspond to the hypothesis that discuss that association. The number within the brackets refers to the between-persons hypotheses, whereas the number outside of the bracket refers to the within-persons hypotheses. Although the hypotheses are only numbered for one partner, the dyadic nature of the model allows for these hypotheses to occur for both the actor and partner.

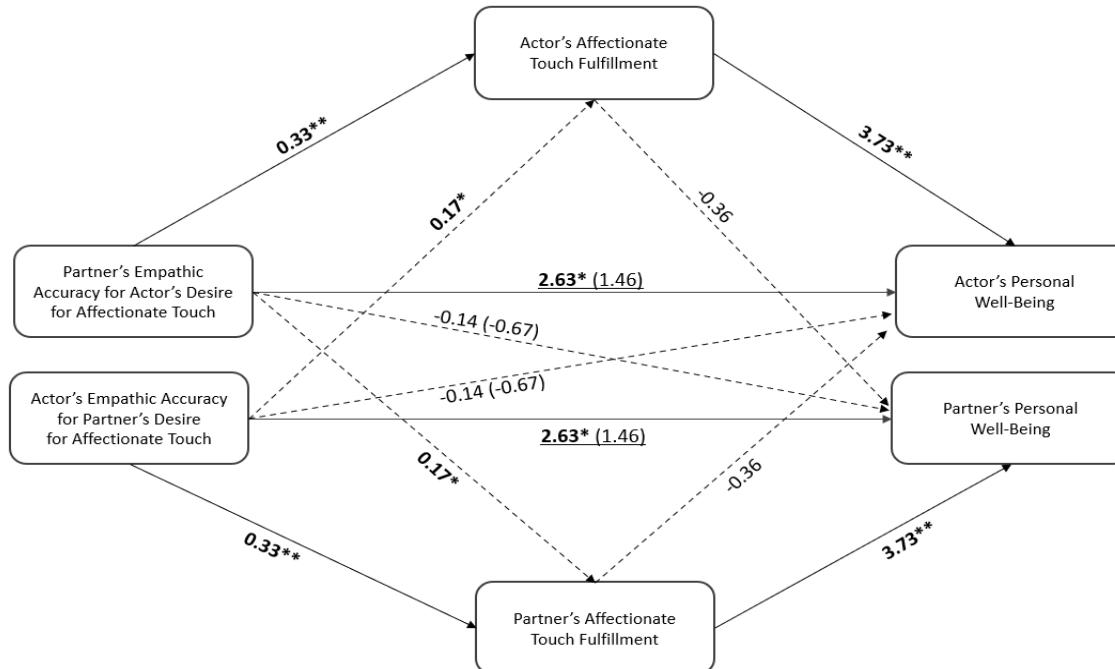
Figure 2

The between-persons mediation models for well-being

a) Relational Well-Being



b) Personal Well-Being

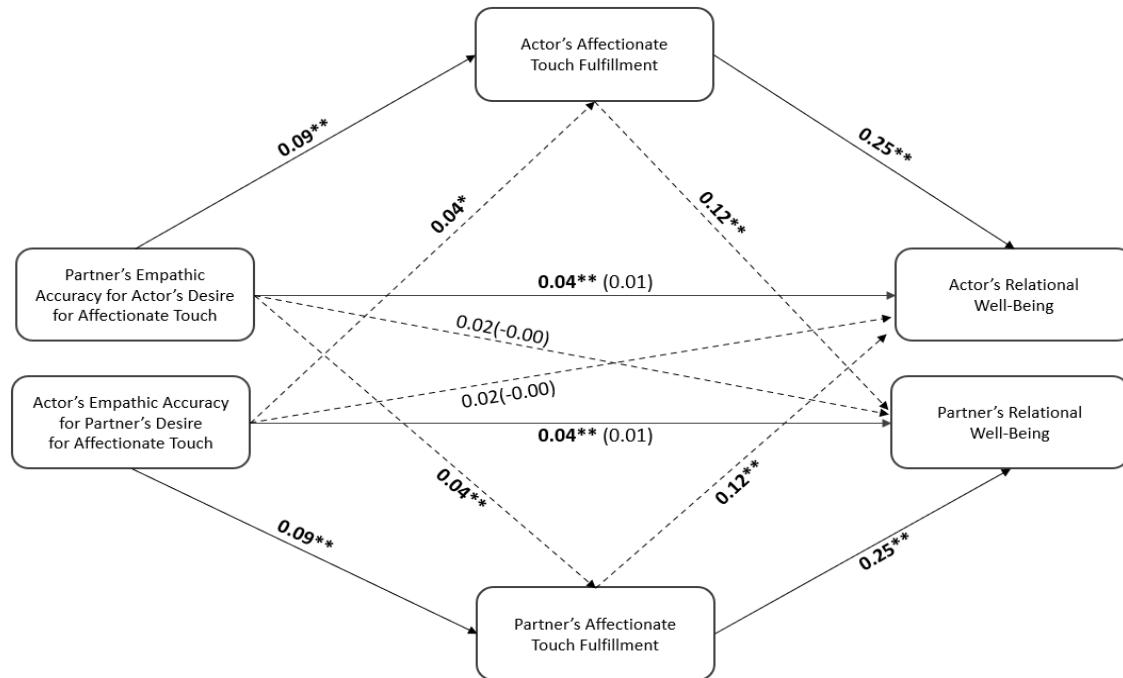


Note. The values in parentheses are the direct effects after controlling for the mediator. * $p \leq .01$, ** $p \leq .001$.

