

THE INTERACTIVE EFFECTS OF SENSORY MODALITIES OF RELATING ON ROMANTIC RELATIONSHIP OUTCOMES

By Megan S. Patterson

The concept of sensory channels of interaction (e.g., touch, hearing, sight, etc.) has been previously studied in the context of romantic relationships. Recent work (Miron, Jiang, Weisensel, Patterson, & Rizo, 2018) has focused on how romantic partners' differential preferences for sensory channels of relating predict different relationship outcomes. However, this work has focused on sensory preferences rather than on actual use of sensory modalities in romantic relationships. The current study examined the interactive effects of intimates' sensory modality *importance* and their *actual use* of sensory modalities on relationship satisfaction and attraction (passionate love and liking). Couples responded to a survey measuring their personal use and preference for various sensory modalities of relating to their current romantic partner, relationship satisfaction, and attraction to partner, and relationship demographic information. Both partners in the romantic dyad individually responded to the questionnaires. Multivariate regression analyses revealed that partners' compatibility with regard to hearing and substitute channel and to some lesser extent compatibility in sight predicted satisfaction, liking, and passionate love, whereas compatibility in touch and bodily sensations did not significantly predict relationship outcomes for neither males nor females. Paired samples t-tests also revealed that male and female partners differ in their ratings of importance and use of sensory modalities, specifically with regards to hearing, bodily sensations, sight, and substitute channels. The current study has implications extending into relationship development and marriage/family therapy with results suggesting that use and importance of sensory modalities are *both* tied to relationship outcomes, such as satisfaction, liking and passionate love for both males and females.

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ROMANTIC RELATIONSHIP OUTCOMES

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Chapter I

Introduction

Romantic and interpersonal relationships are initiated and maintained through the exchange of affectionate behaviors (Floyd, Judd, & Hesse, 2008). However, limited research has examined the use of sensory modalities (touch, hearing, sight, bodily sensations, and substitute channels) and preference of sensory modalities on romantic relationship outcomes (Gulledge, Gulledge & Stahman, 2003; Vedes, Hilpert, Nussbeck, Randall, Bodenmann & Lind, 2016). An even more limited body of research has taken steps to measure the *actual use* of sensory behaviors within a romantic relationship (Laurenceau & Bolger, 2005). The current study sought to expand prior work (Miron, Rauscher, Reyes, Gavel, & Lechner, 2012; Miron, Wicklund, Diestelmann, Moore, & Schroeder, 2015; Miron et al., 2018) by examining the interaction of preference for and use of sensory modalities of relating on romantic relationship satisfaction and romantic attraction to a partner. The current study also examined whether duration of romantic relationship could describe the effects of romantic partner congruency in preference and use of sensory modalities on relationship outcomes.

The Nature and Outcomes of Physical Affection

Previous research has investigated how the positive effects of touch can help maintain satisfying romantic relationships (Debrot, Schoebi, Perrez, & Horn, 2013; Gulledge, Gulledge, & Stahman, 2003). However, no research has focused on the effects

of preference and *actual* use of various sensory channels of relating (touch, sight, hearing, bodily sensations and substitute channels), as most work has solely focused on the positive effects of touch within romantic relationships (e.g., Debrot et al., 2013; Gullledge et al., 2003).

Tolstedt and Stokes (1983) found that three types of intimacy were highly predictive of perceived marital satisfaction and potential behaviors that are indicative of divorce. These three types of intimacy included verbal, affective, and physical intimacy. It was found that within romantic couples, verbal and affective intimacy contributed more than physical intimacy to predictions of marital satisfaction. Hill (2010), for instance, examined several variables related to romantic relationship satisfaction. He specifically sought to answer the question of what factors are associated with physical affection, and how these factors along with love factors (passion, intimacy, commitment) are associated with relationship satisfaction in romantic relationships, as a function of both gender and relationship stage (casual dating, serious dating, committed). It was found that, overall; there are three factors associated with physical affection; hot, warm and demonstrative. *Hot factors* included explicit sexual behaviors (e.g., intercourse, sleeping together). *Warm factors* included touch in a less sexually explicit manner (e.g., kissing, snuggling, and touching the partner intimately). *Demonstrative factors* were those that are acceptably used as a form of publicly displayed affection (e.g., holding hands, hugging). Small to moderate associations were found between physical affection factors (hot, warm, demonstrative) and relationship outcomes (passion, intimacy, commitment). Relationship outcomes were differentiated by passion (attraction both physically and

sexually), intimacy (emotional bond/closeness), and commitment (dedication to the longevity of the relationship). Hill (2010) also found that there were differences in physical affection across relationship stages. Specifically, as couples reported greater relationship duration, increased warm and demonstrative physical affection factors were reported. These findings attest to the importance of incorporating relationship duration in the analyses of sensory romantic interaction as well as the importance of distinguishing between passion (i.e., love; hot attraction) and other forms of attraction (liking). In the current study, we did just that by using two types of attraction: passionate love and liking.

Previous literature has shown physical affection (PA) or touch to be associated with increased positive relationship outcomes such as partner and relationship satisfaction, intimacy, and conflict resolution (Gulledge et al., 2004). The effects of PA within a relationship seem to be immediate. However, long-term effects of increased touch have also been documented (Floyd et al., 2008; Vannier, Rosen, Mackinnon, & Bergeron, 2016), with results indicating long-term benefits of touch that include improvements in perceived stress, relationship satisfaction, reduced cholesterol, and sexual satisfaction. Debrot et al. (2013) found that when romantic partners were randomly assigned in study to use touch more frequently as a communication strategy, their relationship showed more resilience against maladaptive emotion regulation, in turn contributing to better mental health outcomes of both romantic partners. Researchers also found that when partners were touched more frequently during the experimental study, they reported improved positive psychological well-being lasting up to 6 months later.

The Role of Romantic Behaviors in Maintaining Satisfying Relationships

Altogether, past work indicates that touch and relationship satisfaction are positively associated. Moreover, the more frequently touch behaviors occur, the more lasting their effects are (Fisher et al., 2015). Gullledge et al. (2003) examined seven types of physical affection (PA) in relation to “the favorite” type of PA, “most frequently used” type of PA, and “expression of love” through PA. PA behaviors included backrubs/massages, caressing/stroking, cuddling/holding, holding hands, hugging, kissing on the lips, and kissing on the face (not lips). All PA behaviors but two types (holding hands and caressing/stroking) were significantly and positively correlated with relationship and partner satisfaction. Researchers found that as PA increased, ease of conflict resolution also seemed to increase. Hill (2010) also found that physical affection factors (hot, warm, demonstrative) and love factors (intimacy, passion, commitment) together, accounted for a large portion of variance in romantic relationship satisfaction (44.22%).

Going beyond looking at just touch in relation to relationship outcomes, Miron et al. (2012) examined the concept of full-dimensionality in romantic interactions. Full-dimensionality in romantic relationships is defined as “an ideal state of complete interaction with another person,” which occurs through engagement with one’s romantic partner via multiple sensory channels/modalities. Five modalities were identified as being important in the interactions with romantic partners: hearing, sight, touch, bodily sensations (warmth, texture, scent), and indirectly relating through a substitute channel. As shown by Miron et al. (2012; also, Miron et al., 2015; 2018), other sensory interaction

channels could influence relationship satisfaction. Results of the Miron et al.'s (2012) study indicate that there was a difference in the use of multidimensionality sensory channels between partners in various types of relationships (geographically close versus geographically distant). In both types of relationships, those who are oriented toward relating to their romantic partners via multiple sensory channels (e.g., touch, sight, and hearing) were protected against relationship difficulties, compared to those who preferred using fewer sensory channels.

Touch. Research on touch, as previously mentioned, focuses on the physical interactions within a romantic relationship and the benefits of touch for both romantic partners. Specifically, touch has been shown to moderate conflict resolution (Gulledge et al., 2004), aid in more positive relationship outcomes (Hill, 2010), and help to form developmental bonds for a couple (Diamond, 2000). Less research, however, is focused on individually examining the other four types of sensory orientations (sight, hearing, bodily sensations, and substitute channels).

Hearing. Ackerman, Griskevicius, and Li (2011) have found differences in the verbal domain of romantic interactions for men and women and how each perceives the statement "I love you." Results found that men confess love first, and often feel happier when receiving a confession of love. However, this study also showed that men and women's reactions to receiving a confession of love differ depending on whether the couple has engaged in sexual activity. Men, for instance, felt more positive from being told, "I love you" prior to sex than did women. However, after sex had occurred within the relationship, women felt more positive emotion associated with "I love you" than did

men. Overall, the study demonstrated that depending on who is confessing love and when the confession of love is occurring, the phrase “I love you” has different meanings for confessor and the receiving target. Although research by Ackerman et al. (2011) focuses on a verbal interaction, the authors’ mention that reactions differ according to levels of physical intimacy (touch), thus supporting the interconnected nature of these sensory modalities.

Bodily Sensations. Bodily sensations have previously been categorized by body warmth, body texture, and scent (Miron et al., 2012). When looking at the use of scent and odor, Guéguen (2011) found that when women were solicited by a research assistant who was pleasant-smelling, they were more likely to agree to the courtship than when the confederate was unpleasantly smelling. Fletcher, Simpson, Thomas, and Giles (1999) found that in intimate relationships, partner warmth is an ideal quality. In an analysis of people’s perceptions of and associations with the word “warmth,” Fenko, Schifferstein, and Hekkert (2009) found that associations of warmth were more closely tied to the figurative meaning of the word than it was tied to the literal meaning. Figurative examples of the word warmth could include social interactions, love and intimacy, whereas literal meanings of the word included physical warmth and comfort.

Hong and Sun (2012) examined bodily sensations in relation to consumer behavior, specifically when looking at preference for romantic movies. Based on the idea that romantic love is often described as being metaphorically warm, the authors examined physical coldness and liking for genre of movie. Hong and Sun found that when people were conditioned to be more cold physically (through drinking an iced tea versus hot tea),

their reported liking of romantic movies increased. This finding was replicated in the condition in which room temperature was varied (59°-62°F versus 72°-75°F). Authors theorize that physical coldness increases the need for psychological warmth, which occurred through romance movies and the “warm” feelings associated with the metaphoric warmth of love.

A limited body of research has examined the attributes of touch (Essick, McGlone, Dancer, Fabricant, Ragin, Phillips, Jones & Guest, 2010), more specifically known as bodily sensations within the current study. Researchers found that stimuli that were smooth and soft were judged by participants to be more pleasant, whereas less pleasant perceptions were reported in response to stimuli that were rougher. This suggests that touch may not be as straightforward as a simple gesture. Rather, touching of different textures and materials may elicit various perceptions depending on its judged roughness.

Substitute Channels. In relation to the other four sensory modalities, substitute channels remain a way to relate with the partner, however the use of substitute channels most often occurs when there is a barrier preventing partners from physically being with one another. Substitute channels are a way of indirectly relating to the other through an object that is a strong reminder of one’s partner (i.e., article of clothing, photo, prior voice messages; Miron et al., 2012). For instance, Shoup, Streeter and McBurney (2008) found that in the absence of their sexual partner, women tend to form an attachment to their partner’s clothing through smelling or sleeping with a specific article in order to feel closer to their partner.

Altogether, these findings underscore the importance of studying *all* sensory modalities of romantic relating for a deeper understanding of antecedents of romantic attraction and satisfaction.

Similarity of Sensory Similarity and Convergence of Sensory Behaviors in Couples

As has been shown across studies, overall use of intimate/physical affection behaviors along with frequency of occurrence positively influence relationship outcomes (Debrot et al., 2013; Gullledge et al., 2003; Vannier et al., 2016). However, much less was known about how relationship outcomes are affected by the congruence between intimates' preference for certain sensory modalities and their partner's actual use of various sensory modalities of romantic partners. This was the focus of the current study.

In general, it is agreed upon that congruent preferences in romantic relationships positively influence relationship outcomes. According to the Similarity-Attraction Effect (Heine, Foster, & Spina, 2009), people are attracted to those who are most similar to themselves. Similarity of romantic partners is called into play in attitude alignment, or the idea that over time partners adopt the attitudes of one another, leading to more similarity. It was found that when attitude discrepancies were salient and when issues were significant to a partner, greater attitude alignment by the other partner was found (Davis & Rusbult, 2001). For instance, during a disagreement, if Partner A disagreed with Partner B on a value that is very important to Partner B and this was made known to Partner A, there would be more room for attitude alignment by Partner A to satisfy the need for congruency within the partnership. This attitudinal alignment is shown to be

particularly strong in dating individuals. Castro, Hattori, and de Araújo Lopes (2012) found that females take measures to ensure investment from their male partner in a long-term relationship. Specifically, they found that, for purposes of long-term relationship maintenance, females might be more likely to adapt their personal preferences closer to that of their male partner.

Prior research has shown that individuals may seek out romantic partners with whom they share similarities (Heine et al., 2009) and over time, romantic partners tend to converge on a variety of dimensions. For instance, when initiating a relationship, it appears that partners seek out those who have personality traits like their own (Botwin, Duss & Shackelford, 1997), and then work to align their own personal attitudes with those of their partner (Castro et al., 2012). Results from Botwin et al. (1997) indicate that women prefer men who have a wide variety of socially desirable traits, such as reliable, warm, fair, intelligent, and knowledgeable, etc. Even though there was a preference to seek out partners who are similar to oneself, it was also important to obtain a partner who shares the same life goals. Although there may be differences in the beginning of a relationship, over time it has been found that couples will become more similar in their attitudes (Davis & Rusbult, 2001).

In addition to seeking out a “similar” partner, length of relationship could lead to differential effects in the use and preference of sensory modalities. Guerrero and Andersen (1994) suggest that patterns of touch initiation may vary according to relationship stage and type of relationship. It has been found that married couples use touch most frequently as compared to those who are not married. Decreased levels of

touch were observed amongst serious dating couples and casually dating couples. This suggests that length of the relationship could be an important moderator variable in the relationship between similarity of the use of sensory modalities by the self and the partner's sensory preferences on relationship outcomes.

Finally, previous literature suggests that gender differences exist in the preferences of men and women for physical affection (touch) types (Gulledge et al., 2003; Miron et al., 2017). Researchers suggest that there may especially be differences in the initiation of touch over time in a relationship (Guerrero & Anderson, 1991, 1994; Hall & Veccia, 1990). For instance, it has been found that men are more likely to initiate sexual types of physical affection early in the relationship as a way to fulfill sex-role expectations, whereas women may initiate physical affection later in the relationship as a maintenance behavior for intimacy and passion within the romantic relationship.

The Current Study

The current study examined how actual use of sensory modalities by the self, coupled with partner's sensory importance predicted, in concert, relationship satisfaction, liking and passionate love. Understanding how the similarity between sensory modality channel importance and use influences relationship outcomes may have implications in marriage and couples in therapy. The understanding may have the potential to increase positive relationship outcomes by providing a greater understanding of the ways partners interact with one another. Similarly, understanding how similarity of preference and use of various sensory modalities impacts relationship satisfaction and attraction may help

couples to improve relationship outcomes or ease relational tension/conflict. Finally, because there may be sex differences in the use and preference for sensory interaction channels, as noted above, the analyses were split by sex of the partner as opposed to examining the interaction of use of sensory channels by *self* versus *partner's* preference for those channels, regardless of the sex of “self” and “other.” This would allow for a better test of sex differences, as described below.

Overview of the Hypotheses

Participants were asked to respond to a variety of questions assessing their importance and use of the five sensory modality types within the context of their romantic relationship. Both partners in the romantic relationship were asked to respond to the same survey so that comparisons for use and importance could be made across the romantic dyads, between male and female partners. Relationship satisfaction, passionate love, and liking were also assessed to examine how these romantic outcomes differ based on similarity and differences occurring in the partners' importance and use of different sensory modalities.

