Examining the Moderating Influence of Relationship Satisfaction on Affection and Trust, Closeness, Stress, and Depression

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Abstract

This study sought to explore whether relationship satisfaction moderated the relationship between affection and individual health (i.e., depression and stress) and affection and relational well-being (i.e., trust and closeness). The sample (N = 631) was comprised of predominantly female non-married Southwestern college students. Relationship satisfaction did not interact with the relationship between affection and trust, affection and closeness, and affection and depression. However, relationship satisfaction moderated the relationship between affection and stress such that affection was significantly and negative related to stress only for highly satisfied relationships. Dissatisfied participants were affectionately deprived, and their frequency of affectionate behaviors varied. Implications and directions for future research are discussed.

Keywords: dissatisfied couples, relationship satisfaction, affection, stress, depression

Examining the Moderating Influence of Relationship Satisfaction on Affection and Trust, Closeness, Stress, and Depression

A formidable empirical literature attests to the individual and relational benefits of affectionate communication (see Floyd, 2019). Like much relational research conducted in the field of interpersonal and family communication, however, the research on affectionate communication has tended to suffer from a form of positivity bias, wherein most participants represent moderately to highly satisfying relationships (Floyd et al., 2009; van Raalte et al., 2019). With respect to affectionate communication, this has created a dearth of knowledge regarding the exchange of affection among dissatisfied relational partners.

Overlooking the experiences of dissatisfying romantic relationships is consequential, given high and increasing rates of relational dissatisfaction and dissolution over the last 50 years, particularly in the Western world (Røsand et al., 2014). It may seem reasonable to expect that people are less affectionate in dissatisfying than satisfying relationships, and previous research has documented such a difference (e.g., Floyd, 2002), but little is known about how dissatisfied couples communicate affection. The ways in which dissatisfied couples communicate affection may be systematically different as compared to satisfied couples. Consequently, the pathways through which communicative behavior (i.e., affection) influence relational and health outcomes may change depending on relationship satisfaction. Put another way, affectionate behavior may covary with individual and relational benefits differently for satisfied and dissatisfied couples.

Examining how dissatisfied couples communicate affection is also important for informing future intervention work. Recommendations for relational improvements may be limited to what is gleaned from satisfied participants in research studies. Investigating the merit of affection across a range of relationship satisfaction levels provides a clearer picture of how

future experimental work may test causal claims for unhappy couples. This work may have particular value for relationship therapy, which—unlike relationship research—commonly involves dissatisfied partners (see Duba et al., 2012).

This study explores how affectionate communication differs for satisfied and dissatisfied romantic couples and whether the magnitude of the associations observed for affectionate behavior with relational and individual well-being is moderated by relationship satisfaction. This review begins by defining affectionate communication and explaining its effects from the perspective of Affection Exchange Theory (Floyd, 2006). Research on relational and individual benefits is then described, and research questions are advanced with respect to affectionate behavior and its relational and individual benefits for satisfied and dissatisfied romantic couples. Finally, the experience of dissatisfying relationships is explored, and research questions are offered.

Affection Exchange Theory

Floyd and Morman (1998) defined affectionate communication as "an individual's intentional and overt enactment or expression of feelings of closeness, care, and fondness for another" (p. 145). This definition casts affectionate communication as a social behavior, distinguishing it from the purely emotional experience of *feeling* affection for someone. In the last two decades, most research on affectionate communication has been grounded in Affection Exchange Theory (AET; Floyd, 2001, 2019). Reflecting a neo-Darwinian perspective, AET asserts that giving and receiving affection are innate drives that evolved and persist in the human species due to their advantages for survival and reproduction (see postulate 3, specifically).

To the extent that tendencies toward affectionate behavior are evolutionarily adaptive in the manner that AET suggests, it is logical to predict that exchanging affection is advantageous

both to individuals and their relationships. AET specifically suggests that individual wellness benefits derive from the ability of affectionate behavior to modulate the body's stress response and promote relaxation and reward (subpostulate 3d) and that affectionate communication contributes to both viability (subpostulate 3a) and fertility (subpostulate 3b) by contributing to the establishment and maintenance of reproductive pair bonds. AET does recognize that tolerances for affectionate behavior vary (postulate 4), such that some individuals and relationships are inclined toward greater affection displays than others, and that receiving either too little (Floyd, 2014) or too much (Hesse et al., 2018) affectionate communication is aversive. That exception aside, however, AET strongly suggests that giving and receiving affection are psychologically, physiologically, and relationally beneficial (for reviews, see Floyd, 2019; Hesse et al., 2020).

Relational benefits of affectionate communication

Affection has been connected to a wide range of relational benefits. In romantic pair bonds, specifically, affectionate communication covaries with several relational quality markers such as relationship satisfaction (Floyd et al., 2009), closeness (Bell et al., 1987), liking (Dainton et al., 1994), sexual satisfaction (Muise et al., 2014), and ease of conflict resolution (Gulledge et al., 2003). Trust, an important relational quality marker that represents feelings of honesty and dependability in a partner (Simpson, 2007; Wheeless, 1978), has had a positive correlational relationship with affection across several studies (Mansson, 2014; Hesse & Rauscher, 2019). In a romantic setting, those individuals with high trait affection reported higher trust with a partner after pretending to orgasm (Denes et al., 2019).

Another relational quality indicator often used in conjunction with affection and relationship satisfaction is closeness. Relational closeness represents a sense of

interconnectedness with another person, or an overlapping of selves (Aron et al., 1992). In father-son relationships, affectionate communication has been positively connected to closeness (Morman & Floyd, 1999) and affectionate disclosures after sexual activity have been positively correlated with closeness, trust, and relationship satisfaction (Denes, 2012).

Ample evidence supports AET's (Floyd, 2006) contention that affectionate behavior is good for close, particularly romantic, relationships. However, previous intervention work documenting improved relational quality from increases in kissing (Floyd et al., 2009) and cuddling (van Raalte, 2017) were limited by their already satisfied participant pool. Consequently, any conclusions that affection interventions for dissatisfied couples would be beneficial is inconclusive. Previous work has not tested whether the strength of the relationship between affection and relational quality would still hold when a relationship is dissatisfying. Thus, the following research question is offered:

> RQ1: Does relationship satisfaction moderate the association between affectionate communication and (a) trust and (b) closeness?

Individual benefits of affectionate communication

Affectionate behavior has also been particularly influential on individual physical and psychological health. For example, interpersonal hugging has been inversely related to the inflammatory markers interleukin 1-β and TNF-α (van Raalte & Floyd, 2020) and resting blood pressure and heart rate (Light et al., 2005), as well as with susceptibility to upper respiratory infection following a viral challenge (Cohen et al., 2015). Intimate touches such as a shoulder and neck massage from a romantic partner have been connected to lower cortisol reactivity and heart rate for women (Ditzen et al., 2007) and increases in passionate kissing have been linked to decreases in blood lipids (Floyd et al., 2009).