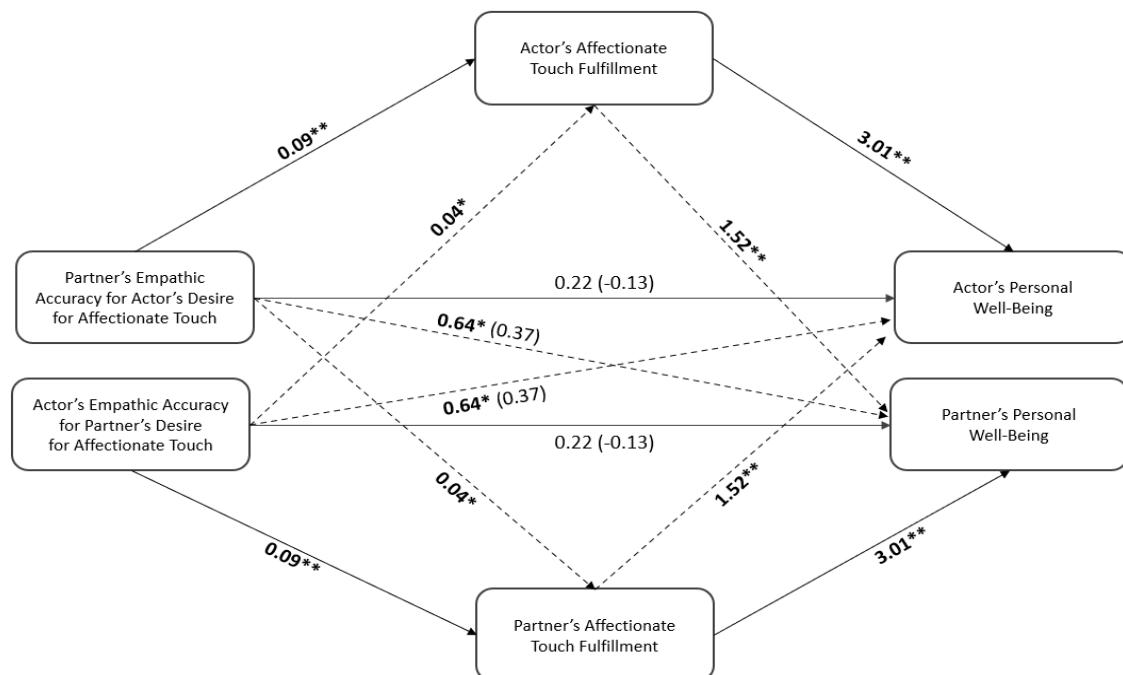
Figure 3

The within-persons mediation models for well-being

a) Relational Well-Being



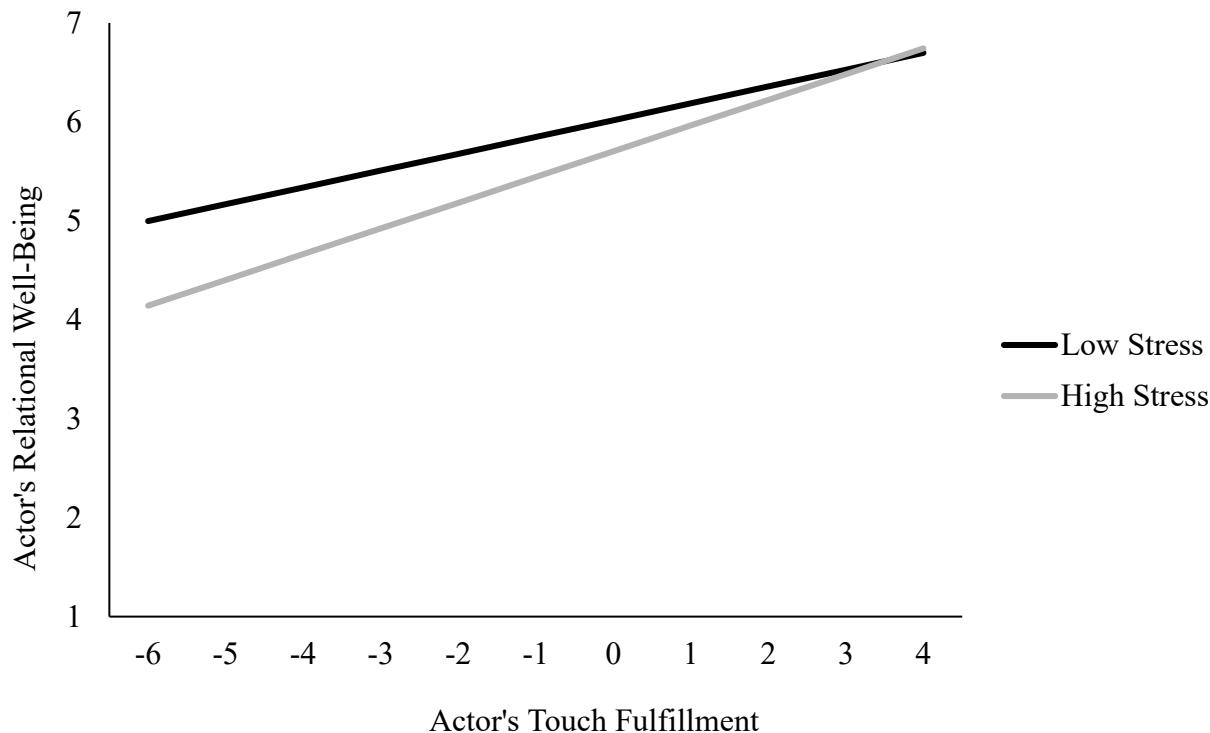
b) Personal Well-Being



Note. The values in parentheses are the direct effects after controlling for the mediator. * $p \leq .01$, ** $p \leq .001$.

Figure 4

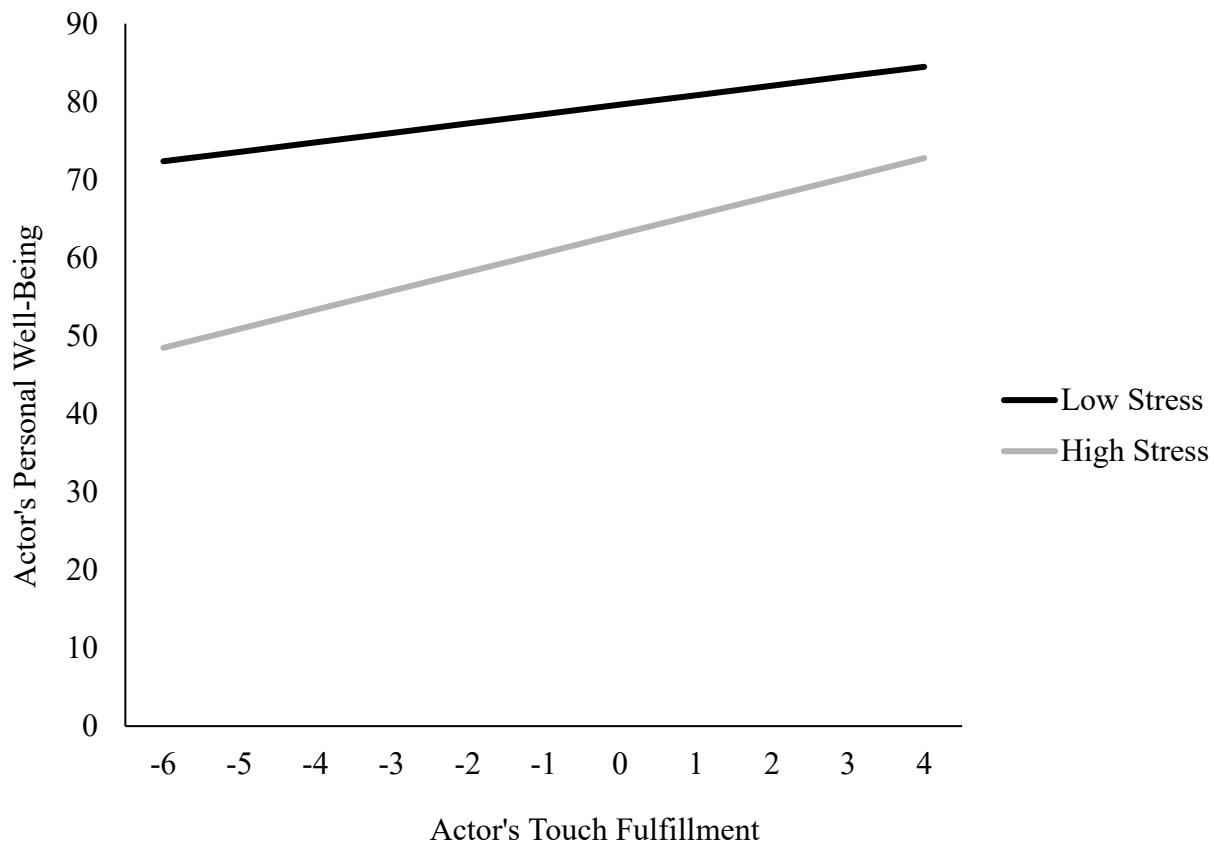
Visual representation of the interaction between actor's affectionate touch fulfillment and stress on relational well-being



Note. Actor's touch fulfillment was person-mean centered, so the negative values indicate being less fulfilled than the person's average, whereas positive values indicate more fulfillment than average.

Figure 5

Visual representation of the interaction between actor's affectionate touch fulfillment and stress on personal well-being

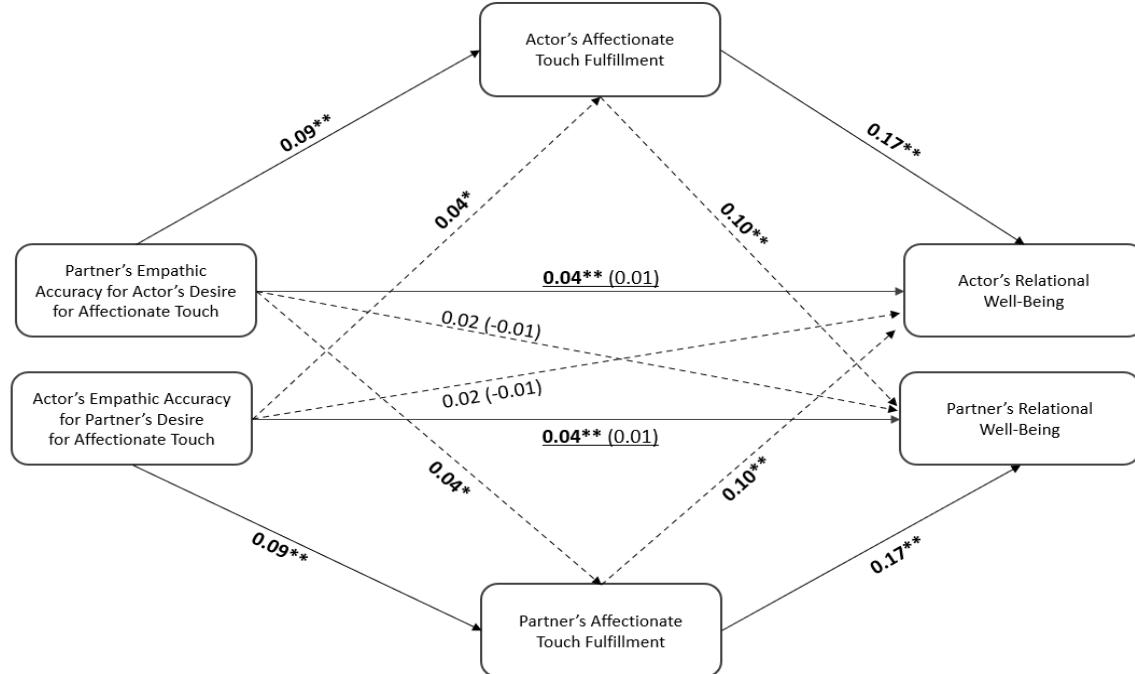


Note. Actor's touch fulfillment was person-mean centered, so the negative values indicate being less fulfilled than the person's average, whereas positive values indicate more fulfillment than average.