Hypothesis 1. It was hypothesized that there would be a significant two-way interaction effect between partner-reported importance and self-reported use of the specific modalities within the relationship on relationship satisfaction (Hypothesis 1A), passionate love (Hypothesis 1B), and liking (Hypothesis 1C). The predictions tables (Table 1, Table 2, and Table 3) can be found within the appendices.

Hypothesis 2. The longer the relationship duration, the greater the impact of similarity on satisfaction (Hypothesis 2A), passionate love (Hypothesis 2B) and liking (Hypothesis 2C).

Chapter 2

Method

Participants

In total, 107 sets of heterosexual couples ($N = 214$ participants) were recruited through the University of Wisconsin Oshkosh's participant pool, SONA-systems. Cohen's (1992) recommendations were used to calculate minimal sample size based on the average effect size. The minimum sample size suggested by Cohen (1992) at the $p < .05$ level, for detecting a medium effect, is 91 couples per condition. Thus, this sample size will allow adequate power to detect an effect. Previous research has used varying sample sizes for detecting significant effects ranging from 55 couples to 102 couples (Miron, Knepfel, & Parkinson, 2009; Miron et al., 2012; Miron et al., 2015). In the current study, 22 couples were excluded from the original sample due to large discrepancies in the data ($N = 17$ couples), lesbian relationships ($N = 4$ couples) and having previously taken the survey ($N = 1$ couple). The large discrepancy and information received from the course instructor suggested that the first category of participants ($N = 17$) may have brought a bogus partner to the lab in order to obtain research credits. Couples considered for exclusion from the study were given an "exclusion criteria" score from 0 to 6, after data was entered (0 = "No suspicion, keep in study", 1 = "Keep, but considered suspicious", 2 = "Long-distance Relationship or Relationship Length Discrepancy", 3 = "Long-distance Relationship or Relationship Length Discrepancy + other mismatching items", 4 = "Lots of Discrepancies between

partners”, 5 = “Lesbian Couple”, 6 = “Repeat Couple, do not keep”). Only couples with exclusion criteria scores less than or equal to 1 were kept for analyses. Participants were excluded before the data were analyzed.

Participants were United States residents who were in a monogamous, committed, romantic relationship at the time of the study. Participants recruited via SONA received one research credit for signing up and an additional credit for bringing their romantic partner to the laboratory to complete the survey. The final sample consisted of 87 romantic couples (Female, $M = 19.94$ years ($SD = 3.12$); Male, $M = 20.43$ years ($SD = 2.56$)) who were primarily Caucasian (82.4%). Among these, 15 couples self-identified as having lived together (for an average of 24.57 months) at the time of the study. On average, at the time of the study, couples had been in their current relationship for 23.5 months (range= 1 – 155 months).

Design

Preference and use of various sensory modality channels were measured using adapted scales developed by Miron et al. (2012). Scales all have acceptable reliability in prior studies (α 's $> .74$). Participants also were asked to respond to questions regarding their current relationship satisfaction, using the Kansas Marital Satisfaction Scale (KMS) ($\alpha = .93$) (Crane, Middleton, & Bean, 2000) and attraction to their current partner (Miron et al., 2018).

Procedures

Interested and qualified participants were given the choice to participate through a provided list on SONA. After following the link and reading a brief description, participants were provided with a list of available timeslots to come into the laboratory with their romantic partner in order to complete the survey.

Only participants who answered affirmatively to the pre-screening question “Are you currently in a relationship with a romantic partner?” were able to view the available timeslots in SONA. The prescreening question was used to determine eligibility for the current study. If participants were deemed eligible for participation (affirmative response to being in a romantic relationship), they were presented with an online scheduling site in order to sign up for a timeslot to come into the laboratory with their partner and take the survey. The author tested all participants from December 2017 to February 2018. Upon arrival at the laboratory, the couple members were separated into two rooms and were presented with the informed consent form to read and sign if they agreed to participate (Appendix A). The informed consent document informed participants of their rights, as well as what was expected from them throughout the course of the study. Although sensitive information is not collected in the survey, it was possible that partners would be less likely to report dissatisfaction within their current relationship if they were in the physical presence of their partner. Thus, romantic partners were separated into two rooms in order to have the partners complete the survey independently or in the absence of their partner, to eliminate socially desirable responses and to protect response anonymity.

From this portion onward, participants were asked to respond to questions regarding importance and use of sensory modalities within the context of their personal romantic relationship, measures of relationship satisfaction, and attraction and demographic information about self and the romantic partnership (Appendix B). After completing the survey, participants were asked to place their completed survey in a sealed envelope to ensure the provided responses are anonymous. The author labeled the envelopes accordingly with an assigned participant number (e.g., 001 and 101) in order to link participants in data analysis. Participants were then given information about the study and the importance of conducting such research (Appendix C).

Measures

Predictor Variables.

Actual Use of Sensory Modalities. Measures of participants' *actual use* of touch, hearing, sight, bodily sensations and substitute channels within their current romantic relationship. Actual use was assessed through scales measuring frequency of use of each of the modalities on a 9-point scale, ranging from 1 (*Not at all*) to 9 (*Very Often*) (see first scale in Appendix B adopted from Miron et al., 2018), as follows:

Touch use was assessed by asking participants to rate how often they each used touch during the past week. Items to assess touch use measured behaviors such as touching the partner, kissing the partner, hugging the partner, and holding the other close or cuddling the other (5 items; Cronbach's α s were .87 for men and .80 for women).

Sight use was assessed by asking participants how often they used sight during the past week. Items to assess sight included behaviors such as looking at their partner, looking into the other's eyes, and watching the other do things (3 items; α s were .70 for men and .56 for women).

Hearing use was assessed by asking participants to rate how often they were listening to the other, talking with the partner, and hearing the voice of the partner (3 items; α s were .72 for men and .77 for women).

Bodily Sensations use was assessed by asking participants to rate how often they related to their partner through smelling the other's scent, feeling the texture of the partner's hands, face, or hair, etc., and feeling his/her body warmth (3 items; α s were .72 for men and .72 for women).

Substitution Channel use was assessed by asking participants to rate how often they used a substitute channel to relate or communicate with their partner. Items to assess this modality will include having an object that reminds them of the other and writing to the other (letters, email messages, texting), touching an object that reminds them of their partner, and looking at an item that belong to their partner (4 items; α s were .61 for men and .58 for women).

Importance of Sensory Modalities. In prior work (Miron et al., 2017), both measures were used to assess importance so for the sake of replication, which constituted a second assessment of importance for sensory modalities. Participants were asked to respond to a series of questions, adapted from Miron et al. (2017), designed to assess the importance of each of the sensory modalities in their romantic relationship, using a 9-

point scale ranging from 1 (*Not at all Important*) to 9 (*Extremely Important*).

Specifically, participants were asked to rate “the extent to which you find each of the following channels of relating important.” The importance was assessed for each of the five sensory modalities.

Touch Importance was assessed by asking participants to rate the importance of touching the partner, kissing the partner, hugging the partner, and holding the other close or cuddling the other (5 items; Cronbach’s α s were .84 for men and .84 for women).

Sight importance was assessed by asking participants to rate the importance of looking at their partner, looking into the other’s eyes, and watching the other do things (3 items; α s were .70 for men and .62 for women).

Hearing Importance was assessed by asking participants to rate the importance of listening to the other, talking with the partner, and hearing the voice of the partner (3 items; α s were .66 for men and .40 for women).

Bodily Sensations Importance was assessed by asking participants to rate the importance of smelling the other’s scent, feeling the texture of the partner’s hands, face, or hair, and feeling his/her body warmth (3 items; α s were .77 for men and .80 for women).

Substitution Channel Importance was assessed by asking participants to rate the importance of having an object that reminds them of the other and writing to the other (letters, email messages, texting), touching an object that reminds them of their partner, and looking at an item that belong to their partner (4 items α s were .58 for men and .60 for women).

Outcome Variables.

Relationship Satisfaction. An adapted version of the Kansas Marital Satisfaction Scale (Crane, Middleton, & Bean, 2000), comprised of five items, each evaluated on a 7-point scale ranging from 1 (*Extremely Dissatisfying*) to 7 (*Extremely Satisfying*) was used to measure relationship satisfaction. Sample items include, “How satisfied are you with your relationship?” and “How satisfied are you with the quality of the everyday interactions that you have with this person?” Items containing keywords related to marriage have been modified to encompass all types of romantic relationships (Cronbach’s α s were .89 for men and .92 for women).

Passionate Love. Measures were based off previous work from Miron et al. (2017) which used two measures of love: *passionate love* (6 items) and *liking* (5 items). The Passionate Love index contains 6 items: To what extent are you in love with this person?; To what extent are you crazy about this person?; How passionate would your rate your relationship with this person?; How intense are your feelings for this person when you are in his/her presence?; How intense are your sensations in the presence of this person?; and How physically attractive is this person to you? All items were assessed on 11-point scales ranging from 0 (*Not at All*) to 10 (*Extremely*) (α 's = .90 for both men and women in prior work, Miron et al., 2017; and .86 and .87 for the current study).

Liking. Five items assessed liking of partner/attraction to partner (Miron et al., 2017): “How attractive is this person’s personality to you?”; “Overall, how attractive is this person to you?”; “How much do you like this person?”; “How much do you care about this person?”; “To what extent do you accept this person for who he or she is?” All

items will be assessed on 11-point scales ranging from 0 (*Not at All*) to 10 (*Extremely/Completely*) (α 's = .86 for men and .91 for women, in prior work, Miron et al., 2017; and .80 and .78 for the current study).

Demographics. Characteristics of the current relationship (duration in months, time spent with partner face-to-face, Internet and phone time) and preferences for romantic relationship duration (short term versus long term) was measured.

Planned Analyses

Use and importance of touch, sight, hearing, bodily sensations, and substitute channels within the relationship served as predictors of relationship satisfaction, liking, and passionate love. Scale scores for satisfaction and attraction were constructed by calculating the means of each of the respective measures within the survey.

Ten paired samples t-tests were conducted to examine the differences between reported importance and use of each sensory modality for males and females. Specifically, each paired samples t-test tested whether significant differences were present for each specific modality.

Twelve multiple regressions were conducted to examine the combination of fifteen interaction terms (modality use x modality importance for each channel) on satisfaction, passionate love, and liking for male and female partners. Specifically, each regression looked at the predictive effects of the importance and use of each of the five sensory modalities for either males or females, along with the interaction between use

and importance for each of these sensory channels for males and females on satisfaction, liking and passionate love for male and female partners.

It was expected that there would be a significant two-way interaction between self-use and other's importance for each of the sensory modalities on relationship satisfaction, liking, and passionate love (Figure 1) but because some modalities are more important than others, the interaction effects may be stronger for some modalities (e.g., touch) than from others (e.g., sight). There are no specific hypotheses about the size of these interaction effects.

The twelve following regression equations were tested for each of the three relationship outcomes (satisfaction, liking, and passionate love). An interaction term accompanied by a MF label indicates an interaction between Male self-rated importance and Female self-rated use for the specified sensory modality. Similarly, an interaction term accompanied by an FM label indicates an interaction between Female self-rated importance and Male use for the specified sensory modality, as illustrated below for four regression equations predicting Male Self Rated Satisfaction and Female Self-rated Satisfaction, respectively

$$\begin{aligned}
 1. \text{ Satisfaction}_{\text{Male}} = & \beta_1 \text{TouchImportance}_{\text{Male}} + \beta_2 \text{TouchUse}_{\text{Female}} + \\
 & \beta_3 \text{InteractionMFTouch} + \beta_4 \text{HearImportance}_{\text{Male}} + \beta_5 \text{HearUse}_{\text{Female}} + \\
 & \beta_6 \text{InteractionMFHear} + \beta_7 \text{SightImportance}_{\text{Male}} + \beta_8 \text{SightUse}_{\text{Female}} + \\
 & \beta_9 \text{InteractionMFSight} + \beta_{10} \text{BodilySensationsImportance}_{\text{Male}} + \\
 & \beta_{11} \text{BodilySensationsUse}_{\text{Female}} + \beta_{12} \text{InteractionMFBodilySensations} +
 \end{aligned}$$

$$\beta_{13}\text{SubstituteChannelImportance}_{\text{Male}} + \beta_{14}\text{SubstituteChanelUse}_{\text{Female}} + \beta_{15}\text{InteractionMFSubstituteChanel} \text{ (Equation 1)}$$

$$\begin{aligned} 2. \text{ Satisfaction}_{\text{Male}} = & \beta_1\text{TouchImportance}_{\text{Female}} + \beta_2\text{TouchUse}_{\text{Male}} + \\ & \beta_3\text{InteractionFMTouch} + \beta_4\text{HearImportance}_{\text{Female}} + \beta_5\text{HearUse}_{\text{Male}} + \\ & \beta_6\text{InteractionFMHear} + \beta_7\text{SightImportance}_{\text{Female}} + \beta_8\text{SightUse}_{\text{Male}} + \\ & \beta_9\text{InteractionFMSight} + \beta_{10}\text{BodilySensationsImportance}_{\text{Female}} + \\ & \beta_{11}\text{BodilySensationsUse}_{\text{Male}} + \beta_{12}\text{InteractionFMBodilySensations} + \\ & \beta_{13}\text{SubstituteChannelImportance}_{\text{Female}} + \beta_{14}\text{SubstituteChanelUse}_{\text{Male}} + \\ & \beta_{15}\text{InteractionFMSubstituteChanel} \text{ (Equation 2)} \end{aligned}$$

$$\begin{aligned} 3. \text{ Satisfaction}_{\text{Female}} = & \beta_1\text{TouchImportance}_{\text{Male}} + \beta_2\text{TouchUse}_{\text{Female}} + \\ & \beta_3\text{InteractionMFTouch} + \beta_4\text{HearImportance}_{\text{Male}} + \beta_5\text{HearUse}_{\text{Female}} + \\ & \beta_6\text{InteractionMFHear} + \beta_7\text{SightImportance}_{\text{Male}} + \beta_8\text{SightUse}_{\text{Female}} + \\ & \beta_9\text{InteractionMFSight} + \beta_{10}\text{BodilySensationsImportance}_{\text{Male}} + \\ & \beta_{11}\text{BodilySensationsUse}_{\text{Female}} + \beta_{12}\text{InteractionMFBodilySensations} + \\ & \beta_{13}\text{SubstituteChannelImportance}_{\text{Male}} + \beta_{14}\text{SubstituteChanelUse}_{\text{Female}} + \\ & \beta_{15}\text{InteractionMFSubstituteChanel} \text{ (Equation 3)} \end{aligned}$$

$$\begin{aligned} 4. \text{ Satisfaction}_{\text{Female}} = & \beta_1\text{TouchImportance}_{\text{Female}} + \beta_2\text{TouchUse}_{\text{Male}} + \\ & \beta_3\text{InteractionFMTouch} + \beta_4\text{HearImportance}_{\text{Female}} + \beta_5\text{HearUse}_{\text{Male}} + \\ & \beta_6\text{InteractionFMHear} + \beta_7\text{SightImportance}_{\text{Female}} + \beta_8\text{SightUse}_{\text{Male}} + \\ & \beta_9\text{InteractionFMSight} + \beta_{10}\text{BodilySensationsImportance}_{\text{Female}} + \\ & \beta_{11}\text{BodilySensationsUse}_{\text{Male}} + \beta_{12}\text{InteractionFMBodilySensations} + \end{aligned}$$

$$\beta_{13}\text{SubstituteChannelImportance}_{\text{Female}} + \beta_{14}\text{SubstituteChanelUse}_{\text{Male}} +$$