AET contends that giving and receiving affection has stress buffering effects (see postulate 3d, specifically), thereby contributing to one's viability goals (Floyd, 2019). Ongoing stress, or the perception that one cannot cope with environmental threats (Cohen et al., 1983), can significantly compromise individual mental and physiological health. Intervention work has indicated that hugging and handholding buffers against the harmful effects of a laboratory stressor on participants' blood pressure (Grewen et al., 2003). Even a simple touch on a shoulder from a romantic partner can help reduce experiences of physical pain (Floyd et al., 2018).

Through the promotion of pair bonds, affectionate and satisfying relationships can also help prevent mental health disorders such as depression. Several symptoms characterize depression such as feelings of hopelessness and lethargy, inability to concentrate, weight fluctuations, low self-worth, and weight changes (Comer, 2017). Depression is particularly important as it is a common mental disorder affecting more than 264 million people worldwide (World Health Organization, 2021). Much like its relationship to stress, affection has been inversely related to depression across several relational types (Floyd et al., 2005; Jorm et al., 2003). Again, we question whether the strength of the relationship between affection and individual health would still hold when a relationship is dissatisfying. Thus, the following research question is offered:

RQ2: Does relationship satisfaction moderate the association between affectionate communication and (a) stress and (b) depression?

Affection in dissatisfying relationships

One of the characteristics of a dissatisfying relationship might be affection deprivation. *Affection deprivation* is defined as desiring more affection than one is receiving (Floyd, 2014) and is conceptually and operationally distinct from loneliness (Floyd & Hesse, 2017), although

these experiences can overlap. Affection deprivation is positively related to depression and stress, and inversely related to relationship satisfaction and happiness (Floyd, 2014). As it pertains to romantic relationships, affectionate deprivation is damaging for relationship satisfaction, closeness, emotional intimacy, depression, and loneliness (Hesse & Mikkelson, 2017; Hesse & Tian, 2020). Given that affection is strongly connected to satisfying relationships (Floyd, 2019; Punyanunt-Carter, 2004; van Raalte et al., 2020), we expect dissatisfying relationships to have greater levels of affection deprivation and communicate significantly less affection as compared to satisfying relationships. In separate predications, we offer the following hypotheses:

H1: Individuals in dissatisfying relationships report greater affection deprivation as compared to individuals in satisfying relationships.

H2: Individuals in dissatisfying relationships report fewer affectionate behaviors with their romantic partner as compared to those in satisfying relationships.

Identifying specific affectionate behaviors that are communicated in dissatisfying relationships is advantageous for informing future intervention work. For example, if dissatisfied couples frequently say "I love you" as a routine rather than strategic form of affection (Dainton & Stafford, 1993), but communicate little nonverbal affection such as cuddling (van Raalte et al., 2019) or kissing (Floyd et al., 2009), marriage counselors or therapists may recommend increased affectionate touch. Affectionate communication is often conceptually defined according to Floyd and Morman's (1998) tripartite model, which distinguishes *verbal affection* (the use of words, such as "I love you," to convey affectionate feelings); *direct nonverbal affection* (the use of gestures, such as kissing or handholding, that are readily interpreted as affectionate); and *socially supportive affection* (the use of supportive behaviors, such as helping

with a project, that convey affectionate feelings by implication). To help provide a clearer picture of affectionate behaviors in dissatisfying relationships, specifically, we ask in the following research question how these forms of affection vary in dissatisfied relationships:

RQ3: Which forms of affection are most prevalent in dissatisfied relationships?

Method

Participants

A total of 631 adults currently in a romantic relationship participated in the study, with 516 women, 112 men, one participant identifying as transgender, and two participants failing to report their sex. The sample had a mean age of 23.75 years (*SD* = 7.03) and included 199 participants who identified as Hispanic, 431 participants identified as non-Hispanic, and one person who did not report on ethnicity. The sample was 56% white, 24% Latino/a, 14% Black/African American, 2% Asian, and 1% Native American (the remaining participants reported mixed ethnicities or other ethnicities).[i] In terms of sexual orientation, the sample included 507 heterosexual, 83 bisexual, 29 gay, and eight pansexual participants, with four participants indicating another orientation. The sample included 248 individuals living with their romantic partner and 383 individuals not cohabitating with their partner. The sample comprised 93 married, 47 engaged, and 491 non-married individuals. Those who were married reported an average marital duration of 2.99 years (*SD* = 5.47). Most participants (88%) did not have children, whereas 12% reported having at least one child. Participants reported an average relational duration of 3.45 years (*SD* = 4.75) and those participants who indicated living together had cohabited for an average of 4.27 years (*SD* = 5.94). See Table 1 for relationship length and study variable means separated by relationship status.[ii]

[Insert Table 1 about here]

Procedures

After approval from the university's institutional review board, an online questionnaire was shared with communication and psychology students at a large university in the southwestern United States. To qualify, participants had to currently be in a romantic relationship, be at least 18 years of age, and be able to read and write in English; those participants who did not qualify were asked to share the survey with someone who did. Extra credit or research participation credit was provided to all participants. The initial recruitment generated mostly satisfied individuals, thus resulting in a relatively homogenous sample. To recruit more individuals dissatisfied with their relationship, and to diversify the sample, the first author coordinated with the counseling center on campus who shared the online questionnaire with their clients with no incentive. The counseling center serves both undergraduate and graduate students and provides both individual and couple therapy. Recruiting through the counseling center was successful in considerably increasing the number of dissatisfied participants in the sample.

Measures

Variable means, standard deviations, reliability estimates, and intercorrelations appear in Table 2.

[Insert Table 2 about here]

Affectionate communication

Participants' reports of their affection with a romantic partner were measured using Floyd and Morman's (1998) Affectionate Communication Index (ACI). This scale included five items to assess verbal affection (e.g., saying "I love you" or "I care about you"), eight items to assess direct nonverbal affection (e.g., kissing, hugging), and five items to assess socially supportive

affection (e.g., helping with a favor). Items were measured on a frequency scale ranging from 1 (*never to almost never do this*) to 7 (*always or almost always do this*). Higher scores indicated more frequent levels of expressed affection. The scale was deemed reliable for the verbal (ω = .80), nonverbal (ω = .84), and social support (ω = .79) items.