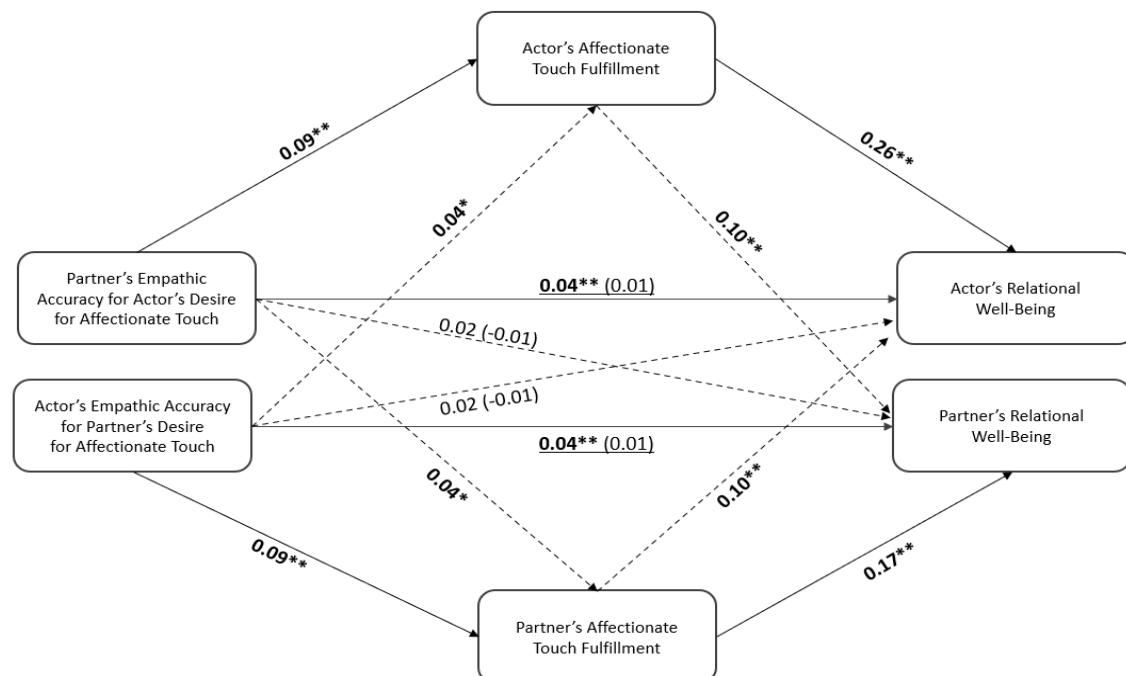
Figure 6

The within-persons moderated mediation models for relational well-being when stress was the moderating variable

a) Low Stress



b) High Stress

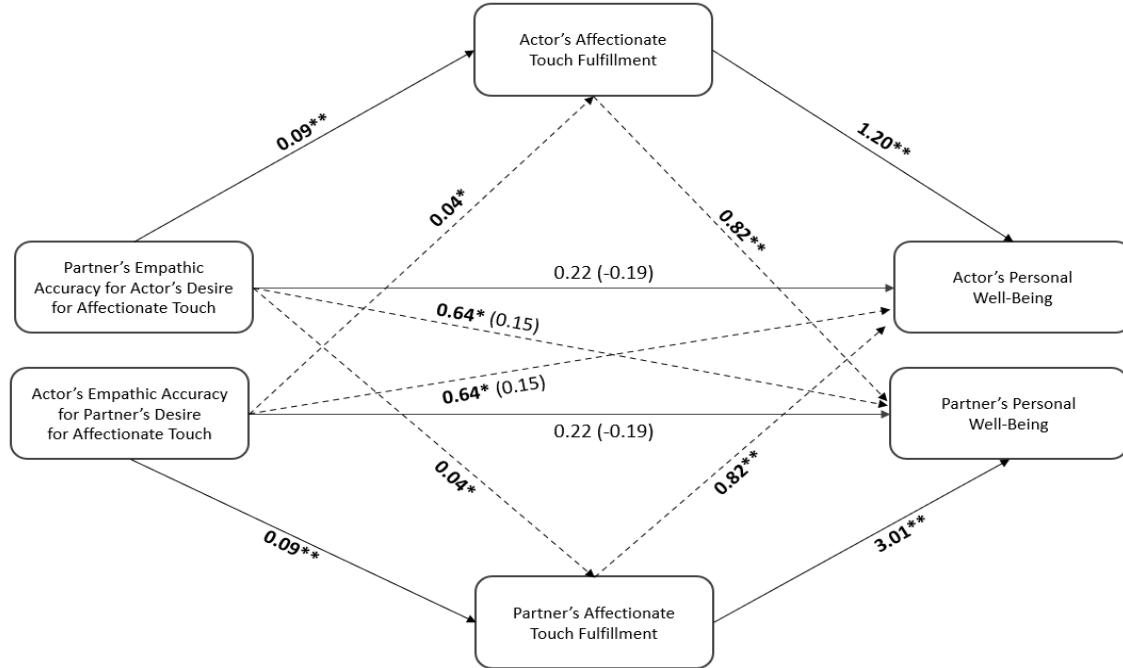


Note. The values in parentheses are the direct effects after controlling for the mediator. * $p \leq .01$, ** $p \leq .001$. The b path coefficient is the only estimate that differs across the two panels.

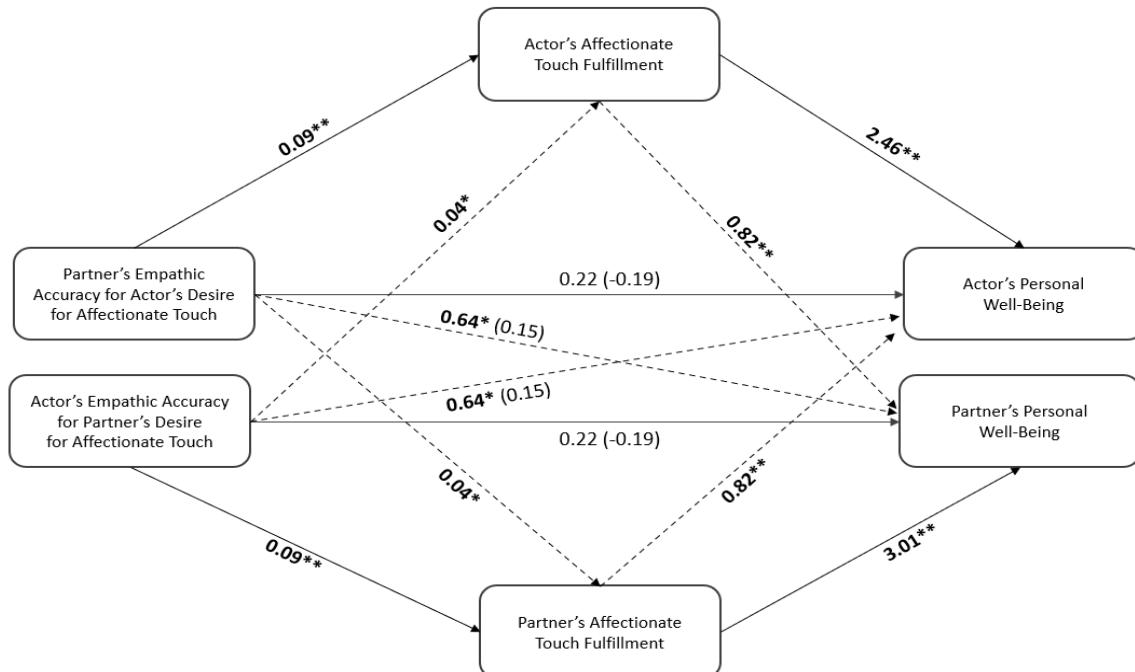
Figure 7

The within-persons moderated mediation models for personal well-being when stress was the moderating variable