$$\beta_{15}\text{InteractionFMSubstituteChanel} \text{ (Equation 4)}$$

$$5. \text{Liking}_{\text{Male}} = \beta_1\text{TouchImportance}_{\text{Male}} + \beta_2\text{TouchUse}_{\text{Female}} + \beta_3\text{InteractionMFTouch}$$

$$+ \beta_4\text{HearImportance}_{\text{Male}} + \beta_5\text{HearUse}_{\text{Female}} + \beta_6\text{InteractionMFHear} +$$

$$\beta_7\text{SightImportance}_{\text{Male}} + \beta_8\text{SightUse}_{\text{Female}} + \beta_9\text{InteractionMFSight} +$$

$$\beta_{10}\text{BodilySensationsImportance}_{\text{Male}} + \beta_{11}\text{BodilySensationsUse}_{\text{Female}} +$$

$$\beta_{12}\text{InteractionMFBodilySensations} + \beta_{13}\text{SubstituteChannelImportance}_{\text{Male}} +$$

$$\beta_{14}\text{SubstituteChanelUse}_{\text{Female}} + \beta_{15}\text{InteractionMFSubstituteChanel} \text{ (Equation 5)}$$

$$6. \text{Liking}_{\text{Male}} = \beta_1\text{TouchImportance}_{\text{Female}} + \beta_2\text{TouchUse}_{\text{Male}} + \beta_3\text{InteractionFMTouch}$$

$$+ \beta_4\text{HearImportance}_{\text{Female}} + \beta_5\text{HearUse}_{\text{Male}} + \beta_6\text{InteractionFMHear} +$$

$$\beta_7\text{SightImportance}_{\text{Female}} + \beta_8\text{SightUse}_{\text{Male}} + \beta_9\text{InteractionFMSight} +$$

$$\beta_{10}\text{BodilySensationsImportance}_{\text{Female}} + \beta_{11}\text{BodilySensationsUse}_{\text{Male}} +$$

$$\beta_{12}\text{InteractionFMBodilySensations} + \beta_{13}\text{SubstituteChannelImportance}_{\text{Female}} +$$

$$\beta_{14}\text{SubstituteChanelUse}_{\text{Male}} + \beta_{15}\text{InteractionFMSubstituteChanel} \text{ (Equation 6)}$$

$$7. \text{Liking}_{\text{Female}} = \beta_1\text{TouchImportance}_{\text{Male}} + \beta_2\text{TouchUse}_{\text{Female}} +$$

$$\beta_3\text{InteractionMFTouch} + \beta_4\text{HearImportance}_{\text{Male}} + \beta_5\text{HearUse}_{\text{Female}} +$$

$$\beta_6\text{InteractionMFHear} + \beta_7\text{SightImportance}_{\text{Male}} + \beta_8\text{SightUse}_{\text{Female}} +$$

$$\beta_9\text{InteractionMFSight} + \beta_{10}\text{BodilySensationsImportance}_{\text{Male}} +$$

$$\beta_{11}\text{BodilySensationsUse}_{\text{Female}} + \beta_{12}\text{InteractionMFBodilySensations} +$$

$$\beta_{13}\text{SubstituteChannelImportance}_{\text{Male}} + \beta_{14}\text{SubstituteChanelUse}_{\text{Female}} +$$

$$\beta_{15}\text{InteractionMFSubstituteChanel} \text{ (Equation 7)}$$

8. $\text{Liking}_{\text{Female}} = \beta_1 \text{TouchImportance}_{\text{Female}} + \beta_2 \text{TouchUse}_{\text{Male}} +$
 $\beta_3 \text{InteractionFMTouch} + \beta_4 \text{HearImportance}_{\text{Female}} + \beta_5 \text{HearUse}_{\text{Male}} +$
 $\beta_6 \text{InteractionFMHear} + \beta_7 \text{SightImportance}_{\text{Female}} + \beta_8 \text{SightUse}_{\text{Male}} +$
 $\beta_9 \text{InteractionFMSight} + \beta_{10} \text{BodilySensationsImportance}_{\text{Female}} +$
 $\beta_{11} \text{BodilySensationsUse}_{\text{Male}} + \beta_{12} \text{InteractionFMBodilySensations} +$
 $\beta_{13} \text{SubstituteChannelImportance}_{\text{Female}} + \beta_{14} \text{SubstituteChanelUse}_{\text{Male}} +$
 $\beta_{15} \text{InteractionFMSubstituteChanel}$ (Equation 8)
9. $\text{PassionateLove}_{\text{Male}} = \beta_1 \text{TouchImportance}_{\text{Male}} + \beta_2 \text{TouchUse}_{\text{Female}} +$
 $\beta_3 \text{InteractionMFTouch} + \beta_4 \text{HearImportance}_{\text{Male}} + \beta_5 \text{HearUse}_{\text{Female}} +$
 $\beta_6 \text{InteractionMFHear} + \beta_7 \text{SightImportance}_{\text{Male}} + \beta_8 \text{SightUse}_{\text{Female}} +$
 $\beta_9 \text{InteractionMFSight} + \beta_{10} \text{BodilySensationsImportance}_{\text{Male}} +$
 $\beta_{11} \text{BodilySensationsUse}_{\text{Female}} + \beta_{12} \text{InteractionMFBodilySensations} +$
 $\beta_{13} \text{SubstituteChannelImportance}_{\text{Male}} + \beta_{14} \text{SubstituteChanelUse}_{\text{Female}} +$
 $\beta_{15} \text{InteractionMFSubstituteChanel}$ (Equation 9)
10. $\text{PassionateLove}_{\text{Male}} = \beta_1 \text{TouchImportance}_{\text{Female}} + \beta_2 \text{TouchUse}_{\text{Male}} +$
 $\beta_3 \text{InteractionFMTouch} + \beta_4 \text{HearImportance}_{\text{Female}} + \beta_5 \text{HearUse}_{\text{Male}} +$
 $\beta_6 \text{InteractionFMHear} + \beta_7 \text{SightImportance}_{\text{Female}} + \beta_8 \text{SightUse}_{\text{Male}} +$
 $\beta_9 \text{InteractionFMSight} + \beta_{10} \text{BodilySensationsImportance}_{\text{Female}} +$
 $\beta_{11} \text{BodilySensationsUse}_{\text{Male}} + \beta_{12} \text{InteractionFMBodilySensations} +$
 $\beta_{13} \text{SubstituteChannelImportance}_{\text{Female}} + \beta_{14} \text{SubstituteChanelUse}_{\text{Male}} +$
 $\beta_{15} \text{InteractionFMSubstituteChanel}$ (Equation 10)

$$\begin{aligned}
11. \text{PassionateLove}_{\text{Female}} = & \beta_1 \text{TouchImportance}_{\text{Male}} + \beta_2 \text{TouchUse}_{\text{Female}} + \\
& \beta_3 \text{InteractionMFTouch} + \beta_4 \text{HearImportance}_{\text{Male}} + \beta_5 \text{HearUse}_{\text{Female}} + \\
& \beta_6 \text{InteractionMFHear} + \beta_7 \text{SightImportance}_{\text{Male}} + \beta_8 \text{SightUse}_{\text{Female}} + \\
& \beta_9 \text{InteractionMFSight} + \beta_{10} \text{BodilySensationsImportance}_{\text{Male}} + \\
& \beta_{11} \text{BodilySensationsUse}_{\text{Female}} + \beta_{12} \text{InteractionMFBodilySensations} + \\
& \beta_{13} \text{SubstituteChannelImportance}_{\text{Male}} + \beta_{14} \text{SubstituteChanelUse}_{\text{Female}} + \\
& \beta_{15} \text{InteractionMFSubstituteChanel} \text{ (Equation 11)}
\end{aligned}$$

$$\begin{aligned}
12. \text{PassionateLove}_{\text{Female}} = & \beta_1 \text{TouchImportance}_{\text{Female}} + \beta_2 \text{TouchUse}_{\text{Male}} + \\
& \beta_3 \text{InteractionFMTouch} + \beta_4 \text{HearImportance}_{\text{Female}} + \beta_5 \text{HearUse}_{\text{Male}} + \\
& \beta_6 \text{InteractionFMHear} + \beta_7 \text{SightImportance}_{\text{Female}} + \beta_8 \text{SightUse}_{\text{Male}} + \\
& \beta_9 \text{InteractionFMSight} + \beta_{10} \text{BodilySensationsImportance}_{\text{Female}} + \\
& \beta_{11} \text{BodilySensationsUse}_{\text{Male}} + \beta_{12} \text{InteractionFMBodilySensations} + \\
& \beta_{13} \text{SubstituteChannelImportance}_{\text{Female}} + \beta_{14} \text{SubstituteChanelUse}_{\text{Male}} + \\
& \beta_{15} \text{InteractionFMSubstituteChanel} \text{ (Equation 12)}
\end{aligned}$$

To test Hypothesis Set 2 (“The longer the relationship duration, the greater the impact of similarity on liking and passionate love (Hypothesis 2A) and on satisfaction (Hypothesis 2B), length of the relationship was added in the regressions listed above to control for relationship length.

Chapter 3

Results

Differences in Sensory Modality Importance in Males and Females

Ten paired-samples t-tests were conducted to compare the importance and use of the five sensory modalities in males and females. Table 4 displays the mean values of sensory modality importance and sensory modality use reported by participants for each sensory modality in a rank order, from greatest to least. Examination of the descriptive statistics revealed that both males and females rated hearing as their most used and as the most important sensory modality. Similarly, males and females rated touch as the second most important sensory modality. However, discrepancies arose when examining the second through fifth most used and important modalities.

A paired-samples t-test was conducted to compare rated bodily sensation *importance* in females and males. There was a significant difference in the scores for females ($M = 5.85$, $SD = 1.45$) and males ($M = 5.33$, $SD = 1.66$); $t(84)=2.19$, $p = .031$. These results suggest that females rated bodily sensations as being more important in romantic relationships compared to males. A paired-samples t-test was conducted to compare rated bodily sensation *use* in females and males. There was a significant difference in the scores for females ($M = 6.91$, $SD = 1.32$) and males ($M = 6.23$, $SD = 1.53$); $t(84)=3.28$, $p = .002$. These results suggest that females reported using bodily sensations to a greater extent than males.

A paired-samples t-test was conducted to compare rated hearing *importance* in females and males. There was a significant difference in the scores for females ($M = 8.32$, $SD = .64$) and males ($M = 7.83$, $SD = 1.01$); $t(84)=3.43$, $p = 0.001$. These results suggest that females rated hearing as being more important in their romantic relationships as compared to males. A paired-samples t-test was conducted to compare rated hearing use in females and males. There was a significant difference in the scores for females ($M = 8.16$, $SD = .90$) and males ($M = 7.60$, $SD = 1.10$); $t(84)=4.12$, $p < 0.001$. These results suggest that females use hearing more in their romantic relationships as compared to males.

A paired-samples t-test was conducted to compare rated substitute channel *importance* in females and males. There was not a significant difference in the scores for females ($M = 5.06$, $SD = 1.52$) and males ($M = 4.94$, $SD = 1.68$); $t(84)=.51$, $p = .61$. Similarly, there was not a significant difference in rated substitute channel *use* scores for females ($M = 5.58$, $SD = 1.52$) and males ($M = 5.52$, $SD = 1.56$); $t(82)=.33$, $p = .74$.

A paired-samples t-test was conducted to compare rated sight *importance* in females and males. There was a significant difference in the scores for females ($M = 6.52$, $SD = 1.28$) and males ($M = 6.05$, $SD = 1.47$); $t(84)=2.37$, $p = .02$, with women rating sight as more important than men. A paired-samples t-test was conducted to compare rated sight *use* in females and males. There was a marginally significant difference in the scores for females ($M = 7.02$, $SD = 1.19$) and males ($M = 6.63$, $SD = 1.37$); $t(83)=1.96$, $p = .053$, with women using sight more than men.

A paired-samples t-test was conducted to compare rated touch *importance* in females and males. There was not a significant difference in the scores for females ($M = 7.06$, $SD = 1.21$) and males ($M = 6.85$, $SD = 1.31$); $t(84) = 1.18$, $p = .24$. Similarly, there was no significant difference in rated touch *use* scores for females ($M = 7.21$, $SD = 1.14$) and males ($M = 7.09$, $SD = 1.42$); $t(84) = .65$, $p = .52$.

In addition to the ten paired-samples t-tests conducted to look at differences between females and males in the self-rated *importance* and *use* of each sensory modality, three additional paired samples t-tests were conducted to examine whether females and males report differences in passionate love, liking and satisfaction (the main relationship outcomes). No significant differences were found, all p 's $> .41$. This suggests that although there were significant differences in sensory modality *importance* and *use*, there were no differences in the reported relationship outcomes as a function of the sex of the participant.

Predicting Relationship Outcomes Based on Differential Sensory Modalities

Orientations

Table 5 displays the zero-order correlations between the orientation difference scores and relationship outcomes for men (above the diagonal), and for women (below the diagonal). Twelve total multiple regressions were conducted to examine the impact of the sensory modalities on relationship outcomes. Four regression analyses were conducted for each relationship outcome (satisfaction, liking, and passionate love). For each relationship outcome, the different sensory modality scores were entered

simultaneously (see Equations 1-12). Table 6 displays the results of these regression analyses for men and women, separately.

Predicting Relationship Satisfaction for Males and Females

When predicting male satisfaction (Equation 1), there was no significant overall effect of the sensory modality *use* for females and the rated modality *importance* for males, $F(15, 66) = 1.42, p = .166$, adjusted $R^2 = .072$. Higher Hearing *Importance* for males predicted higher relationship satisfaction for males ($\beta = .28, t = 2.12, p = .038$), indicating the more *importance* men placed on hearing in their relationship, the higher satisfaction they reported.

When predicting male satisfaction (Equation 2), there was no significant overall effect of the sensory modality *use* for males and the rated modality *importance* for females on this measure, $F(15, 66) = 1.22, p = .277$, adjusted $R^2 = .040$. Higher Hearing *Use* for males predicted higher relationship satisfaction for males ($\beta = .29, t = 1.78, p = .08$; although the effect was marginally significant), indicating the more men used hearing in their relationship, the higher satisfaction they reported. Higher Sight *Use* for males predicted relationship satisfaction in males ($\beta = -.35, t = -1.67, p = .10$), although this relationship was only marginally significant. The interaction of hearing (male *use* and female *importance*) (see Figure 2), also positively and significantly predicted male satisfaction ($\beta = .27, t = 2.31, p = .024$). The significant interaction was followed up with a computation of simple slopes at 1 *SD* below and above the mean for Male Hearing *use*

(low vs. high Male hearing use groups) and simple slopes at 1 *SD* below and above the mean for Female Hearing *Importance* (low vs. high Female Hearing *Importance* groups).

When the male partners *use* hearing to a lesser extent in their relationship (low male hearing *use* group, computed at 1 *SD* below the mean for Male *Use* of Hearing), there was no difference in male satisfaction when hearing was important to their female partners ($M = 5.86$; low female *importance* group, computed at 1 *SD* below the mean for Female Hearing *Importance*) versus when hearing was less important to the female partners ($M = 6.08$; high female *importance* group, computed at 1 *SD* above the mean for Female Hearing *Importance*), $b = .11$, $SE = .13$, $t = 0.85$, $p = .40$.

When the male partners *use* hearing to a greater extent in their relationship (high male hearing *use* group computed at 1 *SD* above the mean for male *use* of hearing), males reported a similar level of satisfaction when hearing was important to women ($M = 6.29$) versus when hearing was less important to women ($M = 6.17$), $b = .06$, $SE = .13$, $t = .47$, $p = .64$.