Affection deprivation

Affection deprivation was measured using Floyd's (2016) Affection Deprivation Scale. The scale included eight items wherein higher scores indicated greater affection deprivation (e.g., "I don't get enough affection from others"). The items were measured on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale was deemed reliable (ω = .93).

Relationship satisfaction

Participants' relationship satisfaction with their romantic partner was measured using the relationship satisfaction sub-scale from the Investment Model (Rusbult et al., 1998). The scale included five items wherein higher scores indicated greater levels of relationship satisfaction (e.g., "I feel satisfied with our relationship"). The items were measured on a scale ranging from 1 (*disagree completely*) to 7 (*agree completely*). The scale was deemed reliable (ω = .95).

Trust

Participants' trust with their romantic partner was measured using Larzelere and Huston's (1980) Dyadic Trust Scale. The scale included eight items wherein higher scores indicated greater trust (e.g., "I feel that I can trust my partner completely"). This widely used scale has been successfully tested for its factor structure and reliability within the last decade (Gabbay et al., 2012). Items were measured on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale was deemed reliable (ω = .91).

Stress

Participants' perceptions of their current life stress were measured using the 10-item Perceived Stress Scale (Cohen et al., 1983). The scale asked participants to reflect on their past week while responding to the items; higher scores indicated higher levels of stress (e.g., "How often have you felt nervous and stressed?"). Typically, the scale uses a 5-point frequency but was adjusted to a 7-point frequency for survey uniformity. The endpoints of the scale were 1 (*never*) to 7 (*very often*). The scale was deemed reliable ($\omega = .87$).

Closeness

Closeness was measured using the Inclusion of Other in the Self scale by Aron et al. (1992), which was developed as a Venn diagram. The measure depicted one circle which indicated the "self" (i.e., the participant) and a second circle to indicate the "other" (i.e., a representation of a romantic partner). Seven depictions of the Venn diagram were provided, beginning with no overlap of the circles and each subsequent depiction overlapping each other increasingly. Participants were instructed to "Please select the picture that best reflects your relationship with your romantic partner (in which "self" refers to you and "other" refers to your partner)." No reliability estimates can be calculated, but the measure has been evaluated to be a meaningful and reliable assessment of interpersonal closeness (Gächter et al., 2015).

Depression

Depression was measured using a 10-item short-form (Mohebbi et al., 2018) of the Center for Epidemiological Studies Depression (CES-D) scale (Radloff, 1977). Frequency of each item (e.g., "I felt fearful," "I felt depressed") was rated across a four-point scale: 0 = *rarely or none of the time* (less than 1 day), 1 = *some or a little of the time* (1-2 days), 2 = *occasionally or a moderate amount of time* (3-4 days), and 3 = *most or all of the time* (5-7 days). The scale was deemed reliable ($\omega = .86$).

Data analysis

All statistical analyses were conducted using the software program IBM SPSS Statistics version 25. Preliminary analyses were conducted to determine if control variables needed to be included in the hypothesis tests. Potential control variables included nine demographic or relational items: participant age, partner age, participant sex, participant race, partner race, participant ethnicity, partner ethnicity, sexual orientation, and whether the couple had children. Only the control variables significantly related to the dependent variables for each hypothesis test were included in the analyses. For ease of interpretation, control variables are listed in the description of the analyses, but the statistics associated with the control variables are available by contacting the first author.

Results

Research question one

The first research question asked whether the magnitude of the association between affectionate communication and relational well-being (i.e., trust and closeness) varies according to satisfaction level. To explore this question, a regression was constructed using model 1 of Hayes' (2018) PROCESS. This model specified affectionate communication as the independent variable, satisfaction as the moderator variable, and trust and closeness alternatively as the dependent variable. We used the continuous satisfaction and overall affection scores in this analysis (KMO = .73; Bartlett's Test of Sphericity χ^2 (3) = 753.22, $p < .001$).[iii]

Trust

Participant age and partner age were added as covariates and the regression was significant, $R = .77$, $R^2 = .59$, $F(5, 625) = 179.51$, $p < .0001$ (see Table 3 for complete regression results). Affectionate communication interacted with satisfaction to predict trust, $B = .05$, $p =$

.03, R^2 change = .003. We probed this interaction using the Johnson-Neyman technique (Hayes, 2018) which identifies the point at which the moderator (i.e., relationship satisfaction) significantly moderates the relationship between the predictor variable (i.e., affectionate communication) and the outcome variable (i.e., trust). The Johnson-Neyman technique did not reveal a significant interaction, thus, the magnitude of the association between affectionate communication and trust did not vary according to satisfaction level.

[Insert Table 3 about here]

Closeness

Participant age and partner age were added as covariates and the regression was significant, $R = .59$, $R^2 = .35$, $F(5, 625) = 67.16$, $p < .0001$). Affectionate communication did not interact with satisfaction to predict closeness, $B = -.02$, $p = .53$, R^2 change = .0004. The Johnson-Neyman technique did not reveal a significant interaction, thus, the magnitude of the association between affectionate communication and closeness did not vary according to satisfaction level.

Research question two

The second research question asked whether the magnitude of the association between affectionate communication and individual well-being (i.e., stress and depression) varies according to satisfaction level. To explore this question, a regression was again constructed using model 1 of Hayes (2018) PROCESS. The model specified affectionate communication as the independent variable, satisfaction as the moderator variable, and stress and depression alternatively as the dependent variable. We used the continuous satisfaction and overall affection scores in this analysis.

Stress

Participant sex (dummy coded as 0 = male, 1 = female) was added as a covariate and the regression was significant, $R = .41$, $R^2 = .17$, $F(5, 623) = 32.06$, $p < .0001$. Affectionate communication interacted with satisfaction to predict stress, $B = -.07$, $p = .005$, R^2 change = .01. The significant interaction was probed using the Johnson-Neyman technique. At high levels of satisfaction (84th percentile), the effect of affectionate communication on stress is negative and significant, $B = -.21$, $p = .01$, 95% CI [-0.39, -0.04]. The Johnson-Neyman technique showed that the relationship between affectionate communication and stress was negative and significant when satisfaction was 5.68 or higher on a 7-point scale. For participants within this upper range of satisfaction, individuals who reported higher satisfaction had a stronger negative relationship between affectionate communication and stress. For individuals with satisfaction below 5.68, the relationship between affection communication and stress was not statistically significant.

Depression

Participant sex (dummy coded as 0 = male, 1 = female), participant age, and partner's ethnicity (dummy coded as 0 = non-Hispanic, 1 = Hispanic) were added as covariates and the regression was significant, $R = .52$, $R^2 = .27$, $F(5, 621) = 39.24$, $p < .0001$. Affectionate communication interacted with satisfaction to predict depression, $B = -.04$, $p = .006$, R^2 change = .009. The Johnson-Neyman technique did not reveal a significant interaction, thus, the magnitude of the association between affectionate communication and depression did not vary according to satisfaction level.