a) Low Stress



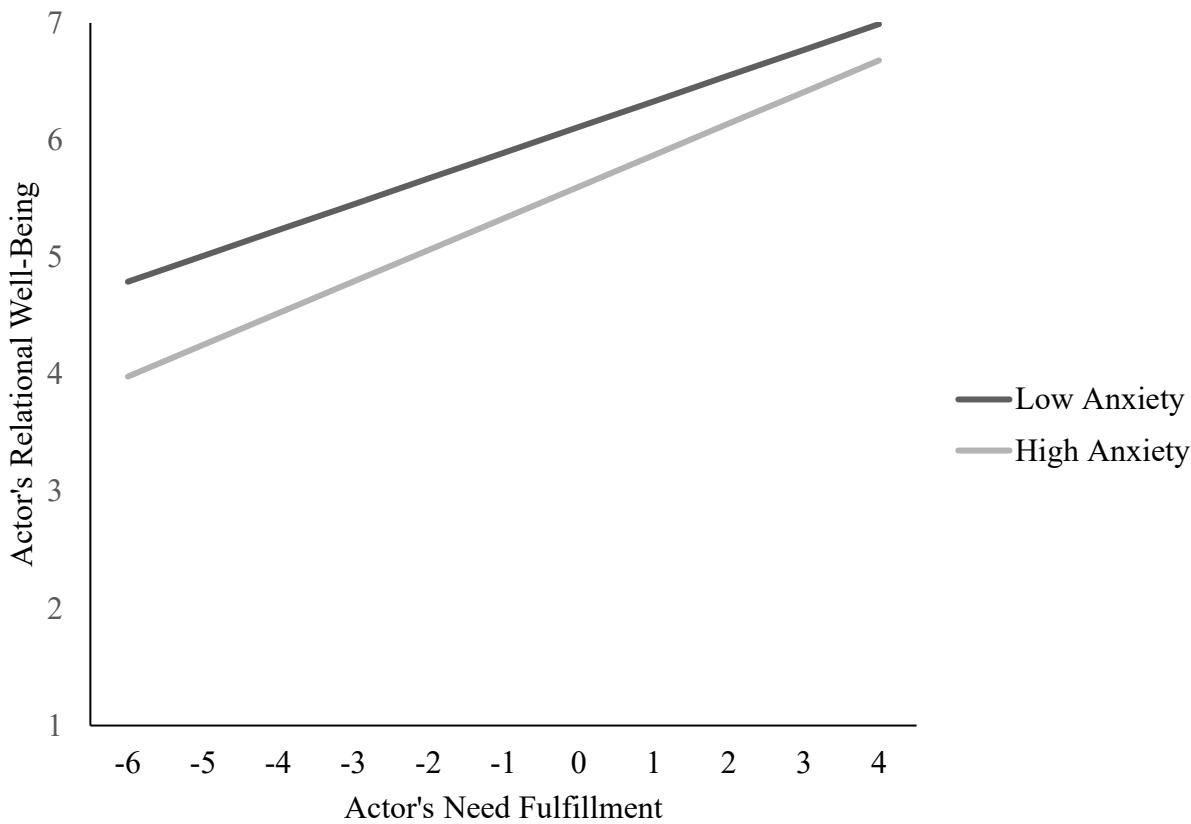
b) High Stress



Note. The values in parentheses are the direct effects after controlling for the mediator. * $p \leq .01$, ** $p \leq .001$. The b path coefficient is the only estimate that differs across the two panels.

Figure 8

Visual representation of the interaction between actor's affectionate touch fulfillment and attachment anxiety on relational well-being

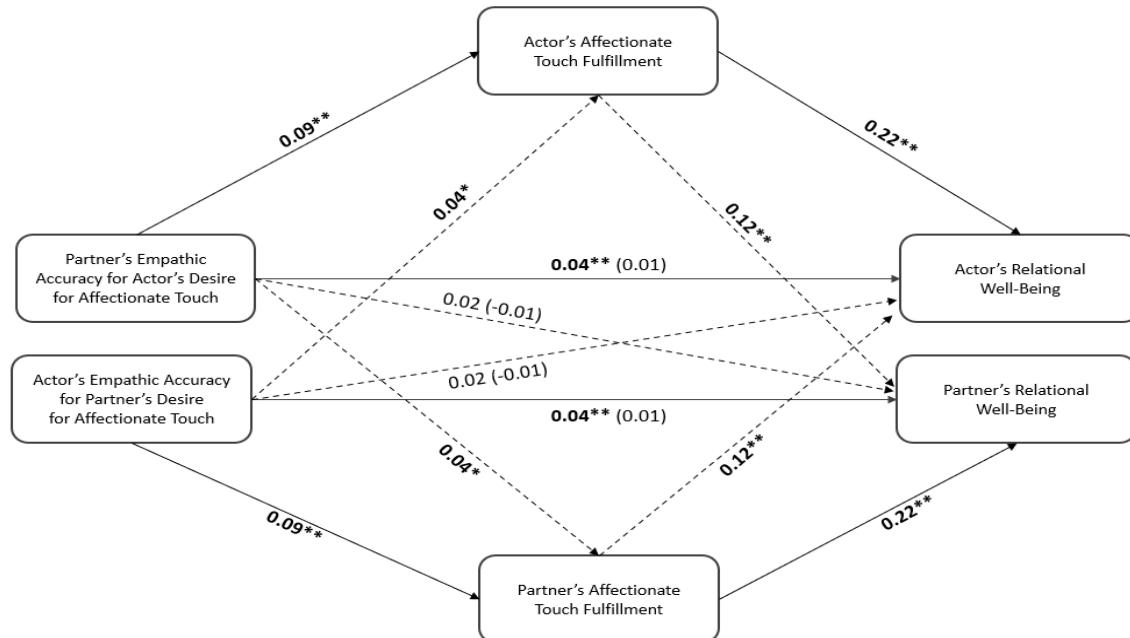


Note. Actor's touch fulfillment was person-mean centered, so the negative values indicate being less fulfilled than the person's average, whereas positive values indicate more fulfillment than average.

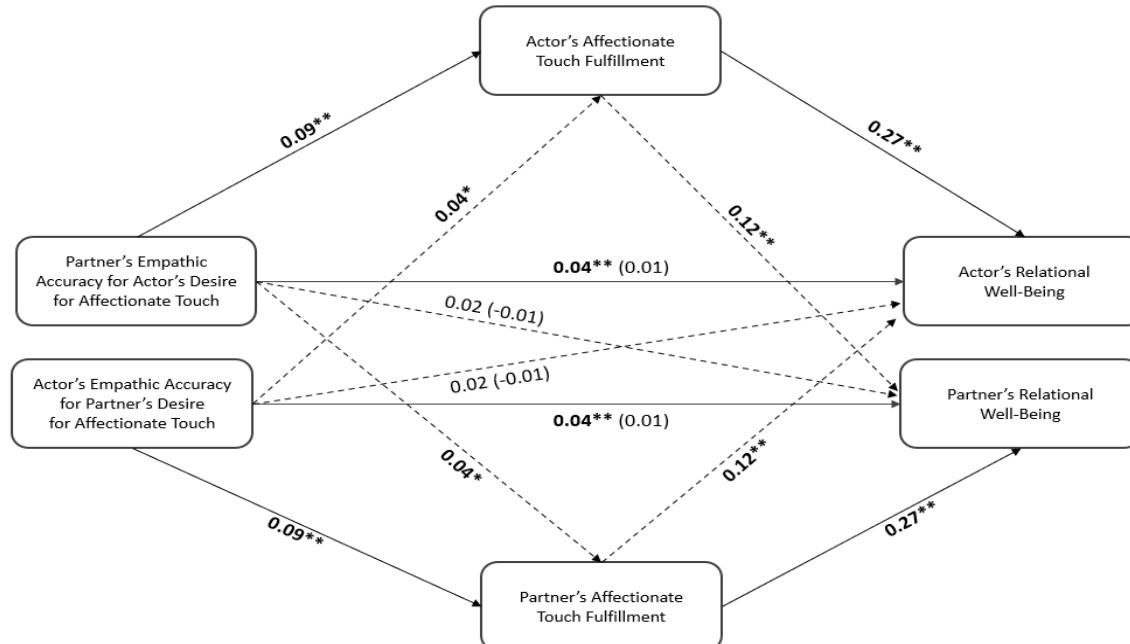
Figure 9

The within-persons moderated mediation models for relational well-being when attachment was the moderating variable