When hearing was less important to women in their relationships (low female *importance* hearing group, computed at 1 *SD* below the mean for Female *Importance* of Hearing), there was no difference in male satisfaction as a function of the male *use* of hearing ($M = 5.86$; low male *use* groups, computed at 1 *SD* below the mean for Male Hearing *Use*) versus when hearing was less important to the female partners ($M = 7.71$; high male *use* group, computed at 1 *SD* above the mean for Male Hearing *Use*), $b = .18$, $SE = .13$, $t = 1.33$, $p = .18$.

When hearing was important to women in their relationships (high female *importance* group computed at 1 *SD* above the mean for Female *Importance* of Hearing), there was again no difference in male satisfaction as a function of male *use* of hearing regardless of if hearing was important to females ($M = 7.33$) versus less important to females ($M = 6.09$), $b = .12$, $SE = .14$, $t = .88$, $p = .38$. The non-significance of the simple slopes points to the poignancy of the main effect of Male Hearing *Use*, as described above (i.e., men are more satisfied when they use hearing more often).

When predicting female satisfaction (Equation 3), there was a significant overall effect of the sensory modality *use* for females and the rated modality *importance* for males, $F(15, 66) = 2.31$, $p = .01$, adjusted $R^2 = .195$. Higher Hearing *use* for females predicted higher relationship satisfaction for females ($\beta = .35$, $t = 2.61$, $p = .011$), indicating the more females used hearing in their relationship, the higher satisfaction they reported. The interaction of female *use* and male *importance* of substitute channels (see Figure 3) also positively predicted female satisfaction ($\beta = .30$, $t = 2.71$, $p = .009$).

When their male partners rated the substitute channels as less important in their relationships (low male substitute channel *importance*, computed at 1 *SD* below the mean on Male Substitute Channel *Importance*), female relationship satisfaction was not a significant function of female *use* of the substitute channel when substitute channels were used to a greater extent ($M = 6.08$) versus when substitute channels were used to a lower extent ($M = 6.07$), $b = .005$, $SE = .08$, $t = .06$, $p = .95$.

However, when male partners rated the substitute channel as more important to them (high male substitute channel *importance* group computed at 1 *SD* above the mean

for male *importance* of substitute channels), women are more satisfied when they use substitute channels to a greater extent ($M = 6.46$) than when they use substitute channels to a less extent ($M = 5.60$), $b = .29$, $SE = .08$, $t = 3.77$, $p < .001$.

When the female partners *use* substitute channels to a lesser extent in their relationship (high female substitute channels *use* group computed at 1 *SD* below the mean for female *use* of substitute channels), females reported more satisfaction when substitute channels was important to the male partners ($M = 6.07$) versus when substitute channels was less important to the male partners ($M = 5.60$), $b = -.14$, $SE = .07$, $t = -1.95$, $p = .06$.

When the female partners *use* substitute channels to a greater extent in their relationship (high female substitute channels *use* group computed at 1 *SD* above the mean for female *use* of substitute channels), females reported a similar level of satisfaction when substitute channels was important to them ($M = 6.08$) versus when substitute channels was more important to them ($M = 6.46$), $b = .11$, $SE = .07$, $t = 1.57$, $p = .12$.

When predicting female satisfaction (Equation 4), there was no significant overall effect of the sensory modality *use* for males and the rated modality *importance* for females, $F(15, 66) = 1.54$, $p = .118$, adjusted $R^2 = .09$. Higher bodily sensation *use* for males predicted higher relationship satisfaction for females ($\beta = .44$, $t = 2.45$, $p = .017$), indicating that the more males used bodily sensations in their relationship, the higher satisfaction females reported. The interaction (Figure 4) of male *use* and female *importance* of hearing also predicted female satisfaction ($\beta = .272$, $t = 2.40$, $p = .019$).

When the male partners *use* hearing to a lesser extent in their relationship (low male hearing *use* group, computed at 1 *SD* below the mean for Male *Use* of Hearing), there were no differences in female satisfaction as a function of female hearing *importance* when hearing was important ($M = 6.10$) versus when hearing was less important to them ($M = 5.83$), $b = -.21$, $SE = .18$, $t = -1.16$, $p = .25$.

When the male partners *use* hearing to a greater extent in their relationship (high male hearing *use* group computed at 1 *SD* above the mean for Male *use* of hearing), females are more satisfied when hearing was important for women ($M = 6.48$) versus when hearing was less important for women ($M = 5.86$), $b = .49$, $SE = .17$, $t = 2.82$, $p < .01$.

When women reported lower Hearing *Importance*, female relationship satisfaction was not a function of male *use* of hearing ($M = 6.10$ for high male *use* versus $M = 5.86$ for low male hearing *use*), $b = -.11$, $SE = .10$, $t = -1.04$, $p = .30$.

When hearing was rated as more important by women, women were more satisfied when men used hearing to a greater extent ($M = 6.48$) than when men used hearing to a lower extent ($M = 5.83$), $b = .30$, $SE = .10$, $t = 2.86$, $p = .005$.

Hearing, sight, and substitute channels predict satisfaction. Within the significant main effects, male hearing importance and male hearing use significantly predicted male satisfaction. The interaction of female hearing importance and male use predicted female satisfaction, whereas this same interaction also predicted female satisfaction. Female satisfaction is also predicted by female importance of hearing under conditions of high male use and predicted by male use under high female importance of hearing. When

examining sight, male satisfaction is significantly predicted by high male sight use.

Within the modality of substitute channels, female satisfaction can be predicted by the female use of sight under conditions of high male importance and was a function of female importance of sight under low female use of sight.

Predicting Liking for Males and Females

When predicting male liking (Equation 5), there was no significant overall effect of the sensory modality *use* for females and the rated modality *importance* for males, $F(15, 64) = 1.29, p = .24$, adjusted $R^2 = .051$. Higher Hearing *importance* for males predicted higher relationship satisfaction for males ($\beta = .35, t = 2.52, p = .014$) indicating the more importance men placed on hearing in their relationship, the higher satisfaction they reported.

When predicting male liking (Equation 6), there was no significant overall effect of the sensory modality *use* for males and the rated modality *importance* for females, $F(15, 64) = 1.79, p = .055$, adjusted $R^2 = .131$. Higher sight *importance* for females predicted higher liking for males ($\beta = .41, t = 2.34, p = .02$), indicating the more importance females placed on sight in their relationship, the higher liking males reported. Higher substitute channel *importance* for females also predicted liking for males ($\beta = -.30, t = -2.15, p = .035$), indicating that the more importance females placed on substitute channels in their relationship, the less liking males reported. The interaction (Figure 5) of male *use* and female *importance* of hearing predicted male liking ($\beta = .23, t = 2.04, p =$

.045). The interaction (Figure 6) of male *use* and female *importance* of sight also predicted male liking ($\beta = .31, t = 2.54, p = .013$).

When the male partners *use* hearing to a lesser extent in their relationship (low male hearing *use* group, computed at 1 *SD* below the mean for Male *Use* of Hearing), men reported higher liking when their female partners rated hearing as more important ($M = 9.46$) versus as less important ($M = 9.01$), $b = -.35, SE = .17, t = -2.08, p = .04$.

When male partners *use* hearing to a greater extent, male satisfaction was not a significant function of female Hearing *Importance*, regardless of whether female hearing was less important ($M = 9.38$) versus more important, $M = 9.68$), $b = .23, SE = .16, t = 1.44, p = .15$.

When women rated Hearing as less important, male liking was not a function of male *use* of hearing regardless of whether males used hearing to a greater extent ($M = 9.46$) or lesser extent ($M = 9.38$), $b = -.03, SE = .10, t = -.34, p = .73$.

When women rated Hearing as more important, men report more liking of their female partners when they themselves *use* hearing to a greater extent ($M = 9.68$) than when they *use* hearing to a lesser extent ($M = 9.01, b = .31, SE = .09, t = 3.22, p = .002$).

When men *use* sight to a lesser extent in their relationship (low male sight *use* group, computed at 1 *SD* below the mean for Male *Use* of Sight), there was no difference in female liking as a function of female *importance* of sight, regardless of whether sight was important ($M = 9.38$) or less important ($M = 9.20$) to females, $b = -.07, SE = .08, t = -.85, p = .40$.

When men *use* sight to a higher extent, men reported more liking of their female partners when sight was more important ($M = 9.83$) to their female partners than when sight was less important ($M = 9.28$) to their female partners, $b = .21$, $SE = .09$, $t = 2.34$, $p = .02$.

When women rated sight as less important, male liking was not a function of male sight *use*, regardless of whether sight was used more ($M = 9.38$) or less by men ($M = 9.28$), $b = -.04$, $SE = .11$, $t = -.34$, $p = .74$.

When females rated sight was more important, males reported more liking when they used sight to a greater extent ($M = 9.83$) than when they used sight to a lesser extent ($M = 9.20$), $b = .23$, $SE = .03$, $t = 7.08$, $p < .001$.

When predicting female liking (Equation 7), there was a significant overall effect of the sensory modality *use* for females and the rated modality *importance* for males, $F(15, 66) = 2.03$, $p = .03$, adjusted $R^2 = .16$. Higher touch *use* for females predicted higher liking for females ($\beta = .40$, $t = 2.48$, $p = .016$), indicating that the more females used touch in their relationship, the higher liking they reported. Higher bodily sensation *use* for females also predicted liking for females ($\beta = -.29$, $t = -1.71$, $p = .093$), indicating that the more females used bodily sensations in their relationship, the less liking they reported. The interaction (Figure 7) of female *use* and male *importance* of substitute channels also predicted female satisfaction ($\beta = .28$, $t = 2.45$, $p = .017$).

When the female partners *use* substitute channels to a lesser extent in their relationship (low female substitute channel *use* group, computed at 1 *SD* below the mean for Female *Use* of Substitute channels), female partners reported somewhat greater liking

when substitute channels were important to them ($M = 9.51$; high male importance group, computed at 1 *SD* below the mean for Male Substitute Channel *Importance*) versus when substitute channels were less important to the male partners ($M = 9.11$; low male *importance* group, computed at 1 *SD* above the mean for Male Substitute channels *Importance*), $b = -.12$, $SE = .07$, $t = -1.82$, $p = .07$.

When women used the substitute channels to a greater extent in their relationship, they experienced higher liking for their male partners when the substitute channels were more important to their male partners ($M = 9.79$) than when the substitute channels were less important ($M = 9.28$) to their male partners, $b = .15$, $SE = .06$, $t = 2.31$, $p = .02$.

When males rated substitute channels as less important, female liking was not a function of female *use* of hearing, regardless of whether females used substitute channels to a greater ($M = 9.50$) or lesser ($M = 9.30$) extent, $b = -.07$, $SE = .08$, $t = -.86$, $p = .39$.

When males rated the substitute channels as more important, females reported more liking of their male partners when women used the substitute channels to a greater extent ($M = 9.77$) than when they *use* the substitute channels to a less extent ($M = 9.13$), $b = .21$, $SE = .08$, $t = 2.80$, $p = .006$.

When predicting female liking (Equation 8), there was no significant overall effect of the sensory modality *use* for males and the rated modality *importance* for females, $F(15, 66) = 1.52$, $p = .124$, adjusted $R^2 = .088$. Higher bodily sensation *importance* for females predicted higher liking for females ($\beta = .30$, $t = 1.82$, $p = .074$), indicating that the more *importance* females placed on bodily sensations in their relationship, the higher liking they reported. Higher substitute channel *use* for males

predicted higher liking for females ($\beta = .37, t = 2.55, p = .013$) indicating that the more males used substitute channels in their relationship, the higher liking females reported.

Liking is predicted by all five sensory modalities (touch, hearing, sight, bodily sensations and substitute channels). Within the significant main effects, female bodily sensation importance and female bodily sensation use significantly predicted female liking. Within the significant main effects, male hearing importance significantly predicted male liking. Additionally, significant main effect of female touch use predicts female liking. The interaction of female hearing importance and male hearing use predicted male liking. This same interaction within sight, female importance of sight and male use of sight, also predicted male liking. However, within substitute channels, the interaction of male importance and female use predicted female liking. Male liking is also predicted by low male use of hearing under conditions of low versus high female importance of hearing. Within hearing, male liking is also predicted by high female importance as a function of low versus high male use. When examining sight, male satisfaction is significantly predicted by high male sight use. Within the modality of sight, male liking can be predicted by the female importance of sight under conditions of high male use and was a function of female importance of sight under high versus low male use of sight.

Predicting Passionate Love for Males and Females

When predicting male passionate love (Equation 9), there was a significant overall effect of the sensory modality *use* for females and the rated modality *importance*

for males, $F(15, 66) = 2.21, p = .014$, adjusted $R^2 = .183$. Higher Hearing *importance* for males predicted higher passionate love for males ($\beta = .33, t = 2.66, p = .01$) indicating the more *importance* men placed on hearing in their relationship, the higher passionate love they reported. The interaction (Figure 8) of bodily sensations (female *use* and male *importance*) also predicted male passionate love ($\beta = -.25, t = -2.09, p = .04$).

When the female partners *use* bodily sensations to a lesser extent in their relationship (low female bodily sensations *use* group, computed at 1 *SD* below the mean for Female *Use* of Bodily sensations), male partners reported greater passionate love when bodily sensations were important to them ($M = 9.30$; high male *importance* group, computed at 1 *SD* above the mean for Male Bodily Sensations *Importance*) versus when bodily sensations were less important to the male partners ($M = 7.81$; low male *importance* group, computed at 1 *SD* below the mean for Male Bodily Sensations *Importance*) $b = .45, SE = .13, t = 3.43, p = .001$.

When women used bodily sensations to a higher extent, men's passionate love was not a function of male Bodily Sensations *Importance*, regardless of whether the substitute channels were rated as more important to the males ($M = 8.82$) or less important ($M = 8.51$), $b = -.09, SE = .13, t = -.71, p = .48$.

When men rate bodily sensations as less important, males passionate love was higher when their female partners used the bodily sensations channel to a greater extent ($M = 8.82$) versus when their female partners used the bodily sensations channel to a less extent ($M = 7.81$), $b = .38, SE = .16, t = 2.37, p = .02$.

When men rated bodily sensations as more important, men report somewhat more passionate love when females *use* bodily sensations to a greater extent ($M = 9.30$) than when they *use* bodily sensations to a lesser extent ($M = 8.51$), $b = -.30$, $SE = .16$, $t = -1.79$, $p = .08$.

When predicting male passionate love (Equation 10), there was not a significant overall effect of the sensory modality *use* for males and the rated modality *importance* for females, $F(15, 66) = 1.58$, $p = .105$, adjusted $R^2 = .097$. Higher substitute channel *use* for males predicted higher passionate love for males ($\beta = .25$, $t = 1.68$, $p = .097$) indicating the more males used substitute channels in their relationship, the higher passionate love males reported.

When predicting female passionate love (Equation 11), there was a significant overall effect of the sensory modality *use* for females and the rated modality *importance* for males, $F(15, 66) = 2.59$, $p = .004$, adjusted $R^2 = .228$. Higher hearing *use* for females predicted higher passionate love for females ($\beta = .25$, $t = 1.92$, $p = .059$) indicating the more females used hearing in their relationship, the higher passionate love they reported. The interaction (Figure 9) of female *use* and male *importance* of substitute channels also predicted female passionate love ($\beta = .19$, $t = 1.73$, $p = .088$), although this interaction effect was marginally significant.

When the female partners *use* substitute channels to a lesser extent in their relationship (low female substitute channel *use* group, computed at 1 *SD* below the mean for Female *Use* of Substitute channels), there was no effect of Male Substitute Channel *Importance* on Female Passionate Love, regardless of whether the substitute channels

were rated as more important ($M = 8.26$) or less important ($M = 7.90$) by men, $b = -.11$, $SE = .12$, $t = -.87$, $p = .39$.