Classification of satisfied and dissatisfied individuals

Because remaining analyses required a nominal variable to represent either satisfied or dissatisfied participants, participants were categorized as representing either satisfied or dissatisfied couples based on whether they scored above or below the theoretic median value of 4

on the relationship satisfaction measure. This procedure resulted in 213 participants representing dissatisfied couples and 418 participants representing satisfied couples. As expected, those participants representing satisfied couples had a higher average value on relationship satisfaction (M = 6.09, SD = 0.76) than those participants representing dissatisfied couples (M = 3.02, SD = 1.03), Welch's t (338.49) = -38.46, $p < .001$, Cohen's d = 3.36.

Hypothesis one

The first hypothesis proposed that people in dissatisfying relationships experience more affection deprivation than people in satisfying relationships. The hypothesis was tested in an ANCOVA in which satisfaction level was the independent factor and participant and partner age were the covariates. The ANCOVA produced a significant main effect of satisfaction level, F (1, 627) = 162.29, $p < .001$, $\eta^2 = .20$. As predicted, affection deprivation was significantly higher for dissatisfied individuals (M = 4.50, SD = 1.65) than for satisfied individuals (M = 2.89, SD = 1.33). The first hypothesis was supported.

Hypothesis two

The second hypothesis proposed that people in dissatisfying relationships report lower frequencies of affectionate communication with their romantic partners than do people in satisfying relationships. The hypothesis was tested by examining verbal, nonverbal, and socially supportive forms of affectionate communication. Potential covariates were examined with respect to their associations with demographic and relational characteristics. Only significant covariates were included in the analyses. To test the hypothesis, verbal, nonverbal, and supportive forms of affectionate communication were entered as dependent measures (average r = .64, KMO = .73, Bartlett's χ^2 = 753.22, df = 3, $p < .001$) in a multivariate analysis of covariance (MANCOVA), with satisfaction level (high vs. low), participant sex, participant race,

and whether couple has children as independent factors, and partner age as the covariates. The MANCOVA produced significant multivariate main effects for satisfaction, $\Lambda = .92$, F (3, 588) = 16.25, $p < .003$, partial $\eta^2 = .08$.[iv]

At the univariate level, satisfaction produced a significant main effect for verbal affection, F (1, 590) = 16.21, $p < .001$, partial $\eta^2 = .03$. Satisfied individuals reported a higher average score of verbal affection (M = 6.06, SD = 0.97) than did dissatisfied individuals (M = 4.80, SD = 1.42), in support of H2.

At the univariate level, satisfaction produced a significant main effect for nonverbal affection, F (1, 590) = 44.18, $p < .001$, partial $\eta^2 = .07$. For nonverbal affection, satisfaction was implicated in a three-way interaction with race and children, F (3, 590) = 2.68, $p = .046$, partial $\eta^2 = .01$. The satisfaction-by-race-by-children interaction was examined and found to be ordinal, with satisfied individuals consistently scoring higher in nonverbal affection than dissatisfied individuals.[v] A single-*df* planned contrast was fitted to the cells of the interaction, with coefficients of -1 for all cells with a dissatisfied individual and 1 for all cells with a satisfied individual. The contrast was significant, t (605) = 7.01, $p < .001$, in support of hypothesis two.

At the univariate level, satisfaction produced a significant main effect for supportive affection, F (1, 590) = 28.90, $p < .001$, partial $\eta^2 = .05$. For supportive affection, satisfaction was implicated in a two-way interaction with sex, F (1, 590) = 3.96, $p = .047$, partial $\eta^2 = .01$. The satisfaction-by-sex interaction was examined and found to be entirely ordinal, with satisfied cells scoring consistently higher in supportive affection than dissatisfied cells.[vi] A planned contrast with coefficients of -1 for the dissatisfied cells and 1 for the satisfied cells was significant, t (621) = 11.04, $p < .001$, in support of hypothesis two.

Research question three

The third research question asked how the frequency of various forms of affectionate communication varied for people in dissatisfying relationships. A within-subjects ANOVA, with affection form (verbal, nonverbal, and supportive) as the independent variable, was conducted for people in dissatisfying relationships only. The ANOVA, which employed Hunyh-Feldt-corrected degrees of freedom due to violation of compound symmetry assumptions, produced a significant within-subjects effect, F (1.967, 416.909) = 106.31, $p < .001$, $\eta^2 = .50$.

Only for people in dissatisfying relationships, paired-samples *t*-tests revealed that supportive affection ($M = 5.81$, $SD = 0.99$) was significantly more common than verbal affection ($M = 4.80$, $SD = 1.42$), t (212) = -12.54, $p < .001$, and nonverbal affection ($M = 4.71$, $SD = 1.29$), t (212) = -13.74, $p < .001$. Verbal and nonverbal affection means did not differ from each other.

Discussion

The purpose of this study was to explore whether relationship satisfaction moderated the associations between affection and well-being, and to explore the affectionate behaviors of dissatisfied couples. Given that negative social relationships can be particularly impactful on acute physical health (Wood & Stuart, 2021), examining affectionate behaviors in dissatisfying relationships is informative for couple/marriage therapy and relational interventionists. The results produced three primary conclusions regarding the affectionate behaviors in dissatisfying relationships and how affection impacts individual health (i.e., depression and stress) and relational quality (i.e., trust and closeness) across satisfied and dissatisfied relationships.

Primary conclusions

The first conclusion, as informed by the results of the first two research questions, is that relationship satisfaction does not impact the correlation between affectionate communication and trust, closeness, or depression. As reflected in previous work, regardless of an individual's

satisfaction level, affectionate communication seems to hold a positive relationship with both trust (Denes et al., 2019), and closeness (Floyd & Mikkelson, 2002), but holds a negative relationship with depression (Floyd et al., 2005; Jorm et al., 2003). These findings add to the growing list of supportive results for AET's (Floyd, 2006) assertion that affection is adaptive to people's health and relationships.

An interesting distinction, however, appeared when examining the moderation effect of relationship satisfaction of affection and stress. Subpostulate 3d AET (Floyd, 2006) asserts that affection has a stress-buffering impact on one's health and previous work has supported this notion (Coan et al., 2006; Floyd et al., 2009). The results obtained in this study, however, revealed that at low levels of relationship satisfaction, the effect of affectionate communication on stress was nonsignificant. This finding does not necessarily mean that when a person is relationally dissatisfied, affection is harmful to their stress, but rather it may not have an effect at all. A tentative conclusion, then, might be that being dissatisfied with a partner may inhibit any stress-buffering benefits of affection. This conclusion warrants retesting but could indicate a necessary caveat to AET's subpostulate 3d (Floyd, 2006).