a) Low Attachment Anxiety



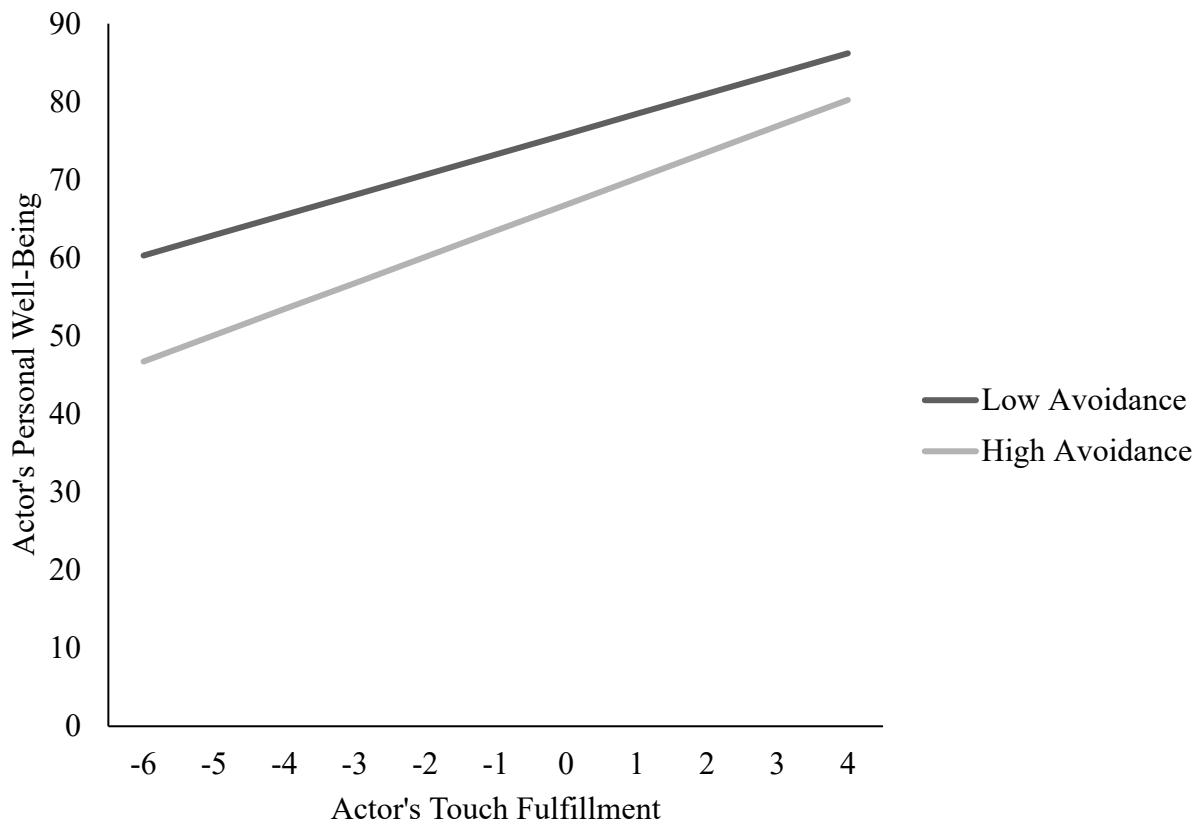
b) High Attachment Anxiety



Note. The values in parentheses are the direct effects after controlling for the mediator. * $p \leq .01$, ** $p \leq .001$. The b path coefficient is the only estimate that differs across the two panels.

Figure 10

Visual representation of the interaction between actor's affectionate touch fulfillment and attachment avoidance on personal well-being

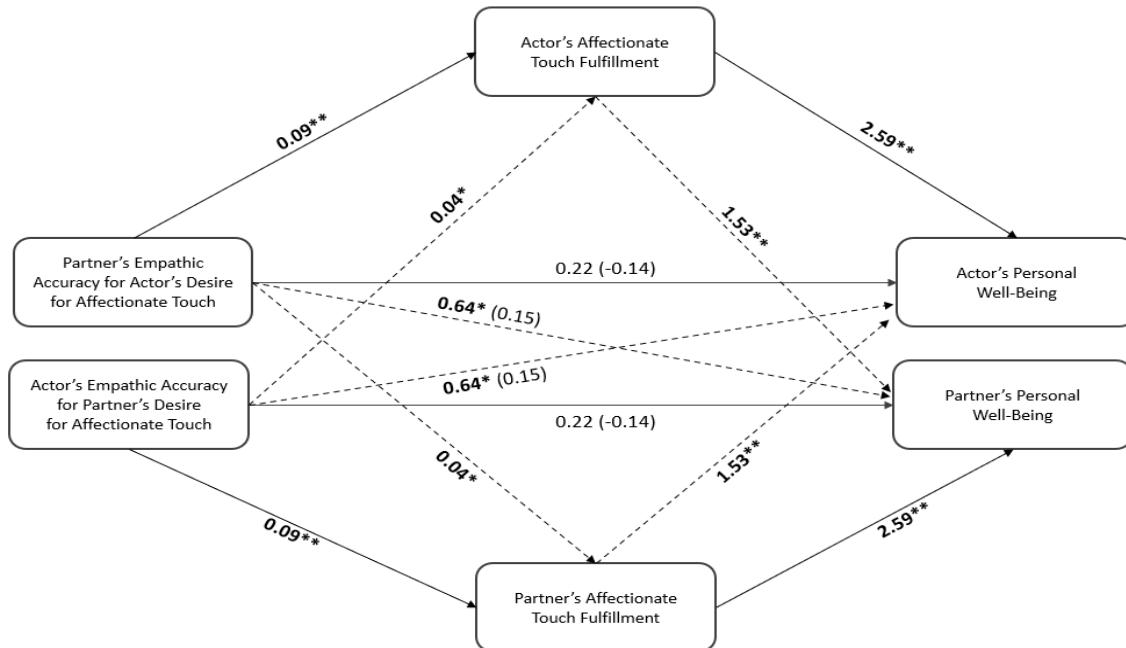


Note. Actor's touch fulfillment was person-mean centered, so the negative values indicate being less fulfilled than the person's average, whereas positive values indicate more fulfilment than average.

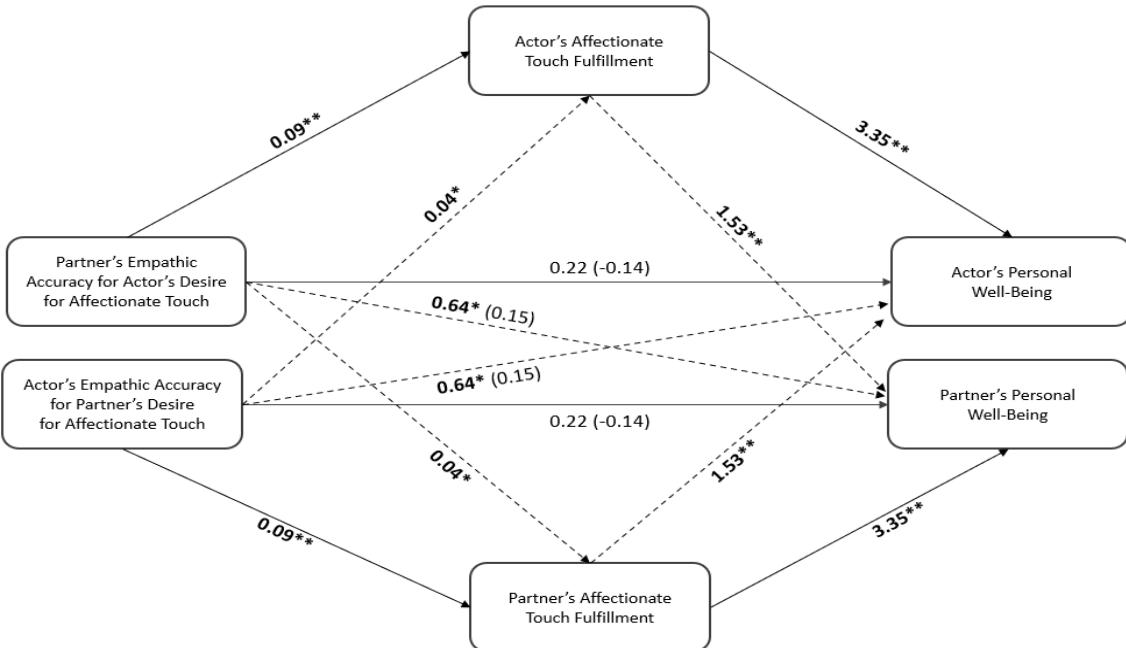
Figure 11

The within-persons moderated mediation models for personal well-being when attachment was the moderating variable

a) Low Attachment Anxiety



b) High Attachment Anxiety



Note. The values in parentheses are the direct effects after controlling for the mediator. * $p \leq .01$, ** $p \leq .001$. The b path coefficient is the only estimate that differs across the two panels.

Table 1

Percentage of missing data across all variables, and the means and standard deviations for the original and imputed datasets.

Variables	Percentage of Missingness	Listwise Deletion Means (SD)	Multiple Imputation Means (SD)
Demographics			
Gender	0.3	--	--
Age	0.3	32.44 (7.46)	32.42 (7.46)
Sexual Orientation	0.0	--	--
Relationship Status	0.0	--	--
Relationship Length	0.0	92.98 (61.83)	92.98 (61.83)
Number of Children	1.0	0.39 (0.73)	0.39 (0.73)
Key Variables			
Empathic Accuracy	9.6	4.71 (1.15)	4.67 (1.14)
Touch Fulfillment	5.9	5.16 (1.60)	5.12 (1.60)
Relationship Well-Being	5.7	5.85 (1.18)	5.83 (1.17)
Personal Well-Being	5.7	64.85 (18.49)	64.46 (18.47)
Stress	5.8	2.67 (1.69)	2.71 (1.68)
Anxious Attachment	0.0	2.23 (0.98)	2.23 (0.98)
Avoidant Attachment	0.0	3.76 (1.52)	3.76 (1.52)
Perspective Taking	0.0	3.19 (0.66)	3.19 (0.66)
Touch Amount	6.0	--	--

Note. Since each person appeared as an actor and a partner in the current data, the percentages above are based on the actor's values for these variables. For categorical variables, “--” has been inserted instead of means and standard deviations.