Similarly, when the female partners used the substitute channels to a greater extent, female passionate love was not a function of male substitute channel *importance*, regardless of whether male substitute channels were rated as less important ($M = 8.98$) or more important ($M = 9.39$), $b = .12$, $SE = .13$, $t = .93$, $p = .35$.

When men rated the substitute channels as less important, their female partners reported somewhat higher passionate love when men used the substitute channel to a greater extent ($M = 8.98$) than when men used the substitute channels to a lesser extent ($M = 8.26$, $b = .24$, $SE = .14$, $t = 1.66$, $p = .10$). When men rated the substitute channels as more important, their female partners reported higher passionate love when men used the substitute channel to a lesser extent ($M = 7.90$) than when men used the substitute channels to a greater extent ($M = 9.39$), $b = .49$, $SE = .14$, $t = 3.44$, $p < .001$.

When predicting female passionate love (Equation 12), there was no significant overall effect of the sensory modality *use* for males and the rated modality *importance* for females, $F(15, 66) = 1.46$, $p = .146$, adjusted $R^2 = .079$. Higher substitute channel *use* for males predicted higher passionate love for females ($\beta = .33$, $t = 2.28$, $p = .026$) indicating the more males used substitute channels in their relationship, the higher passionate love their female partners reported.

Passionate love is predicted by hearing, bodily sensations, and substitute channels. Within the significant main effects, female hearing use and male use of substitute channels predicts female passionate love whereas male hearing importance and

male use of substitute channels predicts male passionate love. The interaction of male bodily sensation importance and female use of bodily sensations predicted male passionate love. The interaction of male importance of substitute channels and female use of substitute channels predicted female passionate love. Both male and female passionate love are predicted by high male importance of bodily sensations under conditions of low versus high male use of bodily sensations.

Table 6 provides a summary of the significant and marginally significant main effects and interactions.

Predicting Relationship Outcomes when including Relationship length

Relationship length did not significantly contribute to the regression model predicting satisfaction, passionate love, or liking, all p 's $> .15$, all β 's $< .18$.

Chapter 4

Discussion

The data suggest partial support for hypothesis 1. It was found that reported relationship satisfaction, liking, and passionate love were all predicted by the combined importance and use of various sensory modalities. Partners' use-importance compatibility with regard to *hearing* (7 significant interactions and significant slopes) and *substitute channels* (8 significant interactions and significant slopes) and to some lesser extent compatibility in *sight* (3 significant interaction and significant slopes) predicted either satisfaction, liking, and passionate love. However, compatibility in touch and bodily sensations did not significantly predict relationship outcomes for males or females (compatibility in bodily sensations predicted relationship outcomes only once). Females satisfaction, liking and passionate love were primarily predicted by bodily sensations and substitute channels, while male's satisfaction, liking and passionate love were predicted by multiple sensory modalities (hearing, sight, bodily sensations). These findings partially replicate prior work by Miron et al. (2018) that found that a higher hearing orientation was an important determinant of liking, passionate love, and satisfaction for female partners, whereas higher orientation toward bodily sensation (and toward touch) was a predictor of male relationship outcomes. In the current study, no support was found that relationship length influences modality use or relationship outcomes because including relationship length in each of the 12 regressions did not change the patterns of results.

Overall, it appears that men and women prefer different sensory modalities in their romantic interactions, as for men, compatibility in hearing, sight, and bodily sensations influenced their relationship outcomes, whereas for women, compatibility in hearing and the substitute channels affected their relationship satisfaction. These findings point to a division of the sensory modalities within heterosexual couples to maintain committed and satisfying relationships but also to similarity in importance of hearing for both male and female partners.

Past work has shown that the modality of substitute channels is most frequently used by women, who utilize it more often than men (smelling and sleeping with or in the clothing of the partner; McBurney, Shoup, & Streeter, 2006; Shoup, Streeter, & McBurney, 2008). Similarly, the substitute channels are often used as a coping mechanism to manage physical distance in the relationship (Jurkane-Hobein, 2015) or to comfort themselves (Shoup et al., 2008). The current study's results indicated that female's satisfaction, liking, and passionate love were all predicted by partners' compatibility in substitute channels. Further work should investigate the role that substitute channels play in maintaining heterosexual relationships, particularly in long-distance relationships, in which frequent face-to-face interactions are not possible.

When entering the interaction of importance of a sensory modality along with use of a sensory modality into the model, interaction terms reflect how these two variables, combined, influence relationship outcomes. Inconsistent with prior research (Miron et al., 2018), male partners higher valuing of hearing positively predicted satisfaction and liking. Replicating this prior work female partners higher valuing of hearing predicted

their own relationship satisfaction, along with male liking. These findings are important as they provide alternative explanations for the assumption that women are assigned the role of listeners and communicators, relying on the verbal domain in interactions with male partners. This suggests that men also may rely on hearing to sustain commitment within their romantic relationship. Acitelli (1992) found that wives' relationship talk did not predict their own marital wellbeing, whereas husbands' relationship talk positively predicts the wives' marital wellbeing. However, Acitelli (1992) found that husbands' marital satisfaction was not related to either spouses' relationship talk. This finding by Acitelli (1992) is inconsistent with the current main effect findings that hearing predicted male partners' relationship satisfaction, liking, and passionate love and that hearing positively predicted female relationship satisfaction and passionate love. These main effects for hearing are accompanied by significant interaction effects and slope effects suggesting that hearing positively predicts male and female satisfaction and male liking as a function of male use and female importance of hearing (see Table 6).

Touch

Although touch and physical affection are heavily studied in the literature (Debrot et al., 2013; Gullledge et al., 2003; Vannier et al., 2016), the impact of touch as a singular modality appears to hold more magnitude when touch is integrated into a transactional model. A transactional model was proposed by Miron et al. (2018) to explain how romantic partners interact by embracing and managing different sensory domains. The work by Miron and colleagues (2018) suggests that sensory modalities may have stronger

effects when used together as opposed to in isolation. In the current study, touch significantly predicted female liking through female touch use (i.e., higher female touch use predicted higher female liking of their male partners). This indicates that although touch is important for romantic relationships, when comparing touch to other sensory modalities that could be used within a romantic partnership, other modalities may take precedence.

Hearing

Higher Hearing importance for males predicted higher passionate love for both females and males indicating the more importance they placed on hearing in their relationship, the higher passionate love they reported for their partners. This suggests that relationship outcomes are a function of the hearing modality for both males and females. Across satisfaction, liking, and passionate love for both males and females, the hearing modality appeared to be an important influence.

Ultimately, the cornerstone of relationships is communication. The act of listening in relationships, both interpersonal and romantic, is fundamental and overwhelmingly important. Doell (2003) differentiates between two types of listening, “listening to understand,” and “listening to respond.” This suggests that although hearing does influence relationship satisfaction, there may be different kinds of hearing that may be more influential. Doell (2003) found specifically that partners who “listen to understand” report more relationship satisfaction than those who “listen to respond.” Listening to understand requires being actively engaged in the conversation and thinking about what

the partner is communicating from the partner's perspective as opposed to own perspective. Future work should integrate the distinction between these types of listening into the conceptualization of the Hearing sensory channel.

Sight

Sight use/importance was found to be a significant predictor of male relationship outcomes. Specifically, it was found that female sight importance significantly predicted male liking, whereas male sight use significantly predicted male satisfaction. Similarly, the interaction of female sight importance/male sight use was found to significantly predict male liking.

The finding that sight affects relationship outcomes begs an answer to the question "Is love at first sight" a real concept. This age-old relationship cliché asserts the idea that romantic storylines and happy endings are formed based off two strangers seeing one another and forming an instant attraction, simply based on one glance. Zsok, Haucke, De Wit, and Barelds (2017) recently followed up on the concept of love at first sight to empirically test previous claims. Researchers found that men report love at first sight more than women do. Interestingly, this aligns with the current study finding that male relationship outcomes are strongly determined by sight.

Ultimately, the findings regarding sight may be explained from an evolutionary perspective of relating and forming romantic bonds for the purpose of reproduction. For instance, evolutionary biologist, Charles Darwin proposed that sexual selection (seeking desirable traits in a partner) was an important alternative to natural selection. Specifically,

it has been proposed that the development of female secondary sexual characteristics can be used both for competition with other females and for making oneself more attractive to males, underscoring the importance of “looks” in the formation of a romantic relationship (Snowdon, 2013).

Bodily Sensations

Female relationship outcomes appeared to be influenced by female use and female importance of bodily sensations. For instance, female liking was predicted by both female importance and female use, separately. Additionally, female satisfaction was predicted by male use of bodily sensations. The interaction of male bodily sensation importance/female bodily sensation use also significantly predicted male passionate love.

When predicting female liking, higher bodily sensation importance for females predicted liking for females, indicating the more importance they placed on bodily sensations in their relationship, the higher liking they reported. Similarly, when predicting female liking, higher bodily sensation use for females predicted liking for females indicating the more they used bodily sensations in their relationship, the higher liking they reported. Additionally, when predicting female satisfaction, higher bodily sensation use for males predicted satisfaction for females indicating the more males used bodily sensations in their relationship, the higher satisfaction females reported.

Bodily sensations include but are not limited to smelling the other’s scent, feeling the texture of the partner’s hands, face, or hair, and feeling his/her body warmth. Though these may be important contributors in predicting relationship outcomes, the lower scores

of importance and use of this sensory modality may manifest through higher importance of other sensory modalities.

Substitute Channels

Both males and females rated substitute channels as least important when assessing rankings based off descriptive statistics. However, male use of substitute channels significantly predicted female liking, male passionate love, and female passionate love. Additionally, female importance of substitute channels predicted male liking. When examining the interaction of substitute channels, male importance/female use predicted female satisfaction, female liking, and female passionate love. This suggests that when the male partners use substitute channels to a greater extent in their relationship, love that is more passionate is reported for both males and females, and females report more liking.

Similar to bodily sensations, substitute channels focus on the actions/emotions of the experience, not the experience itself. Although substitute channels predict relationship outcomes, they are not the most used or most important as rated by males and females. Although the low ranking for importance and use could be due to a variety of reasons, no distinction was made in this study between relationship-maintenance versus relationship-initiation intimate behaviors and these different behaviors may be affected differentially by the use of various channels. Perhaps touch, sight, and hearing serve as relationship initiation behaviors for when the partners are physically in the same space, whereas

bodily sensations and substitute channels serve as maintenance behaviors for when the couple is unable to be together.

For instance, over the past decade texting has become a major source of communication in relationships. Coyne, Stockdale, Busby, Iverson, and Grant (2011) found that younger adults text their partner more than older adults. However, in a sample of romantic partners used by 90% of adults reported texting their partner at least once per day. However, texting lacks the same contextual information that a face-to-face meeting provides, thus leaving many partners dissatisfied with the interaction (Schade, Sandberg, Bean, Busby & Coyne, 2013). Coyne et al. (2011) found that often texting is now used in new relationships to make difficult conversations easier. This may suggest that relationship length may affect behaviors used in relationships that rely on the substitute channel (relating to the partner versus mediated communication). However, we did not find that relationship length (low length versus high length) affected the regression results, although we examined relationship length as a potential covariate as opposed to as a moderating variable (which would have involved computing two- and three-way interactions with the other predictors). The studies on texting suggest support for the current findings underscoring the importance of the substitute channels. Nevertheless, although substitute channels play an important role in relationship outcomes (particularly relationship development), they may not serve as strong a function as other modalities such as touch, hearing, and sight, which all require face-to-face interactions.

Limitations, Implications and Future Work

Self-report questionnaires are widely used and accepted in behavioral research; however, the use of self-report questionnaires is a limitation of the current study. During data collection, the questionnaire was revised to include two open-ended questions at the end of the survey (“Where did you meet your partner (please be as specific as possible)?”) and “What are some activities you and your partner did together last week?”). These questions were added in response to concern over the honesty of participants. Future studies would benefit from having participants report actual behavior. These studies could use diary methods to gain insight into important relationship trends over a period of time.

Prior research has focused on singular sensory modalities, often placing emphasis on singular behaviors and the impact of these modalities on relationship outcomes (e.g., Touch or Hearing). Current findings suggest that although the sensory modalities each contributed a portion towards relationship outcomes, there may also be varying importance of the individual sensory modalities by participant sex. For instance, results show that males and females differ significantly in their ratings of importance and use of various sensory channels. In general, the findings of the paired samples t-tests suggest that men and women significantly differ in their self-rating of the importance of hearing, sight, and bodily sensations, whereas men and women did not significantly differ about importance of touch and substitute channels. Interestingly, hearing is ranked as the most important sensory modality by both males and females (see Table 1), whereas substitute

channels are ranked as the least important sensory modality by both males and females, indicating that touch is universally perceived as important by men and women.

Similarly, the current study only captures a brief instance in the couple's behavior dynamics. Implementation of a longitudinal study design would more accurately assess how sensory behaviors change over time in response to various events and stressors. A longitudinal study may also predict relationship satisfaction and attraction with more accuracy, since attitudes may stabilize over time, instead of being heavily influenced by the current state of the relationship.

This work provides foundational support in identifying the predicted effects of partner compatibility of sensory orientations of heterosexual male and female intimates on relationship satisfaction, liking, and passionate love. Results also have important implications for couples and marriage therapy/counseling. The current study provides evidence that males and females' relationship outcomes are affected differently by sensory modalities. Specifically, satisfaction, passionate love, and liking are differentially influenced by various sensory modalities for men and women. Thus, a model of therapy that treats just one modality (e.g., verbal communication; i.e., hearing use and/or hearing importance) may be unsuccessful for one of the partners for whom that sensory channel is not important. Similarly, models that treat men and women as equals in therapy may also be ineffective, as the current study showed that men and women place different importance on sensory modalities and report using various modalities to a differing extent in their own romantic relationships.

Benson, McGinn, and Christensen (2012) proposed that couples therapy has five common principles: (1) helping the couple to make the problem more objective, contextualized and dyadic, (2) decreasing dysfunctional behaviors that is driven by emotions, (3) bringing out behaviors that is emotion-based, avoided and/or private, (4) increase communication and (5) emphasize strengths of relationship. When examining different methods of couples therapy and the efficacy of the treatments, Shadish and Baldwin (2003) found that no significant differences in the treatments or efficacy were present. This suggests that although it is thought that couples therapy is targeting different modalities, current methods may rely on similar principles to change the situation. The current study emphasizes the importance of targeting different modalities for therapy, suggesting that relationship outcomes are a function of various sensory modalities that account for a variety of behaviors in romantic relationships. Similarly, the current study found that within the modalities, participant sex is at play, providing stronger support for targeting males and females different within the therapy scenario. Along with this, it was found that males and females rate the importance and use for sensory modalities differently. Thus, more work is needed to assess whether participant sex influences the efficacy of marital counseling. Future work on marital counseling may safely target sex differences in hearing, touch, or sight. These sensory modalities from the current study have been found to affect relationship outcomes differentially for males and females based on the importance and use of a modality by the partner.

Future work would also benefit from assessing the current study's concepts in diverse populations, such as those in the sexual minority or non-western cultures. This

would provide information as to how modalities are impacted in a non-male/female dyad, addressing the actual use and importance of each modality in a female/female or male/male relationship.