At high levels of relationship satisfaction (5.68/7.00), however, affectionate communication had a significant and negative impact on stress. To be clear, the effect size of the moderation was small, which should temper interpretation of the moderating effect. Nonetheless, this finding may suggest that a couple would have to be *very* satisfied in their relationship to garner the benefits of affection on their stress levels. From our knowledge, this is the first study to reveal the potentially systematic difference between satisfied and dissatisfied couples on the impact of affection as a stress-buffer; thus, future replication work is needed. In summary, relationship satisfaction, an integral component of relational longevity (Le & Agnew, 2003), was

discovered to be a potential influencing agent on the benefits of affectionate communication as it relates to stress.

The second conclusion, as supported by the two hypotheses, is that relationally dissatisfied individuals are significantly deprived of affection and have significantly fewer affectionate encounters with their romantic partner as compared to relationally satisfied individuals. These findings are unsurprising given previous work conducted on affectionate deprivation (Hesse & Mikkelson, 2017; Hesse & Tian, 2020). Dissatisfied couples may be intentionally reducing their breath and depth (Altman & Taylor, 1973) of communication—including affection—potentially in preparation for relational dissolution (Knapp, 1978; Knapp & Vangelisti, 2005). Instead of examining affection cross-sectionally, it would be informative to track affectionate behaviors longitudinally to assess how variations in affectionate behavior is linked to relationship change, or vice versa (Cava-Tadik et al., 2020; Gass et al., 2007).

The third conclusion, based on the findings of the third research question, is that for dissatisfied individuals only, social support affection was significantly more common than verbal and nonverbal affection, two behaviors that are markedly impactful on relational experiences (Schrage et al., 2020). Verbal and nonverbal affection did not significantly differ in frequency. This finding illuminates the specific affectionate acts that may be severely lacking for dissatisfied couples. For long-term relationships, such as the married and engaged couples included in this study, social support affection may covary with relational maintenance behaviors or function as a relational maintenance behavior itself (Myers et al., 2011). If this is the case, the intent behind the act may be less affectionate but rather monotonous or mundane.

Taken together, these results begin to shape a clearer understanding of how affection is enacted and the importance of it in dissatisfied relationships. These results suggest that (a)

dissatisfied couples communicate affection primarily through socially supportive behaviors (as opposed to verbal or nonverbal affection) and (b) the impact of affection on relationship well-being (i.e., closeness and trust) is not dependent on relationship satisfaction. Thus, advising dissatisfied couples to increase their affectionate behaviors to increase relational well-being could be an informed strategy to relational repair.

Translational Section

The findings in this study may be useful in the practical sense as marriage and family therapists and other practitioners might benefit by understanding why the strength of the association between affection and health is important for informing marital interventions. The results suggest that affectionate communication has no beneficial impact on stress until the relationship is highly satisfying. Knowing this, therapists may encourage self-reliance techniques to reduce stress until the relational bond is strong enough to reap the stress-buffering benefits of affection. We temper this recommendation with the acknowledgement that this effect was small and future replication studies would help capture and clarify this finding. Additionally, knowing that dissatisfied couples communicate significantly more supportive affection than verbal or nonverbal affection, marriage counselors may forgo recommendations for increasing supportive affection—a routine behavior that may be occurring anyway—and instead focus their intervention on increased verbal and nonverbal affection. For example, promoting nonverbal affection in the form of hugs, handholding, caressing, or participating in cafuné (a Brazilian-Portuguese noun for describing the act of running fingers through someone's hair in a nurturing and loving nature) may be a gateway to engaging in increased enjoyable physical acts (van Raalte, 2017; van Raalte et al., 2016) and subsequently increasing relationship satisfaction (Sprecher & Cate, 2004).

In a non-romantic setting, hugging or cuddling interventions may stand as an effective way to increase relationship satisfaction and quality for parents and their children. Single parent families or families transitioning through divorce are undoubtedly riddled with stress for parents (Sbarra, 2015) and children (Amato, 2001). Cuddling as a family for 10-20 minutes daily for two weeks may improve familial bonds (see, L'Abate, 2001) and serve as a stress-buffering technique (Grewen et al., 2003). As previous studies indicate, highly affectionate individuals are relationally, cognitively, and physiologically benefited (Floyd, 2019), and because relationship satisfaction does not moderate most outcomes as found in this study, affection interventions for families during times of transition or turmoil may be considerably helpful.

Limitations & future directions

Several limitations of the current study are worth noting, especially to inform future scholarship. Doubling efforts in the recruiting strategy to gain more dissatisfied participants from a counseling center may have introduced unique variance into the data that was not accounted for. In the dataset, we did not track whether participants were attending therapy (individually or as a couple) or not and could not control for it in the analyses. Individuals who are voluntarily in therapy may have distinctive qualities that impacts our generalizable conclusions.

This study was limited by using self-report measures of depression and stress. Although the scales have been validated in previous work (see Cohen et al., 1983; Mohebbi et al., 2018; Radlof, 1977), more contemporary scholarship on affectionate communication has adopted psychophysiological methods (Floyd et al., 2020; Hesse et al., 2020; van Raalte & Floyd, 2020) that may improve the accuracy of health measurement. Tracking individual diurnal cortisol through saliva (Floyd, 2006) can provide a more objective measure of one's stress, for example, than can a self-report assessment. Clinicians' professional evaluation of one's mental state,

including depression, may also provide a more accurate assessment of a person's psychological well-being. Future work may also test AET's assertion that affection covaries with other important health markers such as immunocompetence, body mass index, resting heart rate, or cholesterol (Cohen et al., 2015; Ditzen et al., 2007; Floyd, 2019).

Additionally, we adopted a cross-sectional design and collected data from only one person in a romantic relationship. These methodological limitations impede our understanding of the affectionate nuances between romantic partners. A recent study by Hesse and Tian (2020) met these limitations by exploring actor and partner effects of affection on individual and relational well-being for married couples. Moreover, experimental work where specific affectionate acts are manipulated, particularly for dissatisfied couples, can provide important insight into how to improve relationship satisfaction for long-term couples.

Conclusion

The influence of affectionate communication on individual and relational well-being is well documented, yet relational research may be limited by its reliance on reports only from relationally satisfied individuals (Floyd et al., 2009; van Raalte et al., 2019). This study is the first known effort to extend knowledge about the wellness correlates of affectionate behavior specifically to individuals in dissatisfying relationships. Relationship satisfaction moderated the association between affection and stress, a finding which helps marriage therapists and other practitioners better understand when to encourage romantic affectionate behavior in couples and when its value may be tempered.