Table 2

Correlations between the demographic and key variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1. Age	.91**	.51**	.02	.18**	-.19**	.02	-.17**	-.16**	-.04	.11
2. Relationship Length		.99**	-.05	.00	-.14*	.02	-.16**	-.06	-.03	.04
3. Perspective Taking			.30**	-.08	-.03	-.03	.07	-.08	.20**	.18**
4. Anxious Attachment				.14	.11	-.03	-.19**	.10	-.36**	-.21**
5. Avoidant Attachment					.08	-.01	-.14**	.37**	-.12	-.34**
6. Empathic Accuracy						.82**	.21**	-.04	.16**	.06
7. Touch Fulfillment							.52**	-.11	.55**	.26**
8. Stress								.47**	-.35**	-.82**
9. Relational Well-Being									.72**	.58**
10. Personal Well-Being										.58**

Note. Variables 6 - 10 are aggregates of the daily values that were provided by the participants. The degrees of freedom range from 281 to 288.

Correlations in boldface represent the intra-class correlations between partners. * $p \leq .05$, ** $p \leq .01$ (two-tailed).

Table 3

Results for the direct effect of empathic accuracy for affectionate touch on actor's relational and personal well-being

a) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.86	0.06	141	100.49	<.001	5.75	5.98
Level 1							
Actor's Empathic Accuracy	0.02	0.01	5198	1.53	.1250	-0.01	0.05
Partner's Empathic Accuracy	0.04	0.01	5198	3.20	<.001	0.02	0.07
Level 2							
Actor's Empathic Accuracy	0.09	0.06	209	1.50	.134	-0.03	0.22
Partner's Empathic Accuracy	0.23	0.06	209	3.62	<.001	0.10	0.35

Note. At level 1, empathic accuracy is person mean centered. At level 2, empathic accuracy is group mean centered.

b) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	71.43	1.03	142	69.24	<.001	69.39	73.47
Level 1							
Actor's Empathic Accuracy	0.64	0.23	4843	2.74	.006	0.18	1.10
Partner's Empathic Accuracy	0.22	0.23	4843	0.93	.354	-0.24	0.67
Level 2							
Actor's Empathic Accuracy	-0.14	1.12	223	-0.12	.901	-2.34	2.06
Partner's Empathic Accuracy	2.63	1.12	223	2.35	.019	0.43	4.83

Note. At level 1, empathic accuracy is person mean centered. At level 2, empathic accuracy is group mean centered.

Table 4

Results for the effect of empathic accuracy for affectionate touch on actor's affectionate touch fulfillment

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.18	0.07	141	74.12	<.001	5.04	5.31
Level 1							
Actor's Empathic Accuracy	0.04	0.02	4791	2.13	.033	0.00	0.08
Partner's Empathic Accuracy	0.09	0.02	4791	4.86	<.001	0.06	0.13
Level 2							
Actor's Empathic Accuracy	0.17	0.08	273	2.16	.032	0.02	0.33
Partner's Empathic Accuracy	0.33	0.08	273	4.18	<.001	0.18	0.49

Note. At level 1, empathic accuracy is person mean centered. At level 2, empathic accuracy is group mean centered.

Table 5

Results for the effect of affectionate touch fulfillment on actor's relational and personal well-being

a) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.86	0.05	142	126.15	<.001	5.77	5.95
Level 1							
Actor's Touch Fulfillment	0.25	0.01	5238	24.88	<.001	0.23	0.27
Partner's Touch Fulfillment	0.12	0.01	5238	12.12	<.001	0.10	0.14
Actor's Empathic Accuracy	-0.00	0.01	5047	-0.16	.870	-0.03	0.02
Partner's Empathic Accuracy	0.01	0.01	5047	1.12	.264	-0.01	0.04
Level 2							
Actor's Touch Fulfillment	0.36	0.03	174	12.13	<.001	0.30	0.41
Partner's Touch Fulfillment	0.15	0.03	173	5.17	<.001	0.09	0.21
Actor's Empathic Accuracy	-0.02	0.05	237	-0.38	.705	-0.13	0.09
Partner's Empathic Accuracy	0.08	0.05	237	1.55	.123	-0.02	0.19

Note. At level 1, fulfillment and empathic accuracy is person mean centered. At level 2, fulfillment and empathic accuracy is group mean centered.

b) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	71.33	1.01	141	70.66	<.001	69.34	73.33
Level 1							
Actor's Touch Fulfillment	3.01	0.18	5038	16.58	<.001	2.66	3.37
Partner's Touch Fulfillment	1.52	0.18	5038	8.39	<.001	1.17	1.88
Actor's Empathic Accuracy	0.37	0.22	4739	1.65	.098	-0.07	0.81
Partner's Empathic Accuracy	-0.13	0.22	4739	-0.59	.553	-0.57	0.31
Level 2							
Actor's Touch Fulfillment	3.73	0.63	166	5.90	<.001	2.48	4.98
Partner's Touch Fulfillment	-0.36	0.63	166	-0.57	.569	-1.61	0.89
Actor's Empathic Accuracy	-0.67	1.13	214	-0.59	.555	-2.90	1.56
Partner's Empathic Accuracy	1.46	1.13	214	1.28	.200	-0.78	3.69

Note. At level 1, fulfillment and empathic accuracy is person mean centered. At level 2, touch and empathic accuracy is group mean centered.

Table 6

Results for the moderating effect of actor's stress level on the association between actor's affectionate touch fulfillment and well-being

a) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.86	0.06	142	98.30	<.001	5.74	5.98
Level 1							
Actor's Touch Fulfillment	0.22	0.01	5209	21.79	<.001	0.20	0.24
Partner's Touch Fulfillment	0.10	0.01	5206	10.09	<.001	0.08	0.12
Actor's Stress	-0.13	0.01	5179	-13.71	<.001	-0.15	-0.11
Partner's Stress	-0.07	0.01	5179	-6.92	<.001	-0.09	-0.05
Actor's Touch Fulfillment x Actor's Stress	0.03	0.01	5325	4.99	<.001	0.02	0.05

Note. At level 1, touch fulfillment and stress are person mean centered.

b) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	71.34	1.04	142	68.66	<.001	69.29	73.40
Level 1							
Actor's Touch Fulfillment	1.82	0.16	4487	11.53	<.001	1.51	2.13
Partner's Touch Fulfillment	0.81	0.16	4460	5.16	<.001	0.50	1.12
Actor's Stress	-6.85	0.16	4413	-44.08	<.001	-7.15	-6.54
Partner's Stress	-0.90	0.16	4413	-5.81	<.001	-1.21	-0.60
Actor's Touch Fulfillment x Actor's Stress	0.50	0.10	4775	4.84	<.001	0.30	0.71

Note. At level 1, touch fulfillment and stress are person mean centered.

Table 7

Results for the moderated mediation model where stress was the moderating variable

a) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.87	0.06	141	97.97	<.001	5.75	5.98
Level 1							
Actor's Empathic Accuracy	-0.01	0.01	4888	-0.54	.591	-0.03	0.02
Partner's Empathic Accuracy	0.01	0.01	4889	1.00	.317	-0.01	0.04
Actor's Touch Fulfillment	0.22	0.01	5184	21.55	<.001	0.20	0.24
Partner's Touch Fulfillment	0.10	0.01	5181	9.99	<.001	0.08	0.12
Actor's Stress	-0.13	0.01	5150	-13.43	<.001	-0.15	-0.11
Partner's Stress	-0.07	0.01	5149	-6.79	<.001	-0.09	-0.05
Actor's Touch Fulfillment x Actor's Stress	0.04	0.01	5295	5.24	<.001	0.02	0.05

Note. At level 1, empathic accuracy, fulfillment, and stress are person mean centered.

b) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	71.42	1.04	141	68.47	<.001	69.36	73.48
Level 1							
Actor's Empathic Accuracy	0.15	0.20	4062	0.75	.450	-0.24	0.53
Partner's Empathic Accuracy	-0.19	0.20	4064	-0.95	.343	-0.57	0.20
Actor's Touch Fulfillment	1.83	0.16	4468	11.46	<.001	1.52	2.14
Partner's Touch Fulfillment	0.82	0.16	4441	5.14	<.001	0.51	1.13
Actor's Stress	-6.83	0.16	4387	-43.71	<.001	-7.13	-6.52
Partner's Stress	-0.90	0.16	4387	-5.75	<.001	-1.20	-0.59
Actor's Touch Fulfillment x Actor's Stress	0.52	0.10	4718	4.94	<.001	0.31	0.72

Note. At level 1, empathic accuracy, fulfillment, and stress are person mean centered.

