

# Trait Affectionate Communication Influences Perceived Fitness as a Parent and Romantic Partner: A Test of Affection Exchange Theory

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**Abstract** According to affection exchange theory (AET), the tendency to communicate affection is evolutionarily adaptive in humans. Whereas much research has documented the health and social outcomes of affectionate communication, its role in potential pair-bonding and reproductive success has received less attention. AET proposes that high trait levels of affectionate communication covary with the perception that one is a fit potential romantic partner and a fit potential parent. This experiment investigated these claims, along with the claim that trait affectionate communication makes one a more desirable potential dating partner. The study found partial support for AET's postulate 3b, indicating that the assessment of fit parenthood and fit partnership is moderated by gender. No association between affectionate communication and dating desirability was identified.

**Keywords:** *affection, affectionate communication, affection exchange theory, reproductive success*

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## 1. Introduction

Affectionate communication is a principal behavior for forming and maintaining personal relationships [1]. Affection, defined as an emotional state of fondness and intense positive regard directed at a living or once-living target [2], has long been considered a fundamental human need [3]. The expression of affectionate feelings, in the form of affectionate communication, consequently covaries with a wide range of individual and relational benefits [4].

Specifically, a substantial empirical literature confirms that affectionate relationships tend to be healthy relationships. Affectionate communication is associated with multiple indicators of relationship quality, including investment [5], relational maintenance [6], satisfaction [7], liking [6], love [8], and closeness [9]. On the contrary, a lack of spousal affection is one of the most cited reasons for seeking marital therapy [10] and divorce [11].

Affection exchange theory (AET) frames the tendency to exchange affectionate communication as evolutionarily adaptive, insofar as it serves as an advantageous trait promoting both viability and reproductive success [1]. Whereas much research has documented the benefits of affection for health and viability [12], fewer studies have explored the association between affectionate

communication and reproductive success, via pair bonding and procreation. This study directly addresses the question of whether being a highly affectionate person is considered a desirable quality in a potential romantic partner and/or perceived as desirable for a potential parent.

To frame that question, this review first explores AET and articulates its direct claims about the value of affectionate communication when forming perceptions of potential romantic partners and parents. Working from that theoretic premise, we then review claims and evidence regarding viability and reproductive success, situate the current study in the context of online dating, and identify theoretically derived hypotheses.

## 2. Affection Exchange Theory

AET takes an explicitly Darwinian approach to explaining why humans communicate affection and with what effects [1,4]. The theory proposes that the need and capacity for affection are inborn and heritable [13] because the tendency to feel and express affection is evolutionarily adaptive with respect to humans' superordinate goals of viability and fertility. Expressed differently, humans feel and communicate affection with each other because doing so avails them of resources that are consequential to their survival and procreation success, including social and emotional support, protection,

tangible resources, and sexual access. Since its formal introduction in 2001, AET has been tested in more than 135 empirical investigations.

### 3. Trait Affectionate Communication, Viability, and Reproductive Success

Individual affectionate behavior can be situationally bound, yet communicators also vary in their trait level of affectionate communication, with some people routinely giving and receiving more affection than others [14]. If exchanging affection supports viability, as AET claims, then it stands to reason that highly affectionate individuals are advantaged, relative to their low-affection counterparts, in their mental and physical health and wellness. A robust empirical literature finds this to be the case. High trait levels of affectionate communication are associated with greater 24-hour cortisol variation [15], lower resting heart rate and blood glucose [16], ameliorated stress reactivity [17], and elevated immunocompetence [18], among other health benefits. Similarly, highly affectionate individuals are happier, less stressed, and less depressed than less-affectionate individuals [7,14]. A recent meta-analysis reported a weighted mean effect of  $r = .23$  for the association between affectionate communication and health, with the strongest associations for cardiovascular health ( $r = .40$ ) and stress reactivity ( $r = .31$ ) [12].

Considerably less attention has been paid thus far to the potential role of affectionate communication in reproductive success, defined as success in replicating one's genetic material in subsequent generations [19]. According to Hamilton's concept of inclusive fitness, people can attain reproductive success both through direct procreation (having offspring of their own) and through contributions to the viability of others who share their genetic material (e.g., cousins, nieces, nephews). *Hamilton's rule* asserts that any trait—which includes trait affectionate communication—can be favored by natural selection only if its summative effect on reproductive success is greater than zero.

Two specific postulates in AET claim a connection between trait affectionate communication and reproductive success. Postulate 4b, for instance, offers that affectionate communication given to one's biological offspring enhances one's own reproductive success by contributing to the offspring's health and viability. In early applications of AET, Floyd hypothesized that *because* affectionate communication contributes to children's viability, parents are subconsciously motivated to offer more affection to children who are more likely to procreate than to children who are less likely to do so [20,21]. These predictions were supported in the context of men's relationships with their sons, suggesting that fathers may be subconsciously attuned to their sons' likelihood of contributing to their own reproductive success [22,23].