References

Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. Holt, Rinehart, & Winston.

Amato, P. R. (2001). Children of divorce in the 1990s: An update of the Amato and Keith (1991) meta-analysis. *Journal of Family Psychology, 15,* 355–370. http://doi.org/10.1037/0893-3200.15.3.355

Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*(4), 596–612. https://doi.org/10.1037/0022-3514.63.4.596

Bell, R. A., Buerkel-Rothfuss, N. L., & Gore, K. E. (1987). "Did you bring the yarmulke for the cabbage patch kid?" Idiomatic communication of young lovers. *Human Communication Research, 14*(1), 47–67. https://doi.org/10.1111/j.1468-2958.1987.tb00121.x

Cava-Tadik, Y., Brow, G. L., Mangelsdorf, S. C (2020). Fathers' satisfaction with physical affection before and after the birth of a new baby: Cross-parent effects and associations with family dynamics. *Journal of Family Issues, 41*(4):415-436. http://doi.org/10.1177/0192513X19875779

Coan, J. A., Schaefer, H.S., & Davidson, R. J. (2006). Lending a hand: Social regulation of the neural response to threat. *Psychological Science, 17*(12), 1032–1039. http://doi.org/10.1111/j.1467-9280.2006.01832.x

Cohen, S., Janicki-Deverts, D., Turner, R. B., & Doyle, W. J. (2015). Does hugging provide stress-buffering social support? A study of susceptibility to upper respiratory infection and illness. *Psychological Science, 26*(2), 135–147. https://doi.org/10.1177/0956797614559284

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385–396. https://doi.org/10.2307/2136404

Comer, R. J. (2017). *Abnormal Psychology* (9th ed.). Worth.

Dainton, M., & Stafford, L. (1993). Routine maintenance behaviors: A comparison of relationship type, partner similarity and sex differences. *Journal of Social and Personal Relationships, 10*(2), 255–271. https://doi.org/10.1177/026540759301000206

Dainton, M., Stafford, L., & Canary, D. J. (1994). Maintenance strategies and physical affection as predictors of love, liking, and satisfaction in marriage. *Communication Reports, 7*(2), 88–98. https://doi.org/10.1080/08934219409367591

Denes, A. (2012). Pillow talk: Exploring disclosures after sexual activity. *Western Journal of Communication, 76*(2), 91–108. https://doi.org/10.1080/10570314.2011.651253

Denes, A., Horan, S. M., & Bennett, M. (2019). "Faking it" and affectionate communication: Exploring the authenticity of orgasm and relational quality indicators. *Personality and Individual Differences, 151*, 109470. https://doi.org/10.1016/j.paid.2019.06.013

Ditzen, B., Neumann, I. D., Bodenmann, G., von Dawans, B., Turner, R. A., Ehlert, U., & Heinrichs, M. (2007). Effects of different kinds of couple interaction on cortisol and heart rate responses to stress in women. *Psychoneuroendocrinology, 32*(5), 565–574. https://doi.org/10.1016/j.psyneuen.2007.03.011

Duba, J. D., Hughey, A. W., Lara, T., & Burke, M. G. (2012). Areas of marital dissatisfaction among long-term couples. *Adultspan, 11*(1), 39–54. https://doi.org/10.1002/j.2161-0029.2012.00004.x

Floyd, K. (2001). Human affection exchange: I. reproductive probability as a predictor of men's affection with their sons. *The Journal of Men's Studies, 10*(1), 39–50. https://doi.org/10.3149/jms.1001.39

Floyd, K. (2002). Human affection exchange: V. Attributes of the highly affectionate. *Communication Quarterly*, *50*(2), 135–152. https://doi.org/10.1080/01463370209385653

Floyd, K. (2006). *Communicating affection: Interpersonal behavior and social context.* Cambridge University Press. https://doi.org/10.1017/cbo9780511606649

Floyd, K. (2014). Relational and health correlates of affection deprivation. *Western Journal of Communication, 78*(4), 383–403. https://doi.org/10.1080/10570314.2014.927071

Floyd, K. (2016). Affection deprivation is associated with physical pain and poor sleep quality. *Communication Studies*, *67*(4), 379–398. http://dx.doi.org/10.1080/10510974.2016.1205641

Floyd, K. (2019). *Affectionate communication in close relationships*. Cambridge University Press. https://doi.org/10.1017/9781108653510

Floyd, K., Boren, J. P., Hannawa, A. F., Hesse, C., McEwan, B., & Veksler, A. E. (2009). Kissing in marital and cohabiting relationships: effects on blood lipids, stress, and relationship satisfaction. *Western Journal of Communication, 73*(2), 113–133. https://doi.org/10.1080/10570310902856071

Floyd, K., & Hesse, C. (2017). Affection deprivation is conceptually and empirically distinct from loneliness. *Western Journal of communication*, *81*(4), 446–465. https://doi.org/10.1080/10570314.2016.1263757

Floyd, K., Hesse, J. A., Miczo, L. A., Halone, K. K., Mikkelson, A. C., & Tusing, K. J. (2005). Human affection exchange: VIII. Further evidence of the benefits of expressed affection. *Communication Quarterly*, 53, 285-303. https://doi.org/10.1080/01463370500101071

Floyd, K., & Mikkelson, A. C. (2002, November). Psychometric properties of the affectionate communication index in family communication research. Paper presented at the annual meeting of the National Communication Association, New Orleans, LA.

Floyd, K., & Morman, M. T. (1998). The measurement of affectionate communication. *Communication Quarterly*, *46*(2), 144–162. http://doi.org/10.1080/01463379809370092

Floyd, K., Ray, C. D., van Raalte, L. J., Stein, J. B., & Generous, M. A. (2018). Interpersonal touch buffers pain sensitivity in romantic relationships but heightens sensitivity between strangers and friends. *Research in Psychology and Behavioral Sciences*, *6*(1), 27–34. https://doi.org/10.12691/rpbs-6-1-4

Floyd, K., Woo, N. T., & Custer, B. E. (2020). The biology of affectionate communication. In K. Floyd, & R. Weber (Eds.), *The handbook of communication science and biology* (pp. 308-318). Routledge.