Conclusions

Overall, the current study aimed to address the interactive effects of sensory modalities of relating on romantic relationship outcomes (satisfaction, liking, and passionate love). Results indicated that interactive effects exist with males and females utilizing sensory modalities in different ways through actual use and rated importance. Importantly, it was shown that relationship length does not influence the interactive effects of sensory modalities, suggesting that relationship outcomes are not a function of relationship duration. More specifically, in the current study it has been shown that use and importance of sensory modalities are tied to relationship outcomes, such as satisfaction, liking, and passionate love for both males and females. Ultimately, the current study is useful in two main areas. First, more research on the function of sensory modalities on relationship outcomes is needed to learn how romantic partners could benefit from understanding their own use of sensory modalities in their personal romantic relationship. Second, future research could aim to improve relationship functioning through knowledge of how one's own personal sensory romantic interaction style is compatible with their partner's interaction style. This would enable romantic partners to take better control of their romantic relationship through understanding what their partner wants and needs.

Tables

Table 1.

The effects of partner-reported importance and self-reported use of the specific modalities on relationship satisfaction

	Low Partner Importance	High Partner Importance
Low Self Use	High	Low
High Self Use	Low	High

Table 2.

The effects of partner-reported importance and self-reported use of the specific modalities on passionate love.

	Low Partner Importance	High Partner Importance
Low Self Use	High	Low
High Self Use	Low	High

Table 3.

The effects of partner-reported importance and self-reported use of the specific modalities on liking.

	Low Partner Importance	High Partner Importance
Low Self Use	High	Low
High Self Use	Low	High

Table 4.
Ranking of Importance and Actual Use of the Five Sensory Modalities broken down by gender.

Importance	<i>M (SD)</i>	Use	<i>M (SD)</i>
Males			
1. Hearing	7.81 (.98)	1. Hearing	7.67 (1.07)
2. Touch	6.85 (1.28)	2. Sight	6.63 (1.35)
3. Sight	6.07 (1.43)	3. Touch	7.04 (1.43)
4. Bodily Sensations	5.37 (1.62)	4. Substitute Channels	5.55 (1.52)
5. Substitute Channels	4.92 (1.67)	5. Bodily Sensations	6.28 (1.56)
Females			
1. Hearing	8.31 (.65)	1. Hearing	8.10 (.92)
2. Touch	7.08 (1.25)	2. Touch	7.25 (1.18)
3. Sight	6.61 (1.33)	3. Sight	7.08 (1.20)
4. Bodily Sensations	5.92 (1.43)	4. Bodily Sensations	6.93 (1.34)
5. Substitute Channels	5.20 (1.57)	5. Substitute Channels	5.80 (1.52)

Note: $N = 82$ males and $N = 82$ females. Measure for importance and use range in magnitude from 1 to 9. For rated importance of a specific sensory modality, respondents are asked to respond using a 1 (Not at all important) to 9 (Extremely Important) Scale. For actual use of a specific sensory modality, respondents are asked to use a 1 (Not at All) to 9 (Very Often) scale, with a mid-anchor point at 5/6 (Moderately Often).

Table 5.
Correlations among Sensory Orientations, Sensory Importance Scores, and Relationship Outcomes for Men and Women.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Satisfaction	1.00	.45**	.28**	.42**	-.05	-.02	.13	.31**	.17*	.23*	.07*	.20†	.14
2. Passionate Love	.47**	1.00	.75**	.78**	.04	.27**	.09	.23**	.12	.12	.11	.43**	.07
3. Liking	.55**	.67**	1.00	.78**	.11	.41**	.02	.29**	.06	.13	.07	.41**	.03
4. Substitute Channel Importance	-.11	.24*	.01	1.00	-.11	.17	.01	.29**	.11	.08	.01	.21*	-.05
5. Substitute Channel Use	.11	.37**	.19†	.78**	1.00	.66**	.44**	.22*	.42**	.34**	.22*	.35**	.59**
6. Touch Importance	-.07	.25*	.06	.44**	.27**	1.00	.26*	.29**	.13	.22*	.23*	.48**	.44**
7. Touch Use	.27**	.22*	.13	.19†	.32**	.52**	1.00	.53**	.68**	.50**	.48**	.37**	.62**
8. Bodily Sensation Importance	-.07	.20†	-.08	.50**	.34**	.68**	.39**	1.00	.27**	.67**	.21†	.42**	.34**
9. Bodily Sensation Use	.25*	.32**	.18†	.34**	.45**	.48**	.73**	.60**	1.00	.48**	.40**	.23*	.63**
10. Hearing Importance	.15	.33**	.33**	.38**	.45**	.34**	.37**	.24*	.36**	1.00	.23*	.39**	.47**
11. Hearing Use	.23*	.21*	.21†	.20†	.35**	.28**	.56**	.18†	.52**	.59**	1.00	.27*	.48**
12. Sight Importance	.03	.20†	.21*	.45**	.48**	.50**	.34**	.43**	.44**	.49**	.41**	1.00	.34**
13. Sight Use	.10	.25*	.22*	.41**	.55**	.42**	.65**	.35**	.64**	.55**	.69**	.63**	1.00

Note: $N = 82$ couples. ** $p \leq .01$ (2-tailed), * $p \leq .05$, † $p \leq .10$ (2-tailed). The zero-order correlations above the diagonal are for female participants, whereas the zero-order correlations below the diagonal are for male participants.

Table 6.
Summary of Significant Findings.

Sensory Modality	Effect Type	Predictors	Outcome	<i>p</i>
Bodily Sensation	Main Effect	Female Importance	Female Liking	.07
		Female Use	Female Liking	.10
		Male Use	Female Satisfaction	.02
	Interaction	Male Importance/Female Use	Male Passionate Love	.04
	Simple Slopes	High Male Importance/High Female Use versus Low Female Use	Male Passionate Love	.02
		High Male Importance/High Female Use versus Low Female Use	Female Passionate Love	.001
Hearing	Main Effect	Female Use	Female Satisfaction	.01
		Female Use	Female Passionate Love	.06
		Male Importance	Male Satisfaction	.04
		Male Importance	Male Liking	.01
		Male Importance	Male Passionate Love	.01
		Male Use	Male Satisfaction	.08
	Interaction	Female Importance/Male Use	Male Satisfaction	.02
		Female Importance/Male Use	Female Satisfaction	.02
		Female Importance/Male Use	Male Liking	.05
	Simple Slopes	High Male Use/High Female Importance	Female Satisfaction	.01
		High Female Importance/High Male Use versus Low Male Use	Female Satisfaction	.005

Sight		Low Male Use/High Female Importance versus Low Female Importance	Male Liking	.04
		High Female Importance/High Male Use versus Low Male Use	Male Liking	.002
	Main Effect	Female Importance	Male Liking	.02
		Male Use	Male Satisfaction	.10
	Interaction	Female Importance/Male Use	Male Liking	.01
	Simple Slopes	High Male Use/High Female Importance	Male Liking	.02
		High Female Importance/High Male Use versus Low Male Use	Male Liking	.001
Substitute Channels	Main Effect	Female Importance	Male Liking	.04
		Male Use	Female Liking	.01
		Male Use	Male Passionate Love	.10
		Male Use	Female Passionate Love	.03
	Interaction	Male Importance/Female Use	Female Satisfaction	.009
		Male Importance/Female Use	Female Liking	.02
		Male Importance/Female Use	Female Passionate Love	.09
	Simple Slopes	High Male Importance/High Female Use versus Low Female Use	Female Satisfaction	.001
		Low Female Use/High Male Importance versus Low Male Importance	Female Satisfaction	.06
		Low Female Use/High Male Importance versus Low Male Importance	Female Liking	.07
		High Female Use/High Male Importance versus Low Male Importance	Female Liking	.02
		High Male Importance/High Female Use	Female Liking	.006

		Use versus Low Female Use		
Touch	Main Effect	Female Use	Female Liking	.02

Figures

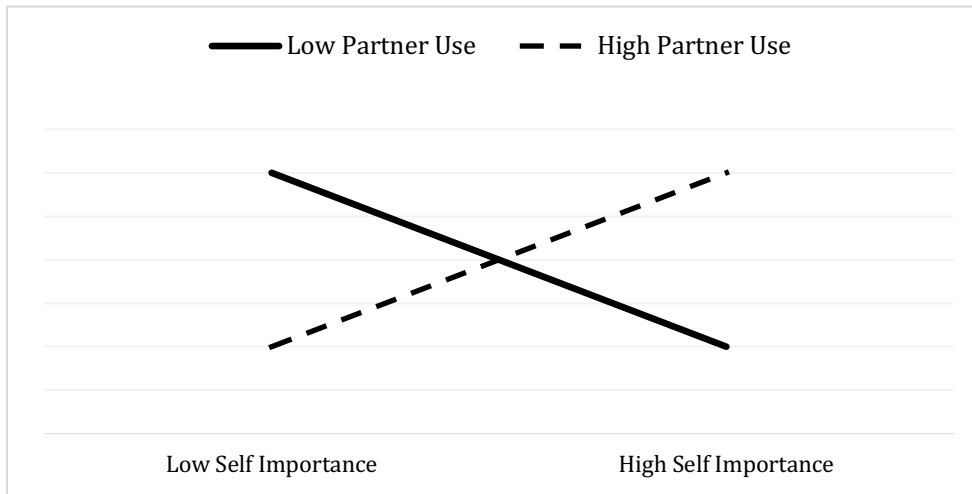


Figure 1. The proposed interaction of importance and use of various sensory modality channels on relationship satisfaction and attraction.

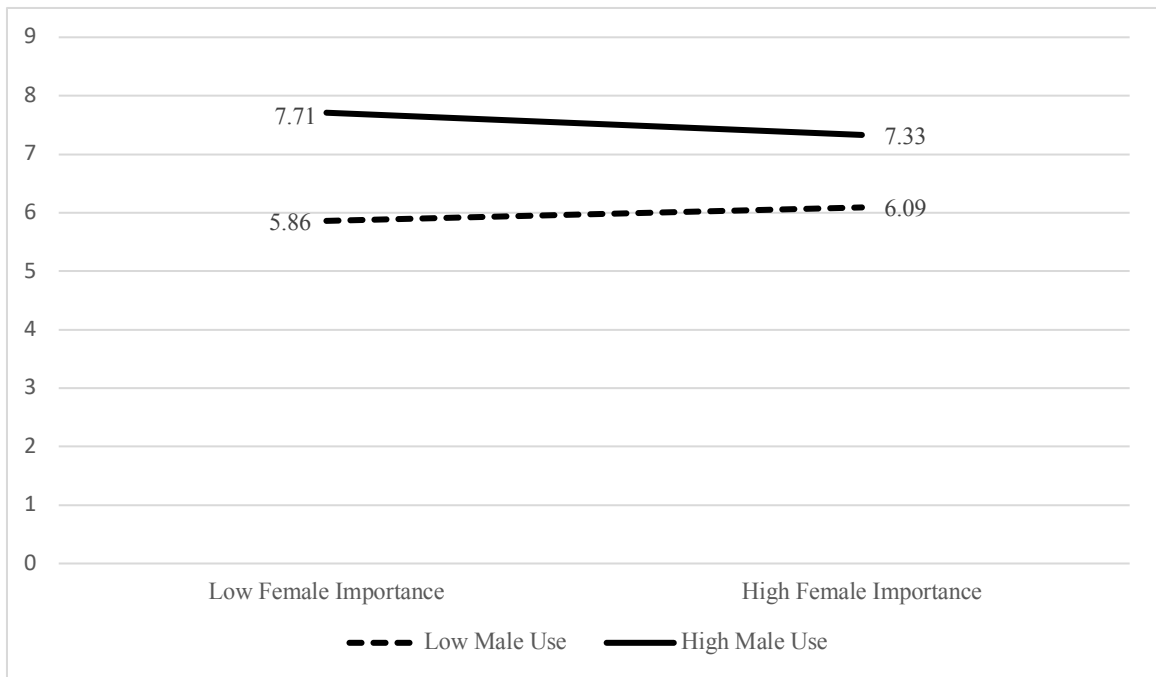


Figure 2. The interaction of female importance and male use of hearing on male relationship satisfaction.

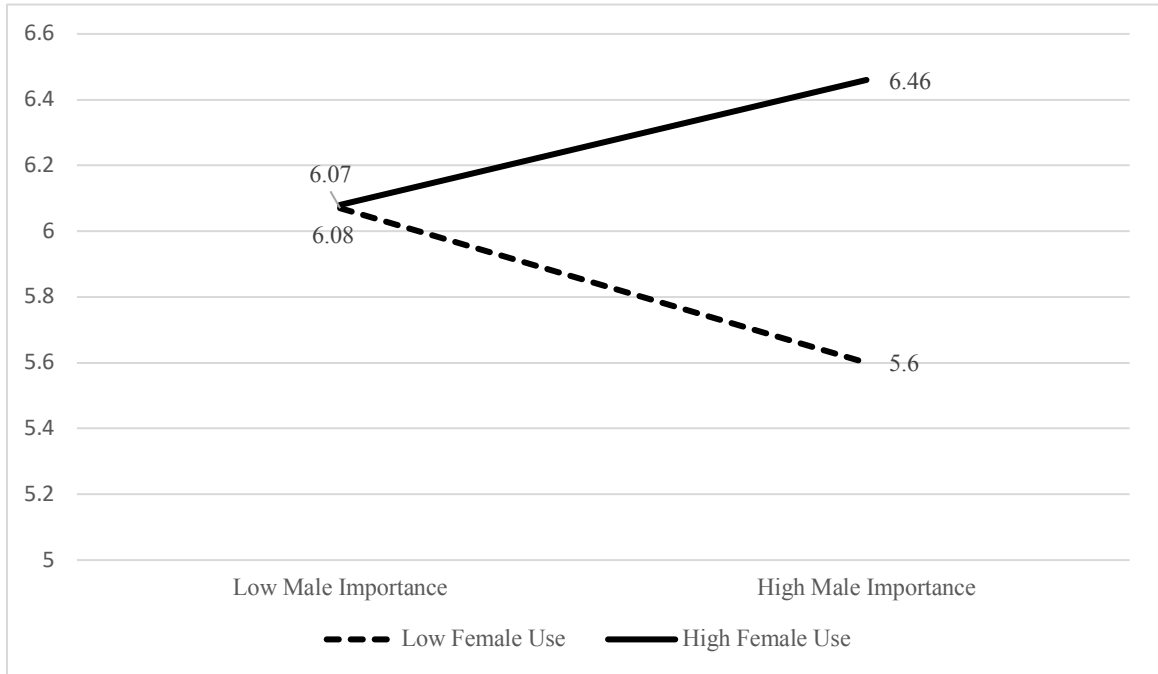


Figure 3. The interaction of male importance and female use of substitute channels on female relationship satisfaction.