Further, postulate 3b offers that affectionate communication serves reproductive success by depicting an affectionate individual as a viable romantic partner and a fit potential parent. Implicit in this claim is the idea that a high trait level of affectionate communication is a desired quality when one is seeking a romantic partner and

also when one is speculating about an individual's parental fitness. Floyd proposed that affectionate communication is conducive to pair bonding and romantic commitment, as well as to childrearing, both of which enhance the likelihood that any offspring resulting from a romantic union will survive to sexual maturity and thus be able to contribute to the parents' reproductive success [1].

Although substantial evidence connects affectionate communication to relationship quality [4], limited empirical research has thus far examined the validity of postulate 3b. The degree to which affection has been investigated as a desirability in mate selection or dating literature is limited. Early research has observed affectionate nature as a highly ranked, desirable characteristic in a potential marriage partner [24], though no interpretations were offered in these findings. More recent research has investigated the desirability of affection, with the caveat of a selective population [25]. Moreover, the corpus of mate selection literature has delved into behaviors or characteristics that could be deemed derivative or related to affection. These include characteristics such as being caring [26], kindness [27], understanding [28], or a desire for children [29]. Thus, this study contributes to filling gaps in mate selection literature by taking a deeper dive in the desirability of affection in romantic partners.

Is it true that being highly affectionate increases one's desirability as a romantic partner and one's perceived parental fitness? If so, then AET's claim of a connection between affectionate communication and reproductive success is enhanced. Such is the focus of the present study, described subsequently.

### 4. The Present Study

This study represents the first empirical attempt to validate AET's assertion that highly affectionate individuals are advantaged, relative to their low-affection counterparts, in how they are evaluated by others as potential romantic partners and potential parents, *ceteris paribus*. We chose to frame this initial test in the context of online dating, given its contemporary ubiquity in human sexual selection [30].

In the online dating context, individuals typically create and post a profile that offers photographs, demographic information, and a short summary of interests and characteristics. Others then see that profile and decide whether to communicate with the individual being depicted. An online dating profile is therefore a suitable setting to observe human sexual selection in progress. Rosenfeld and colleagues found that, over the last four decades, the proportion of romantic relationships initiated in this manner increased from approximately 2% to nearly 40%, substantially surpassing the proportion of relationships wherein the couple met through friends, coworkers, or relatives; met in a bar or restaurant; met in school or college; or met in church [30]. We therefore contend that an online dating setting is a valid context in which to observe the effects of depicting oneself as highly affectionate on the perceptions of those who observe that individual's profile.

We further elected in this initial test to limit the

experiment to heterosexual dyads. AET is agnostic on the issue of sexual orientation, offering no basis for hypothesizing that high trait affectionate communication is differentially attractive when evaluating a potential romantic partner of the same or another sex. Similarly, there is no theoretic basis for predicting that perceptions of parental fitness are affected by trait affectionate communication differently for different sexual orientations. Nonetheless, because same-sex romantic pairs cannot sexually reproduce, we surmised that assessments of partner fitness and parental fitness are more likely to coincide in heterosexual pairs (i.e., individuals are more likely to make both assessments of a potential partner simultaneously when the possibilities of both pair bonding and sexually reproducing are present). This feature necessarily restricts the generalizability of any observed support for the theory's claims about reproductive success to heterosexual pairs, but for simplicity's sake, we designed the study in this way for this initial test.

#### 4.1. Hypotheses

In accordance with AET's postulate 3b, affection serves fertility by advertising one's fitness as a potential partner and parent. In the context of online dating profiles, we therefore hypothesize:

**H1:** Affection levels attributed to profiled individuals are positively related to participants' evaluations of those individuals as fit potential parents.

**H2:** Affection levels attributed to profiled individuals are positively related to participants' evaluations of those individuals as fit potential romantic partners.

If it is the case that highly affectionate individuals are perceived as more fit potential romantic partners, we further reasoned that such individuals are considered more desirable dating partners:

**H3:** Affection levels attributed to profiled individuals are positively related to the individuals' desirability for dating.

## 5. Method

### 5.1. Participants

Participants ( $N = 901$ ) were 448 men, 447 women, and 6 who did not report a gender who ranged in age from 18 to 86 years, with an average age of 41.72 years ( $SD = 14.83$ ). With respect to ethnicity, most (92.6%) identified as non-Hispanic, whereas 7.4% identified as Hispanic. With respect to race, 68.7% identified as White, 16.2% as Black/African American, 11.7% as Asian, 5.8% as Latino/a, 1.7% as Native American or Aleut, 0.6% as Middle Eastern/Northern African, 0.3% as Arab, 0.3% as Native Hawaiian/Pacific Islander, and 1.5% as representing other racial backgrounds. Participants represented all 50 U.S. states and the District of Columbia. Approximately one-third (34.9%) had a high school education or less, whereas 7.0% had a vocational, technical, or trade school diploma, 11.0% had an associate's degree, 33.5% had a bachelor's degree, 11.4% had a master's degree, and 2.2% had a doctoral degree.