Gabbay, N., Lafontaine, M., & Bourque, L. (2012). Factor structure and reliability assessment of the Dyadic Trust Scale with individuals in same-sex romantic relationships. *GLBT Family Studies*, *8*(3), 258–269. https://doi.org/10.1080/1550428X.2012.677237

Gächter, S., Starmer, C., & Tufano, F. (2015). Measuring the closeness of relationships: A comprehensive evaluation of the 'Inclusion of Other in the Self' scale. *PLoS One*, *10*(6), Article e0129478. https://doi.org/10.1371/journal.pone.0129478

Gass, K., Jenkins, J., & Dunn, J. (2007). Are sibling relationships protective? A longitudinal study. *Journal of Child Psychology & Psychiatry, 48*(2), 167–175. https://doi-org.ezproxy.shsu.edu/10.1111/j.1469-7610.2006.01699.x

Grewen, K. M., Anderson, B. J., Girdler, S. S., & Light, K. C. (2003). Warm partner contact is related to lower cardiovascular reactivity. *Behavioral Medicine, 29*(3), 123–130. https://doi.org/10.1080/08964280309596065

Gulledge, A. K., Gulledge, M. H., & Stahmannn, R. F. (2003). Romantic physical affection types and relationship satisfaction. *The American Journal of Family Therapy, 31*(4), 233–242. https://doi.org/10.1080/01926180390201936

Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). Guilford Press.

Hesse, C., Floyd, K., Rains, S. R., Mikkelson, A. C., Pauley, P. M., Woo, N. T., Custer, B. E., & Duncan, K. L. (2020). Affectionate communication and health: A meta-analysis. *Communication Monographs.* Advance online publication. https://doi.org/10.1080/03637751.2020.1805480

Hesse, C., & Mikkelson, A. C. (2017). Affection deprivation in romantic relationships. *Communication Quarterly, 65*(1), 20–38. https://doi.org/10.1080/01463373.2016.1176942

Hesse, C., Mikkelson, A. C., & Saracco, S. (2018). Parent-child affection and helicopter parenting: Exploring the concept of excessive affection. *Western Journal of Communication, 82*(4), 457–474. https://doi.org/10.1080/10570314.2017.1362705

Hesse, C., & Rauscher, E. A. (2019). The relationship between doctor-patient affectionate communication and patient perceptions and outcomes. *Health Communication, 34*(8), 881–891. https://doi.org/10.1080/10410236.2018.1439269

Hesse, C., & Tian, X. (2020). Affection deprivation in marital relationships: An actor-partner interdependence mediation analysis. *Journal of Social and Personal Relationships, 37*(3), 965–985. http://doi.org/10.1177/0265407519883697

Jorm, A., Dear, K., Rodgers, B., & Christensen, H. (2003). Interaction between mother's and father's affection as a risk factor for anxiety and depression symptoms. Social Psychiatry and Psychiatric Epidemiology, 38, 173–179. https://doi.org/10.1007/s00127-003-0620-9

Knapp, M. L. (1978). *Social intercourse: From greeting to goodbye.* Allyn & Bacon

Knapp, M. L., & Vangelisti, A. (2005). *Interpersonal communication and human relationships* (5th ed.). Allyn & Bacon.

L'Abate, L. (2001). Hugging, holding, huddling and cuddling (3HC). *Journal of Clinical Activities, Assignments & Handouts in Psychotherapy Practice, 1,* 5-18. http://doi.org/10.1300/J182v01n01_02

Larzelere R. E., & Huston, T. L. (1980). The dyadic trust scale: Toward understanding interpersonal trust in close relationships. *Journal of Marriage and the Family, 42*(3), 595–604. https://doi.org/10.2307/351903

Le, B., & Agnew, C. (2003). Commitment and its theorized determinants: A meta-analysis of the investment model. *Personal Relationships, 10,* 37–57. https://doi.org/10.1111/1475-6811.00035

Light, K. C., Grewen, K. M., & Amico, J. (2005). More frequent partner hugs and higher oxytocin levels are linked to lower blood pressure and heart rate in premenopausal

women. *Biological Psychology, 69*(1), 5–21. https://doi.org/10.1016/j.biopsycho.2004.11.002

Mansson, D. H. (2014). Trust as a mediator between affection and relational maintenance in the grandparent-grandchild relationship. *Southern Communication Journal, 79*(3), 180–200. https://doi.org/10.1080/1041794x.2014.894555

Mohebbi, M., Van Nguyen, J. J., McNeil, R. L., Woods, M. R., Nelson, Shah R. C., Storey, E., Murray, A. M., Reid, C. M., Kirpach, B., Wolfe, R., Lockery, J. E., & Berk, M. (2018). Psychometric properties of a short form of the Center for Epidemiologic Studies Depression (CES-D-10) scale for screening depressive symptoms in healthy community dwelling older adults. *General Hospital Psychiatry, 51,* 118–125. https://doi.org/10.1016/j.genhosppsych.2017.08.002

Morman, M. T., & Floyd, K. (1999). Affectionate communication between fathers and young adult sons: Individual- and relational-level correlates. *Communication Studies, 50*(4), 294–309. https://doi.org/10.1080/10510979909388501

Muise, A., Giang, E., & Impett, E. A. (2014). Post sex affectionate exchanges promote sexual and relationship satisfaction. *Archives of Sexual Behavior, 43*(7), 1391–1402. https://doi.org/10/1007/s10508-014-0305-3

Myers, S. A., Byrnes, K. A., Frisby, B. N., & Mansson, D. H. (2011). Adult siblings' use of affectionate communication as a strategic and routine relational maintenance behavior. *Communication Research Reports, 28*(2), 151–158. http://doi.org/10.1080/08824096.2011.565276

Punyanunt-Carter, N. M. (2004). Reported affectionate communication and satisfaction in marital and dating relationships. *Psychological Reports, 95*(3_suppl), 1154–1160. https://doi.org/10.2466/pr0.95.3f.1154-1160

Radloff, L. S. (1977). The CED-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385–401. https://doi.org/10.1177/014662167700100306

Røsand, G.-M. B., Slinning, K., Røysamb, E., & Tambs, K. (2014). Relationship dissatisfaction and other risk factors for future relationship dissolution: A population-based study of 18,523 couples. *Social Psychiatry and Psychiatric Epidemiology*, *49*(1), 109–119. https://doi.org/10.1007/s00127-013-0681-3

Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, *5*(4), 357–387. https://doi.org/10.1111/j.1475-6811.1998.tb00177.x

Sbarra, D. A. (2015). Divorce and health: Current trends and future directions. *Psychosomatic Medicine*, *77*, 227–236. http://www.doi.org/10.1097/PSY.0000000000000168

Schrage, K. M., Maxwell, J. A., Impett, E. A., Keltner, D., & MacDonald, G. (2020). Effects of verbal and nonverbal communication of affection on avoidantly attached partners' emotions and message receptiveness. *Personality and Social Psychology Bulletin*, *46*(11), 1567–1580. https://doi.org/10.1177/0146167220910311

Simpson, J. A. (2007). Foundations of interpersonal trust. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: A handbook of basic principles* (2nd ed., pp. 587–607). Guilford Press.