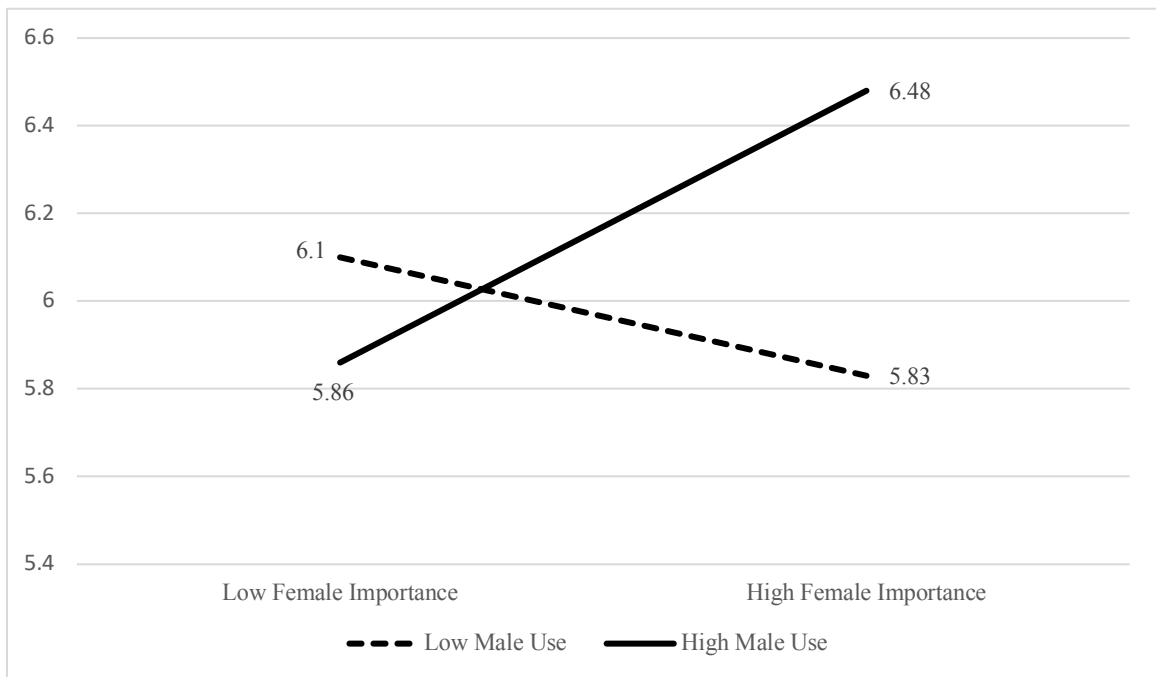


Figure 4. The interaction of female importance and male use of hearing on female relationship satisfaction.

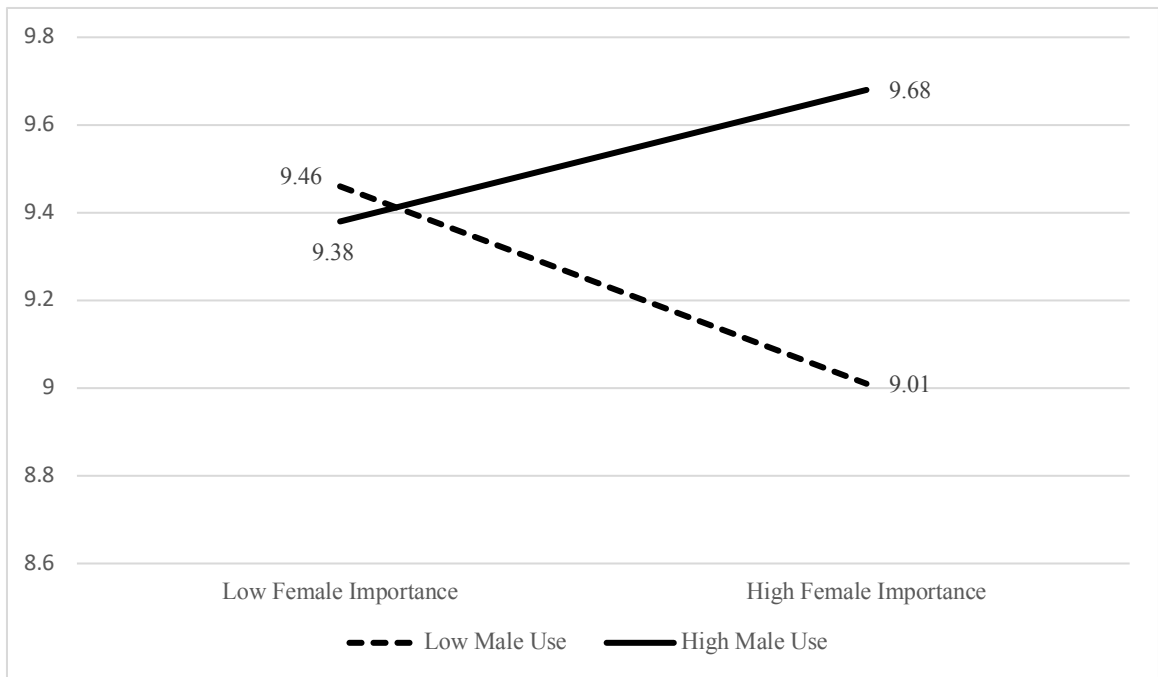


Figure 5. The interaction of female importance and male use of hearing on male liking.

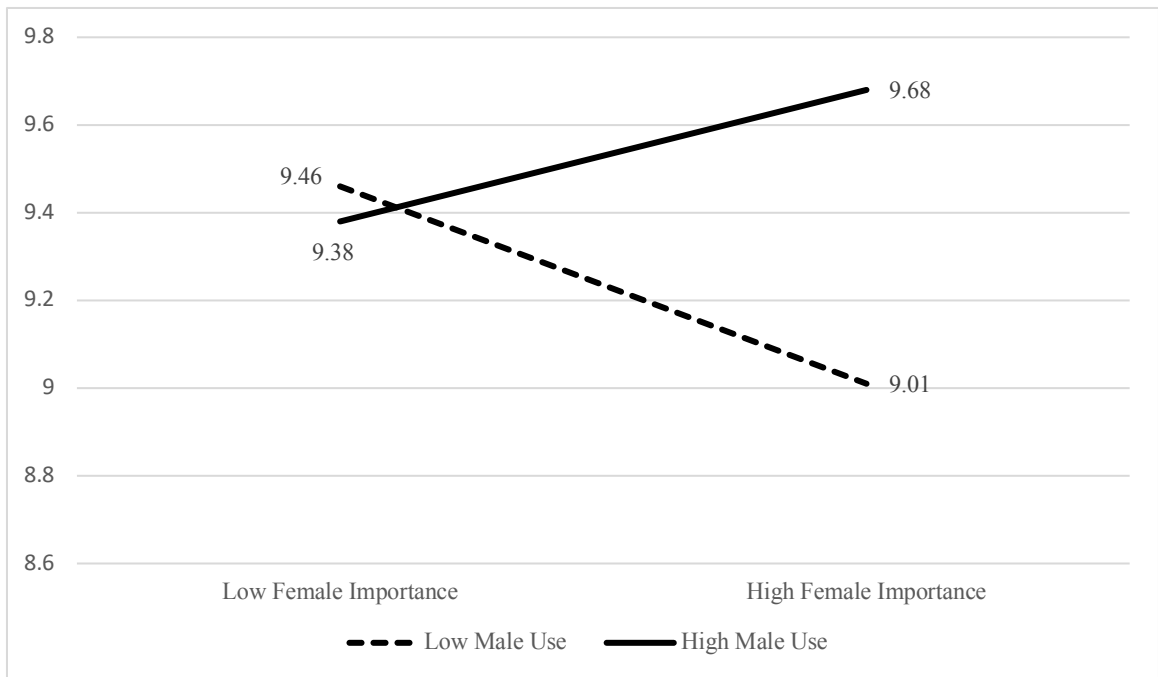


Figure 6. The interaction of female importance and male use of sight on male liking.

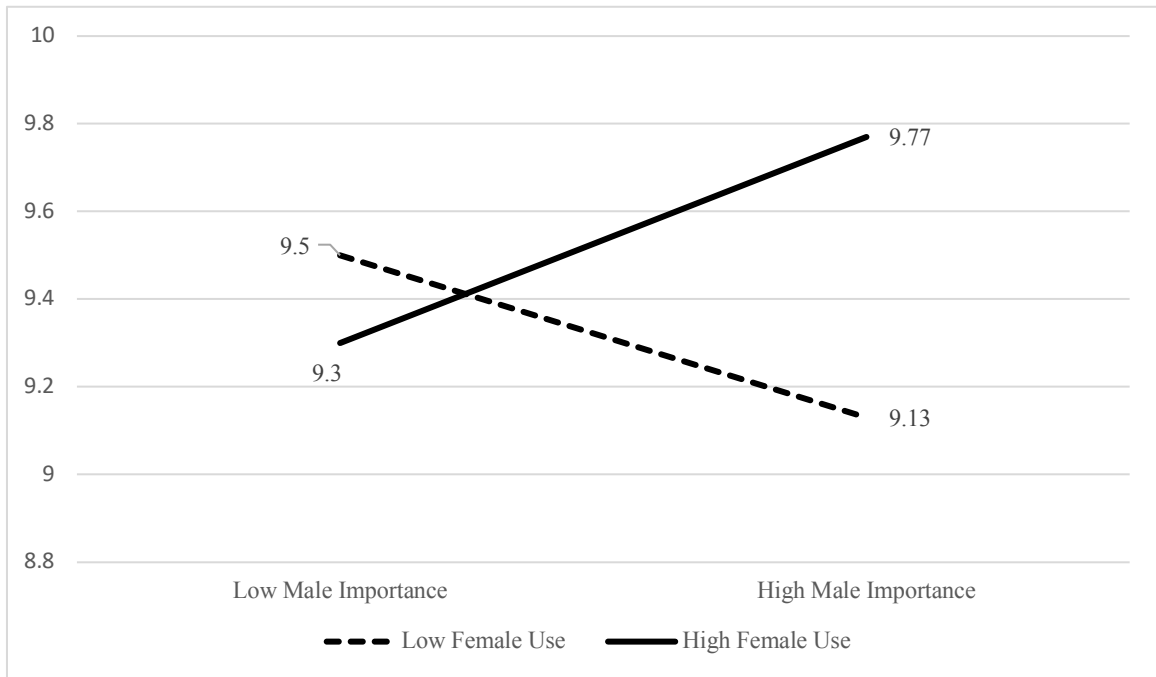


Figure 7. The interaction of male importance and female use of substitute channels on female liking.

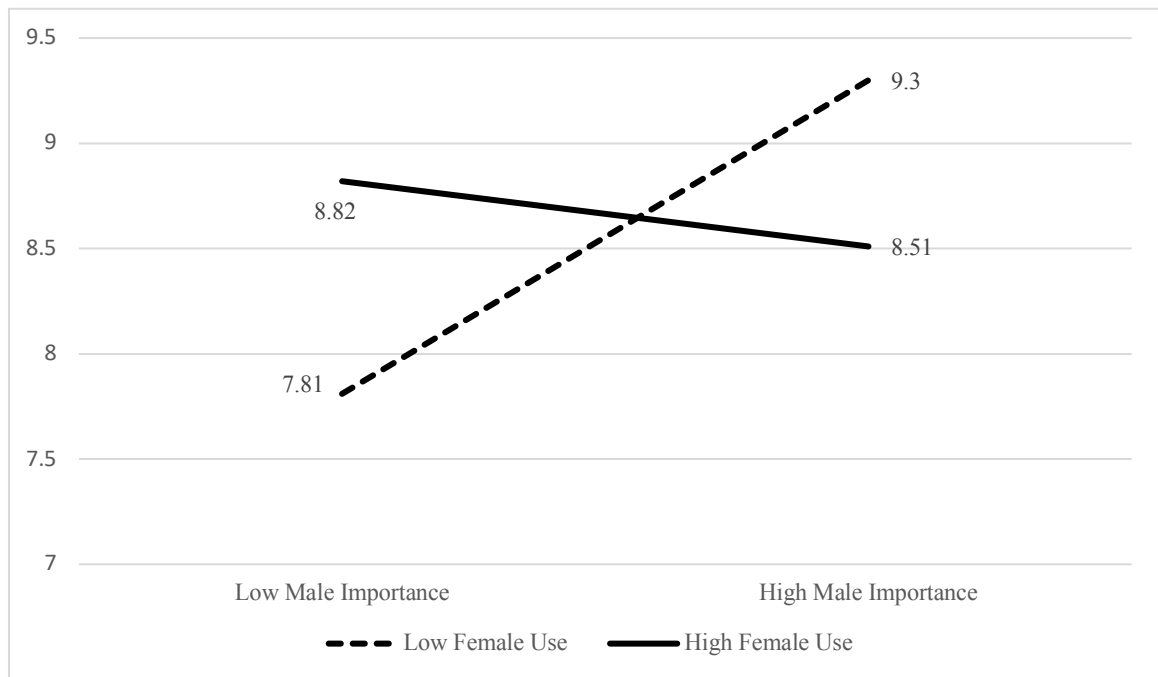


Figure 8. The interaction of male importance and female use of bodily sensations on female liking.

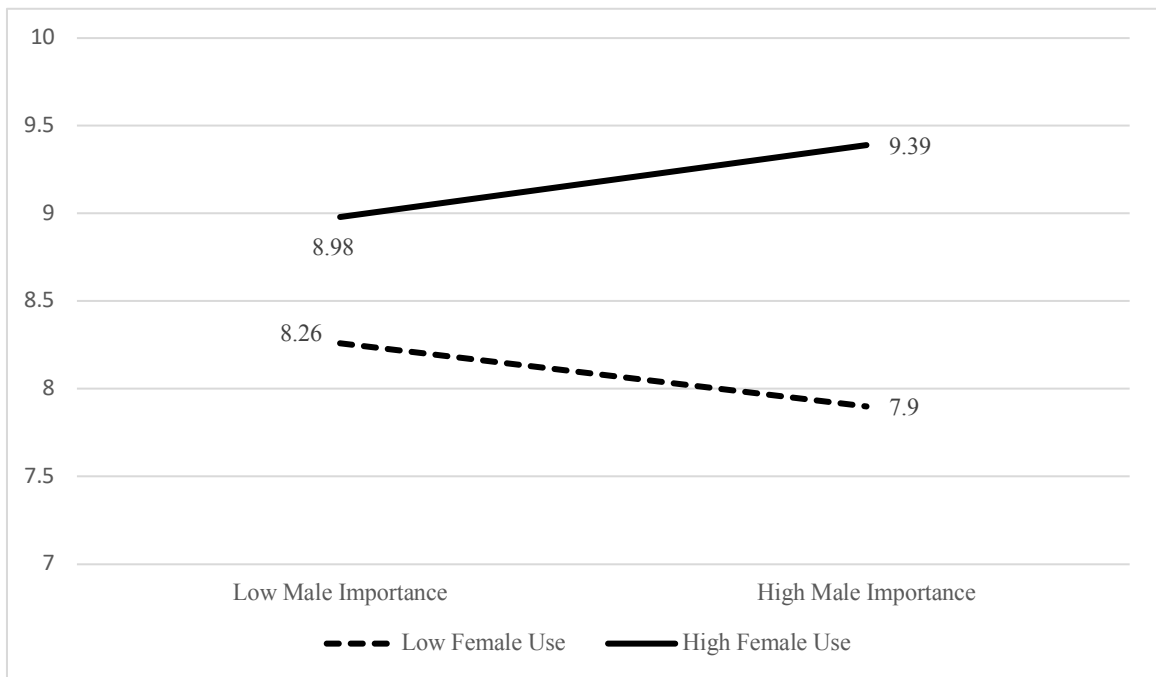


Figure 9. The interaction of male importance and female use of substitute channels on female passionate love.

APPENDIX A

Informed Consent Document

CONSENT DOCUMENT

Dr. Anca Miron and Megan Patterson, Master's student of the Department of Psychology at the University of Wisconsin Oshkosh are conducting a study that looks at people's subjective experiences in romantic relationships. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that even if you agree to participate, you are free to withdraw at any time without penalty.

As part of the study, you will be asked to answer some questions about your romantic relationship. You will also be asked some questions about your feelings for your romantic partner. Although participation will not directly benefit you, we believe that the information will be useful in understanding some aspects of human behavior. The study will not take more than 30 minutes of your time.

We do not anticipate that the study will present any risk of physical injury or harm to your health associated with this study, other than some discomfort that you might feel answering some of the questions.

The information that you give us in the questionnaire will be recorded in an anonymous form. Be assured that your name will not be associated with the research findings in any way. The information will be identified only by a code number.

We do solicit your participation but it is strictly voluntary. If you want to withdraw from the study at any time, the information collected from you up to that point would be destroyed if you so desire.