Table 8

Results for the moderated mediation model where attachment was the moderating variable

a) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.85	0.06	141	105.19	<.001	5.74	5.96
Level 1							
Actor's Empathic Accuracy	-0.01	0.01	5035	-0.18	.856	-0.03	0.02
Partner's Empathic Accuracy	0.01	0.01	5035	1.03	.305	-0.01	0.04
Actor's Touch Fulfillment	0.24	0.01	5233	24.44	<.001	0.22	0.26
Partner's Touch Fulfillment	0.12	0.01	5232	12.09	<.001	0.10	0.14
Level 2							
Actor's Attachment Anxiety	-0.26	0.04	153	-6.31	<.001	-0.34	-0.18
Partner's Attachment Anxiety	-0.08	0.04	153	-1.92	.056	-0.16	0.01
Actor's Attachment Avoidance	-0.02	0.03	154	-0.93	.352	-0.08	0.03
Partner's Attachment Avoidance	-0.05	0.03	154	-1.81	.073	-0.10	0.01
Cross-Level Interactions							
Actor's Touch Fulfillment x Actor's Attachment Anxiety	0.03	0.01	5249	2.68	.007	0.01	0.04
Actor's Touch Fulfillment x Actor's Attachment Avoidance	0.01	0.01	5255	1.26	.209	-0.01	0.02

Note. At level 1, empathic accuracy and fulfillment were person mean centered. At level 2, attachment anxiety and avoidance were group mean centered.

b) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	71.33	0.96	142	74.69	<.001	69.44	73.22
Level 1							
Actor's Empathic Accuracy	0.37	0.22	4731	1.63	.102	-0.07	0.80
Partner's Empathic Accuracy	-0.14	0.22	4732	-0.61	.541	-0.58	0.30
Actor's Touch Fulfillment	2.96	0.18	5040	16.24	<.001	2.61	3.32
Partner's Touch Fulfillment	1.53	0.18	5040	8.40	<.001	1.17	1.88
Level 2							
Actor's Attachment Anxiety	-2.18	0.71	157	-3.06	.003	-3.59	-0.77
Partner's Attachment Anxiety	-0.46	0.71	157	-0.65	.515	-1.87	0.94
Actor's Attachment Avoidance	-2.97	0.46	158	-6.50	<.001	-3.87	-2.07
Partner's Attachment Avoidance	-0.85	0.46	158	-1.86	.065	-1.75	0.05
Cross-Level Interactions							
Actor's Touch Fulfillment x Actor's Attachment Anxiety	0.09	0.17	5265	0.54	.588	-0.24	0.42
Actor's Touch Fulfillment x Actor's Attachment Avoidance	0.25	0.12	5260	2.15	.032	0.02	0.48

Note. At level 1, empathic accuracy and fulfillment were person mean centered. At level 2, attachment anxiety and avoidance were group mean centered.

Appendix A: Intake Measures

Demographics

In this first part of the survey, we will ask you some general questions about yourself.

1. What is your age? _____ years

2. What is your gender?
 - a) Female
 - b) Male
 - c) If you feel that your gender cannot be represented by one of the above check boxes, we invite you to write in how you identify your gender in the space provided here: _____

3. Please select the response that *best* describes your current relationship status?
 - a) Seriously dating relationship, but not living together
 - b) Seriously dating relationship and living together
 - c) Married
 - d) Common-law
 - e) Other (please specify): _____

4. How long have you and your partner been in an exclusive romantic relationship for? Please state in years and/or months.
_____ years
_____ months

5. Please indicate the number of children that are living in your home. If you do not have any children living in your home, please enter '0' into the space below. _____

6. What is your sexual orientation?
 - a) Heterosexual
 - b) Lesbian/Gay
 - c) Bisexual

- d) If you feel that your sexual orientation cannot be represented by one of the above check boxes we invite you to write in how you identify your sexual orientation in the space provided here: _____
7. Where did you hear about this survey?
- Kijiji
 - Reddit
 - Community poster
 - A friend
 - Other (please specify): _____

Now, we will ask you questions about your relationship experiences.

Perspective-Taking Subscale of the Interpersonal Reactivity Index for Couples (IRIC)

The following statements inquire about your thoughts and feelings in a variety of situations occurring in your relationship with your partner. For each item, indicate how well it describes you by circling the appropriate number.

Scale: 1 (does not describe me at all) to 5 (describes me very well)

- I try to look at my partner's side of a disagreement before I make a decision.
- I sometimes try to understand my partner better by imagining how things look from their perspective.
- If I'm sure I'm right about something, I don't waste much time listening to my partner's arguments.
- In my relationship, I believe that there are two sides to every question and try to look at them both.
- When I'm upset at my partner, I usually try to "put myself in their shoes" for a while.
- Before criticizing my partner, I try to imagine how I would feel if I were in their place.

Experiences in Close Relationships Scale-Short Form (Lafontaine et al., 2015)

The following statements concerns how you feel in romantic relationships. We are interested in how you *generally* experience relationships, not just what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it.

Scale: 1 (Strongly Disagree) to 7 (Strongly Agree)

1. I feel comfortable depending on romantic partners.
2. I worry that romantic partners won't care about me as much as I care about them.
3. I usually discuss my problems and concerns with my partner.
4. I worry a fair amount about losing my partner.
5. I tell my partner just about everything.
6. I worry about being abandoned.
7. I don't mind asking romantic partners for comfort, advice, or help.
8. I worry about being alone.
9. I don't feel comfortable opening up to romantic partners.
10. I need a lot of reassurance that I am loved by my partner.
11. I feel comfortable sharing my private thoughts and feelings with my partner.
12. If I can't get my partner to show interest in me, I get upset or angry.

Appendix B: Daily Measures

Welcome back to the *Daily Relationship Experiences* study!

We thank you for your time. Your participation is valuable to this research.

We ask that you please complete this survey in private (i.e., away from your partner), as their presence could affect your responses.

The following questions ask you about today's experiences within your relationship.

Empathic Accuracy Items

Scale: 1 (Not at all) to 7 (A great deal)

1. To what extent did you want affectionate touch from your partner today (e.g., touch, caress, hug)?
2. To what extent did your partner want affectionate touch from you today (e.g., touch, caress, hug)?

Affectionate Touch Fulfillment

Scale: 1 (Not at all), 4 (Moderately), 7 (A great deal)

1. To what extent did you receive as much affectionate touch as you wanted from your partner today?
2. Today,
 - a) I received too little affectionate touch (e.g., hugging, kissing, holding hands, and cuddling) from my partner.
 - b) I received too much affectionate touch (e.g., hugging, kissing, holding hands, and cuddling) from my partner.
 - c) I was satisfied with the amount of affectionate touch (e.g., hugging, kissing, holding hands, and cuddling) received from my partner.

Perceived Relationship Quality Component Inventory (Fletcher et al., 2000)

Scale: 1 (not at all) to 7 (extremely)

1. How satisfied were you with your relationship today?
2. How connected were you to your partner today?

Next, you will be asked about your feelings about today in general.

Positive and Negative Affect

In general, how do you feel today?

Scale: 1 (Not at all), 4 (Moderately), 7 (Extremely)

I feel...

1. Happy, pleased, joyful
2. Interested, attentive
3. Amused, having fun
4. Anxious, nervous
5. Sad, depressed, down
6. Angry, irritated, frustrated
7. Bored, apathetic, lacking motivation

Life Satisfaction Item (adapted from Diener et al., 1985)

Scale: 1 (Strongly Disagree) to 7 (Strongly Agree)

1. I was satisfied with my life today.

Stress

Scale: 1 (Not at all), 4 (Moderately), 7 (Extremely)

1. To what extent did you have a tough time today?
2. To what extent did you feel nervous and “stressed” today

Appendix C: Results from Imputed Dataset

Table A1

Percentage of missing data across all variables, and the means and standard deviations for the original and imputed datasets.

Variables	Percentage of Missingness	Listwise Deletion Means (SD)	Multiple Imputation Means (SD)
Demographics			
Gender	0.3	--	--
Age	0.3	32.44 (7.46)	32.42 (7.46)
Sexual Orientation	0.0	--	--
Relationship Status	0.0	--	--
Relationship Length	0.0	92.98 (61.83)	92.98 (61.83)
Number of Children	1.0	0.39 (0.73)	0.39 (0.73)
Key Variables			
Empathic Accuracy	9.6	4.71 (1.15)	4.67 (1.14)
Touch Fulfillment	5.9	5.16 (1.60)	5.12 (1.60)
Relationship Well-Being	5.7	5.85 (1.18)	5.83 (1.17)
Personal Well-Being	5.7	64.85 (18.49)	64.46 (18.47)
Stress	5.8	2.67 (1.69)	2.71 (1.68)
Anxious Attachment	0.0	2.23 (0.98)	2.23 (0.98)
Avoidant Attachment	0.0	3.76 (1.52)	3.76 (1.52)
Perspective Taking	0.0	3.19 (0.66)	3.19 (0.66)
Touch Amount	6.0	--	--

Note. Since each person appeared as an actor and a partner in the current data, the percentages above are based on the actor's values for these variables. For categorical variables, “--” has been imputed instead of means and standard deviations.