Sprecher, S., & Cate, R. (2004). Sexual satisfaction and sexual expression as predictors of relationship satisfaction and stability. In J. H. Harvey, A. Wenzel, & S. Sprecher (Eds.), *The handbook of sexuality in close relationships* (pp. 235–256). Erlbaum. https://doi.org/10.4324/9781410610249

van Raalte, L. J. (2017). *The influence of cuddling on relational health for cohabitating couples* (Doctoral dissertation). https://repository.asu.edu/items/44251

van Raalte, L. J., & Floyd, K. (2020). Daily hugging predicts lower levels of two proinflammatory cytokines. *Western Journal of Communication.* Advance online publication. http://doi.org/10.1080/10570314.2020.1850851

van Raalte, L. J., Floyd, K., Kloeber, D., & Veluscek, A. M. (2020). Exploring the associations between unwanted affection, stress, and anxiety. *Journal of Social and Personal Relationships.* Advance online publication. https://doi.org/10.1177/0265407520966052

van Raalte, L. J., Floyd, K., & Mongeau, P. A. (2019). The effects of cuddling on relational quality for married couples: A longitudinal investigation. *Western Journal of Communication, 85*(1), 61–82. https://doi.org/10.1080/10570314.2019.1667021

van Raalte, L. J., Stein, J., & Mongeau, P. A. (2016, July). *Conceptualizing and operationalizing sexual affection*. Paper presented at the International Association for Relationship Research Conference in Toronto, Canada.

Wheeless, L. R. (1978). A follow-up study of the relationships among trust, disclosure, and interpersonal solidarity. *Human Communication Research*, *4*(2), 143–157. https://doi.org/10.1111/j.1468-2958.1978.tb00604.x

Wood, V. M., & Stuart, H. (2021). Should strengthening bonds be a public health priority? A population-based analysis. *European Journal of Health Psychology*. Advance online publication. https://doi.org/10.1027/2512-8442/a000074

World Health Organization (2021, January). *Depression*. http://www.who.int/mediacentre/factsheets/fs369/en/

Table 1

Descriptive Statistics of Study Variables Across Relationship Status

Relationship Status	Unmarried (n = 491)		Engaged (n = 47)		Married (n = 93)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Relationship length in years	2.03	2.23	3.73	3.34	10.82	7.53
Cohabitating length in years	1.47	1.79	2.95	3.79	9.11	7.54
Verbal affection	5.70	1.23	5.47	1.49	5.38	1.45
Nonverbal affection	5.64	1.10	5.23	1.15	4.96	1.37
Social support affection	6.34	0.80	6.24	0.86	6.22	0.83
Trust	5.27	1.39	5.11	1.50	5.00	1.59
Closeness	4.32	1.65	4.28	1.90	4.43	2.02
Stress	4.04	1.18	4.28	0.93	3.96	1.25
Depression	1.12	0.64	1.32	0.60	1.22	0.70
Affection deprivation	3.37	1.55	3.50	1.64	3.75	1.97
Relationship satisfaction	4.55	1.98	4.99	1.76	5.16	1.62

Note. The descriptive statistics for cohabitating length in years reflects only those participants who reported living with a romantic partner.

Table 2

Descriptive Statistics, Reliability Estimates, and Intercorrelations for Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Verbal affection	5.63	1.28	--								
2. Nonverbal affection	5.51	1.17	.64	--							
3. Social support affection	6.32	0.81	.65	.61	--						
4. Relationship satisfaction	5.06	1.69	.54	.57	.49	--					
5. Trust	5.22	1.43	.42	.39	.36	.76	--				
6. Closeness	4.33	1.72	.40	.40	.36	.58	.46	--			
7. Stress	4.05	1.18	-.19	-.22	-.15	-.34	-.31	-.21	--		
8. Depression	1.15	0.65	-.23	-.28	-.24	-.49	-.43	-.32	.72	--	
9. Affection deprivation	3.44	1.63	-.27	-.34	-.20	-.57	-.55	-.40	.29	.35	--
10. Total ACI	5.77	0.97	.87	.92	.80	.62	.45	.44	-.22	-.29	-.33

Note. All correlations are one-tailed significant $p < .001$.

Table 3

Moderating Effects of Satisfaction on Associations with Affectionate Communication

	Trust	*Closeness*	*Stress*	*Depression*
Covariates				
Participant age	.01	.03		-.01
Partner age	.01	-.02		
Participant sex			.59**	.17**
Partner ethnicity				.05
Predictors				
Affection (X)	-.01	.23**	-.09	-.02
Satisfaction (W)	.68**	.51**	-.24**	-.20**
Interaction				
X × W	.05*	-.02	-.07*	-.04**

Note. Values in table are unstandardized regression coefficients from PROCESS model 1. $^{*}p < .05$; $^{**}p < .01$.

Footnotes

[i] Participant partner demographics included 133 females and 493 males (two partners were identified as transgender, and three participants failed to report their partner's sex). Partners had a mean age of 24.94 years (*SD* = 7.85) and 144 were identified as Hispanic. In terms of race, partners were 59% white, 19% Latino/a, 16% Black/African American, 3% "other" and 1% Asian (the remaining participants reported mixed ethnicities or other ethnicities). Partner sexuality was not collected.

[ii] A between-subjects ANOVA was conducted with relationship status (i.e., unmarried, engaged, or married) as the independent factor, and the combined affectionate communication score, affection deprivation, trust, closeness, depression, and stress as the set of dependent variables. Only the affectionate communication score produced a significant result, F (6, 628) = 8.61, $p < .001$, $\eta^2 = .03$. Tukey B post hoc analysis showed that the unmarried sample reported engaging in significantly more affection (M = 5.85) as compared to the married sample (M = 4.43) but did not differ from the engaged sample (M = 5.58). The married and engaged sample did not significantly differ on reported affection.

[iii] For the first and second research questions, we used the combined affectionate communication score instead of individual scores for verbal, nonverbal, and socially supportive affectionate communication so that the results would be more comparable with previous research on the benefits of affectionate behavior and so as not to inflate alpha error unnecessarily.

[iv] The MANCOVA also produced significant multivariate effects for partner age and the presence of children in the household. Several multivariate interactions effects were also significant. Contact the first author for comprehensive statistical report.

[v] Contact the first author for a table depicting the means and standard deviations for nonverbal affection by satisfaction x race x children (N = 628)

[vi] Contact the first author for a table depicting the means and standard deviations for supportive affection by satisfaction x sex (N = 628).