Once the study is completed, we would be glad to give the results to you. Do not hesitate to ask any questions about the study before, during, or after the research is complete. If you would like additional information concerning this study before or after it is complete, please feel free to contact us:

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If you have any complaints about your treatment as a participant in this study, please call or write:

Kelly Schill
Institutional Review Board For Protection of Human Participants
c/o Grants Office
UW Oshkosh
Oshkosh, WI 54901
schillk@uwosh.edu
920-424-3375

I have received an explanation of the study and agree to participate. I understand that my participation in this study is strictly voluntary.

PRINTED NAME

SIGNATURE

DATE

This research project has been approved by the University of Wisconsin Oshkosh IRB for Protection of Human Participants for a 1-year period.

If you would like to receive information about results after the study has been completed, please provide your email address:

APPENDIX B

Survey of Romantic Relationships

Survey of Romantic Relationships

In order to better understand social relationships among people, and especially very close and meaningful relationships, we are initiating an exploratory survey to look at couples' qualitative experiences within their romantic relationships.

Please think of your current romantic partner in responding to the following questions.
DO NOT WRITE YOUR NAME OR OTHER PEOPLE'S NAMES ON THIS QUESTIONNAIRE.

Please try to answer every single question.

When interacting with our significant others, we often use various channels of relating or communicating. We listed below some of these channels. Please think of your current romantic partner and rate how often YOU used each channel to interact or communicate with your partner DURING THE PAST MONTH. Using the scale below, write a number in the space provided before each item.

1	2	3	4	5	6	7	8	9
Not at All			Moderately Often			Very Often		

- _____ Touching the other (body, face, or hands, etc.)
- _____ Looking at the other
- _____ Feeling his/her body warmth
- _____ Smelling the other's scent
- _____ Being in the physical presence of the other (no touching involved)
- _____ Listening to the other
- _____ Talking with the other
- _____ Having an object that reminds you of the other
- _____ Kissing the other
- _____ Hugging the other
- _____ Holding the other close or cuddling the other
- _____ Talking with the other by phone or Internet chat
- _____ Thinking about the other
- _____ Doing activities together (e.g., watching movies, etc.)
- _____ Being physically intimate with the other
- _____ Holding hands
- _____ Looking into the other's eyes
- _____ Writing to the other (letters, email messages, texting)
- _____ Watching the other do things
- _____ Imagining what the partner is doing
- _____ Doing things for the partner in his/her absence
- _____ Feeling the texture of the partner's hands, face, or hair, etc.
- _____ Hearing the other's voice
- _____ Listening to my partner's voice messages
- _____ Looking at a photo of my partner/that reminds me of my partner

On average, how much time in the past month have you spent interacting *face-to-face* with your partner **during a typical day (24 hours)**? (Please respond with an estimate out of 24 HOURS)

_____ hours a day

On average, how much time in the past month have you spent *speaking on the phone* with your partner **during a typical day (24 hours)**? (Please respond with an estimate out of 24 HOURS)

_____ hours a day

On average, how much time in the past month have you spent having *Internet communications* with your partner (skype, facetime, e-mail, online chat, text messaging, etc.) **during a typical day (24 hours)**? (Please respond with an estimate out of 24 HOURS)

_____ hours a day

When interacting with our significant others, we often use various channels of relating or communicating. We listed some of these channels below. Please think of your current romantic partner, and rate the IMPORTANCE of each item in your romantic relationship. In other words, please rate the extent to which you find each of the following items of relating important. Using the scale below, write a number in the space provided before each item.

1	2	3	4	5	6	7	8	9
Not at All Important						Extremely Important		

- _____ Touching the other (body, face, or hands, etc.)
- _____ Looking at the other
- _____ Feeling his/her body warmth
- _____ Smelling the other's scent
- _____ Being in the physical presence of the other (no touching involved)
- _____ Listening to the other
- _____ Talking with the other
- _____ Having an object that reminds you of the other
- _____ Kissing the other
- _____ Hugging the other
- _____ Holding the other close or cuddling the other
- _____ Talking with the other by phone or Internet chat
- _____ Thinking about the other
- _____ Doing activities together (e.g., watching movies, etc.)
- _____ Being physically intimate with the other
- _____ Holding hands
- _____ Looking into the other's eyes
- _____ Writing to the other (letters, email messages, texting)
- _____ Watching the other do things
- _____ Imagining what the partner is doing
- _____ Doing things for the partner in his/her absence
- _____ Feeling the texture of the partner's hands, face, or hair, etc.
- _____ Hearing the other's voice
- _____ Listening to my partner's voice messages
- _____ Looking at a photo of my partner/that reminds me of my partner

When interacting with our significant others, we often use various channels of relating or communicating. We listed some of these channels below. Please think of your current romantic partner, and rate the PREFERENCE of each item in your romantic relationship. Please read the following statements carefully and, using the scale below, write down the number that best indicates YOUR agreement or disagreement with each statement.

1	2	3	4	5	6	7	8	9
Strongly				Neither Agree				Strongly
Disagree				Nor Disagree				Agree

- _____ Touching or holding my partner's hand comforts me.
- _____ I feel frustrated when something prevents me from talking face to face with my partner.
- _____ If I do not see my partner, I feel that something is missing.
- _____ I feel that I need to be in contact with my partner all the time.
- _____ I keep an article of clothing of my partner's that contains his/her scent.
- _____ I listen to saved voicemails from my partner when I miss him/her.
- _____ I love my partner's scent.
- _____ I enjoy looking at my partner.
- _____ I enjoy watching my partner do even routine things (e.g., read the newspaper).
- _____ If I don't see my partner for a while, I yearn to be in his/her presence.
- _____ I love how my partner's hands or face feel to the touch.
- _____ If I don't see my partner for a while, I crave for his/her touch.
- _____ I love how my partner's body sometimes radiates warmth.
- _____ I feel frustrated if I cannot see my partner for some time.
- _____ I feel that something is missing when I am away from my partner.
- _____ When my partner is in the same room with me, I feel like I want to hug him/her closely.
- _____ I think about being with my partner constantly throughout the day.
- _____ I would kiss my partner every minute, if I could.
- _____ I yearn to hear my partner's voice.
- _____ I often carry a photo of my partner with me.
- _____ When my partner leaves (to go somewhere), I physically feel heart-ached.
- _____ I long for the day when my partner and I can see each other every single day.
- _____ Everyday things remind me of my partner.
- _____ I would hug my partner every minute, if I could.
- _____ When my partner leaves (to go somewhere), I feel I cannot let him/her go.
- _____ When my partner is not present, I crave physical contact with him/her.
- _____ I want to touch my partner all the time.
- _____ Certain smells remind me of my partner's scent.
- _____ I love hearing my partner talk.
- _____ I look at photos of my partner when I miss him/her.
- _____ I like to keep things in my room/house that remind me of my partner.
- _____ I love hearing my partner's voice on the phone.
- _____ I love reading old text messages from my partner.
- _____ I crave interaction with my partner, even if it is not in person
- _____ I enjoy doing things that remind me of my partner.

Please answer the following questions below by circling a response on the rating scale listed below the question:

When you think of your romantic partner, how positively or negatively do you feel about him or her?

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
Very negatively						Very positively				

To what extent are you in love with this person?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Completely	

To what extent are you crazy about this person?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

How passionate would you rate your relationship with this person?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

How intense are your feelings for this person when you are in his/her presence?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

How intense are your sensations in the presence of this person?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

How physically attractive is this person to you?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

How attractive is this person's personality to you?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

Overall, how attractive is this person to you?

0	1	2	3	4	5	6	7	8	9	10
Not at all									Extremely	

How much do you like this person?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Completely

How much do you care about this person?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Extremely

How satisfied are you with your relationship?

1	2	3	4	5	6	7
Extremely Dissatisfied	Very Dissatisfied	Somewhat Dissatisfied	Mixed Satisfaction	Somewhat Satisfied	Very Satisfied	Extremely Satisfied

How satisfied are you with this person as a partner?

1	2	3	4	5	6	7
Extremely Dissatisfied	Very Dissatisfied	Somewhat Dissatisfied	Mixed Satisfaction	Somewhat Satisfied	Very Satisfied	Extremely Satisfied

How satisfied are you with your relationship with your partner?

1	2	3	4	5	6	7
Extremely Dissatisfied	Very Dissatisfied	Somewhat Dissatisfied	Mixed Satisfaction	Somewhat Satisfied	Very Satisfied	Extremely Satisfied

How satisfied are you with the quality of your relationship with this person?

1	2	3	4	5	6	7
Extremely Dissatisfied	Very Dissatisfied	Somewhat Dissatisfied	Mixed Satisfaction	Somewhat Satisfied	Very Satisfied	Extremely Satisfied

How satisfied are you with the quality of the everyday interactions that you have with this person?

1	2	3	4	5	6	7
Extremely Dissatisfied	Very Dissatisfied	Somewhat Dissatisfied	Mixed Satisfaction	Somewhat Satisfied	Very Satisfied	Extremely Satisfied

To what extent do you accept this person for who he or she is?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Completely

How committed to this person do you feel?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Extremely

When you think of the future, to what extent is this person involved?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Completely

How do you see your relationship with this person in a year?

0	1	2	3	4	5	6	7	8	9	10
Worse					The same					Better

How do you see your relationship with this person in five years?

0	1	2	3	4	5	6	7	8	9	10
Worse					The same					Better

How important is this relationship to you?

0	1	2	3	4	5	6	7	8	9	10
Not at all										Extremely

Most persons have disagreements in their relationships. Please indicate below the approximate extent of agreement or disagreement between you and your partner for each item on the following list. Using the scale below, write a number in the space provided before each item.

0	1	2	3	4	5
Always	Almost Always	Occasionally	Frequently	Almost Always	Always
Agree	Agree	Disagree	Disagree	Disagree	Disagree

- _____ Handling family finances
- _____ Matters of recreation
- _____ Religious matters
- _____ Demonstrations of affection
- _____ Friends
- _____ Sex relations
- _____ Conventionality (correct or proper behavior)
- _____ Philosophy of life
- _____ Ways of dealing with parents or in-laws
- _____ Aims, goals and things believed to be important
- _____ Amount of time spent together
- _____ Making major decisions
- _____ Household tasks
- _____ Leisure time interests and activities
- _____ Career decisions

Please answer the questions below in the order given. Using the scale below, write a number in the space provided before each item.

0	1	2	3	4	5
All the time	Most of the time	More often than not	Occasionally	Rarely	Never

- _____ How often do you discuss or have you considered divorce, separation or terminating your relationship?
- _____ How often do you or your partner leave the house after a fight?
- _____ In general, how often do you think that things between you and your partner are going well?
- _____ Do you confide in your partner?
- _____ Do you ever regret that you married? (*or have been in the relationship*)
- _____ How often do you and your partner fight?
- _____ How often do you and your partner "get on each other's nerves?"

Please answer the following questions below by circling a response on the rating scale listed below the question:

Do you kiss your partner?

4	3	2	1	0
Every day	Almost Every Day	Occasionally	Rarely	Never

Do you and your partner engage in outside interests together?

4	3	2	1	0
All of them	Most of them	Some of them	Very few of them	None of them

How often would you say the following events occur between you and your partner? Please answer the questions below in the order given. Using the scale below, write a number in the space provided before each item.

0	1	2	3	4	5
Never	Less than Once a month	Once or twice a month	Once or twice a week	Once a Day	More Often

_____ Have a stimulating exchange of ideas
 _____ Laugh together
 _____ Calmly discuss something
 _____ Work together on a project

These are some things about which couples sometimes agree and sometimes disagree. Indicate if either caused differences of opinion or were problems in your relationship during the past month. Respond by circling yes or no.

Being too tired for physical interaction (cuddling, sexual intercourse, etc.)
 YES / NO

Not showing love
 YES / NO

The following points (Extremely Unhappy to Perfect) represent different degrees of happiness in your relationship. The middle point, "happy", represents the degree of happiness of most relationships. Please circle the number/term which best describes the degree of happiness, all things considered, of your relationship.

0	1	2	3	4	5	6
Extremely <u>Un</u> happy	Fairly <u>Un</u> happy	A little <u>Un</u> happy	Happy	Very Happy	Extremely Happy	Perfect

Which of the following statements best describes how you feel about the future of your relationship? (please check one)

- ☐ I want desperately for my relationship to succeed, and *would go to almost any length* to see that it does.
- ☐ I want very much for my relationship to succeed, and *will do all I can* to see that it does.
- ☐ I want very much for my relationship to succeed, and *will do my fair share* to see that it does.
- ☐ It would be nice if my relationship succeeded, but *I can't do much more than I am doing now* to help it succeed.
- ☐ It would be nice if my relationship succeeded, but I *refuse to do any more than I am doing now* to keep the relationship going.
- ☐ My relationship can never succeed, and *there is no more that I can do* to keep the relationship going.

CURRENT RELATIONSHIP

Are you currently in a relationship right now? YES NO

Are you in a long distance relationship? YES NO

Have you ever been married? YES NO

Are you engaged to be married? YES NO

Do you have any children? YES NO

If yes, how many? _____

For how long have you been in this relationship? (Please write down the total amount of time in number of years and months): Years _____ Months _____

On average, how many hours per day do you spend with this person (including face-to-face time, Internet and phone time)? Write the number of hours: _____

On average, how many hours per day do you see this person *face-to-face*? Write the number of hours: _____

On average, how many hours per day do you speak *on the phone* with this person? Write the number of hours: _____

On average, how many hours per day do you spend having *Internet communications* with this person (skype, facetime, e-mail, online chat, text messaging, etc.)? Write number of hours: _____

Do you and your partner currently live together? YES NO

IF YES, for how long have you lived together? Write down the total amount of time in number of years and months: Years _____ Months _____

Demographic Information

What is your age? _____

What is your sex?

- ☐ Male
- ☐ Female
- ☐ Other
- ☐ Prefer Not to say

Which best describes your race? (Check all that apply)

- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Hispanic or Latino/Latina
- ☐ Black or African American
- ☐ Native Hawaiian or Pacific Islander
- ☐ White
- ☐ Prefer not to answer

What is the highest level of education that you have completed?

- ☐ less than high school diploma
- ☐ high school diploma
- ☐ some college
- ☐ college degree
- ☐ Master's degree
- ☐ Doctoral Degree

Where did you meet your partner (please be as specific as possible)?

What are some activities you and your partner did together last week?

What do you think the study is about?

APPENDIX C

Study Information Form

Study Information Form

Now that the study is complete, we would like to provide you with some information about the purposes of this research. During this study, we asked your opinions about your romantic relationship experiences.

We are interested in exploring the sensory channels of relating that people use in their romantic relationships (touching, hearing, sight, bodily sensations and substitute channels.). More specifically, we would like to see if there is a similarity of sensory channels preferred and used by the partners and their relationship satisfaction. That is, if you like a lot of touching but the partner does not engage in touching behaviors frequently when interacting with you, how does that affect your feelings toward your partner and your relationship satisfaction? Alternatively, if your partner likes to use many touch behaviors but you prefer other sensory modalities of relating, such as, for instance, sight (looking at the partner) or hearing (listening to them), how does affect relationship satisfaction and attraction?

We are also investigating whether the sensory channels become more similar as duration of the relationship increases. In other words, we expect that those who are in a longer duration relationship will have more similar ways of interacting with each other and report more relationship satisfaction and partner attraction.

If you would like additional information concerning this study, please feel free to contact Dr. Anca Miron by e-mail or phone (mirona@uwosh.edu, 920-424-2328) or Megan Patterson (pattm94@uwosh.edu, 608-234-2643).

Thank you very much for participating in our study.

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