Table A2

Correlations between the demographic and key variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
11. Age	.91**	.51**	.02	.18**	-.19**	.07	-.15*	-.16**	-.05	.10
12. Relationship Length		.99**	-.05	.00	-.14*	.04	-.15*	-.06	-.03	.04
13. Perspective Taking			.30**	-.08	-.03	-.04	.08	-.07	.19**	.16**
14. Anxious Attachment				.14	.11*	-.02	-.18**	.10	-.34**	-.21**
15. Avoidant Attachment					.08	-.02	-.15**	.40**	-.11	-.33**
16. Empathic Accuracy						.83**	.21**	-.07	.18**	.08
17. Touch Fulfillment							.50**	-.14*	.54**	.28**
18. Stress								.43**	-.32**	-.77**
19. Relational Well-Being									.69**	.54**
20. Personal Well-Being										.61**

Note. Variables 6 - 10 are aggregates of daily values that were provided by the participants. Correlations in boldface represent the intra-class correlations between partners. df = 288. * $p \leq .05$, ** $p \leq .01$ (two-tailed).

Table A3

Results for the direct effect of empathic accuracy for affectionate touch on actor's relational and personal well-being

c) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.83	0.06	144	103.52	<.001	5.71	5.94
Level 1							
Actor's Empathic Accuracy	0.03	0.01	5908	2.56	.011	0.01	0.06
Partner's Empathic Accuracy	0.05	0.01	5907	3.97	<.001	0.02	0.07
Level 2							
Actor's Empathic Accuracy	0.12	0.06	229	1.88	.061	-0.01	0.25
Partner's Empathic Accuracy	0.20	0.06	229	3.10	.002	0.07	0.32

Note. At level 1, empathic accuracy is person mean centered. At level 2, empathic accuracy is group mean centered.

d) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	70.84	1.02	144	69.69	<.001	68.84	72.85
Level 1							
Actor's Empathic Accuracy	0.78	0.21	5838	3.68	<.001	0.36	1.20
Partner's Empathic Accuracy	0.19	0.21	5831	0.91	.362	-0.22	0.61
Level 2							
Actor's Empathic Accuracy	-0.18	1.16	236	-0.16	.877	-2.47	2.11
Partner's Empathic Accuracy	3.38	1.16	236	2.90	.004	1.09	5.68

Note. At level 1, empathic accuracy is person mean centered. At level 2, empathic accuracy is group mean centered.

Table A4

Results for the effect of empathic accuracy for affectionate touch on actor's affectionate touch fulfillment

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.12	0.07	144	77.97	<.001	4.99	5.25
Level 1							
Actor's Empathic Accuracy	0.06	0.02	5838	3.55	<.001	0.03	0.10
Partner's Empathic Accuracy	0.09	0.02	5831	5.24	<.001	0.06	0.13
Level 2							
Actor's Empathic Accuracy	0.21	0.08	309	2.55	.011	0.05	0.36
Partner's Empathic Accuracy	0.27	0.08	309	3.31	<.001	0.11	0.43

Note. At level 1, empathic accuracy is person mean centered. At level 2, empathic accuracy is group mean centered.

Table A5

Results for the effect of affectionate touch fulfillment on actor's relational and personal well-being

c) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.83	0.05	144	128.94	<.001	5.74	5.91
Level 1							
Actor's Touch Fulfillment	0.26	0.01	5851	28.67	<.001	0.25	0.28
Partner's Touch Fulfillment	0.11	0.01	5851	11.39	<.001	0.09	0.12
Actor's Empathic Accuracy	0.01	0.01	5887	0.53	.600	-0.02	0.03
Partner's Empathic Accuracy	0.02	0.01	5882	1.44	.151	-0.01	0.04
Level 2							
Actor's Touch Fulfillment	0.36	0.03	176	12.02	<.001	0.30	0.42
Partner's Touch Fulfillment	0.15	0.03	176	4.92	<.001	0.09	0.21
Actor's Empathic Accuracy	0.01	0.06	258	0.11	.912	-0.10	0.11
Partner's Empathic Accuracy	0.07	0.06	258	1.30	.196	-0.04	0.18

Note. At level 1, fulfillment and empathic accuracy is person mean centered. At level 2, fulfillment and empathic accuracy is group mean centered.

d) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	70.84	0.99	144	71.68	<.001	68.89	72.80
Level 1							
Actor's Touch Fulfillment	2.91	0.17	5671	17.34	<.001	2.58	3.23
Partner's Touch Fulfillment	1.37	0.17	5671	8.15	<.001	1.04	1.69
Actor's Empathic Accuracy	0.50	0.20	5822	2.44	.015	0.10	0.89
Partner's Empathic Accuracy	-0.19	0.20	5822	-0.92	.358	-0.59	0.21
Level 2							
Actor's Touch Fulfillment	3.99	0.65	168	6.13	<.001	2.70	5.27
Partner's Touch Fulfillment	-0.38	0.65	168	-0.58	.563	-1.66	0.91
Actor's Empathic Accuracy	-0.88	1.17	227	-0.75	.452	-3.19	1.42
Partner's Empathic Accuracy	2.38	1.17	227	2.03	.043	0.07	4.69

Note. At level 1, fulfillment and empathic accuracy is person mean centered. At level 2, fulfillment and empathic accuracy is group mean centered.

Table A6

Results for the moderating effect of actor's stress level on the association between actor's affectionate touch fulfillment and well-being

c) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.83	0.06	144	101.32	<.001	5.72	5.95
Level 1							
Actor's Touch Fulfillment	0.24	0.01	5781	25.68	<.001	0.22	0.26
Partner's Touch Fulfillment	0.09	0.01	5778	9.46	<.001	0.07	0.11
Actor's Stress	-0.13	0.01	5866	-15.22	<.001	-0.15	-0.12
Partner's Stress	-0.06	0.01	5866	-7.26	<.001	-0.08	-0.05
Actor's Touch Fulfillment x Actor's Stress	0.03	0.01	5918	5.31	<.001	0.21	0.05

Note. At level 1, touch fulfillment and stress are person mean centered.

d) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	70.93	1.02	144	69.35	<.001	68.91	72.95
Level 1							
Actor's Touch Fulfillment	1.87	0.15	5155	12.77	<.001	1.59	2.16
Partner's Touch Fulfillment	0.72	0.15	5136	4.94	<.001	0.44	1.01
Actor's Stress	-6.56	0.14	5330	-47.36	<.001	-6.83	-6.29
Partner's Stress	-0.89	0.14	5328	-6.42	<.001	-1.16	-0.62
Actor's Touch Fulfillment x Actor's Stress	0.37	0.10	5473	3.86	<.001	0.18	0.55

Note. At level 1, touch fulfillment and stress are person mean centered.

Table A7

Results for the moderated mediation model

c) Actor's Relational Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	5.83	0.06	144	101.33	<.001	5.72	5.95
Level 1							
Actor's Empathic Accuracy	-0.01	0.01	5877	-0.47	.636	-0.03	0.02
Partner's Empathic Accuracy	0.02	0.01	5872	1.82	.069	-0.00	0.04
Actor's Touch Fulfillment	0.24	0.01	5793	25.49	<.001	0.22	0.25
Partner's Touch Fulfillment	0.09	0.01	5790	9.36	<.001	0.07	0.10
Actor's Stress	-0.13	0.01	5867	-15.20	<.001	-0.15	-0.12
Partner's Stress	-0.06	0.01	5867	-7.24	<.001	-0.08	-0.05
Actor's Touch Fulfillment x Actor's Stress	0.03	0.01	5918	5.38	<.001	0.02	0.05

Note. At level 1, empathic accuracy, touch fulfillment, and stress are person mean centered.

d) Actor's Personal Well-Being

	b	SE	df	t	p	Lower CI	Upper CI
Intercept	64.52	0.84	144	76.92	<.001	62.86	66.17
Level 1							
Actor's Empathic Accuracy	0.08	0.17	5714	0.50	.614	-0.25	0.41
Partner's Empathic Accuracy	-0.11	0.17	5706	-0.67	.500	-0.45	0.22
Actor's Touch Fulfillment	1.88	0.15	5175	12.76	<.001	1.59	2.17
Partner's Touch Fulfillment	0.73	0.15	5155	4.93	<.001	0.44	1.01
Actor's Stress	-6.56	0.14	5331	-47.34	<.001	-6.83	-6.28
Partner's Stress	-0.89	0.14	5329	-6.41	<.001	-1.16	-0.62
Actor's Touch Fulfillment x Actor's Stress	0.37	0.10	5471	3.83	<.001	0.18	0.55

Note. At level 1, empathic accuracy, touch fulfillment, and stress are person mean centered.