### 5.2. Procedure

Participants were recruited via the online recruitment portal Prolific Academic. Recruitment was limited to individuals who had self-identified to Prolific as heterosexual, 18+ years of age, living in the United States, and not currently in a romantic relationship. Eligible participants were invited to provide feedback on a "developing dating app intended to make people feel closer together." A total of 1,099 participants was initially recruited and 198 were disqualified for various reasons (returning unusable data, being in a romantic relationship, failing attention checks, etc.) A PRISMA flow diagram, presented in Figure 1, details the recruitment process [31]. The study was approved by the university's institutional review board.

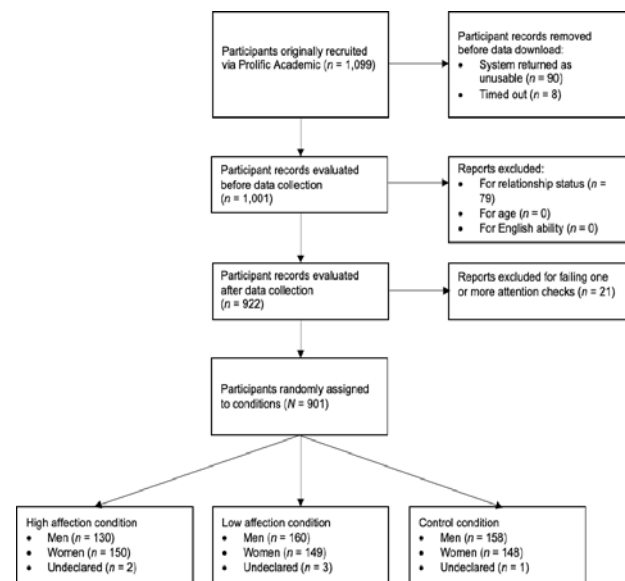


Figure 1. PRISMA flow diagram ( $N = 901$ )

Participants saw a profile followed by a questionnaire segmented into four portions: attractiveness of the profile, interpretation of affectionate and parental appeal of the profile, the visual appeal of the profile interface, and trait affection of the participant. Finally, demographic information was collected from the participant alongside a debrief of the study. Participants were compensated \$2.10 US for their time. The median time for completion was 5 minutes and 45 seconds, which equated to an average of \$21.97 per hour.

The profiles were constructed to be read in a horizontal, left-to-right direction with a body of text on the left side and the image placed on the right side. All profiles had an "About me" section with the statements "You can often find me reading," "I like to test out new cooking recipes," "Love playing soccer on a sunny day," and "Always looking for a concert buddy." In the same section, a single statement varied depending on whether the profile represented a high, low, or control profile. High affection profiles had the statement "I'm very affectionate," low affection profiles had the statement "I'm reserved with showing affection," and control profiles had no additional statement mentioning affection. All profiles had the name "Alex," with the age of 24. The statements in the profile were meant to resemble familiar statements that could be found on common dating applications. Thus, the messages

include a habit (you can often find me reading), an interest (love playing soccer on a sunny day), a skill (I like to test out new cooking recipes), and a call to action (always looking for a concert buddy). These statements are not formal or scientifically recognized classifications but rather were guiding categories to create statements that may feel natural to a dating profile.

The sample size of 901 represents  $n = \sim 75$  for each cell in a  $2 \times 3 \times 2$  factorial design. A power analysis conducted in G\*Power 3 [32] indicates that a sample of 900 provides >95% power to detect a moderate (.20) effect size (eta-squared) at  $\alpha = .05$  in the proposed factorial model.

### 5.3. Selection of Images

To construct the online dating profiles to be used as the experimental manipulation, we began by drawing from the materials of Custer, who conducted a pilot study to identify male images that did not differ significantly in their perceived level of physical attractiveness (which would be expected to exert an independent influence on dating desirability) [33]. Those male images were then used in this study, alongside a replicated pilot study to accomplish the same goal for female images.

#### 5.3.1. Custer Pilot Study

Participants ( $N = 100$ ) ranged in age from 21 to 70 years ( $M = 39.88$  years,  $SD = 11.42$ ). Most (63.6%) identified as male, whereas 36.4% identified as female. With respect to ethnicity, 3.0% identified as Hispanic and 97.0% as non-Hispanic. With respect to race, 86.0% identified as White, 6.0% as Black/African American, 4.0% as Asian/Pacific Islander, 3.0% as Native American or Aleut, and 3.0% as Latino/a. (In all participant descriptions, percentages sum to >100 because participants could select more than one racial identity.)

Six male images were culled from online sources and presented in greyscale. Participants were presented with each photo, one at a time, and asked “how physically attractive is this person?” (1 = *not at all attractive*, 9 = *very attractive*). A repeated-measures ANOVA using Huynh-Feldt-corrected degrees of freedom found that the six photos differed significantly in attractiveness,  $F(4.21, 412.82) = 10.24$ ,  $p < .001$ ,  $\eta^2 = .10$ . According to a two-tailed pairwise comparison, however, two specific photos did not differ significantly in attractiveness,  $t(99) = 0.97$ ,  $p = .34$ , with one photo scoring 6.02 ( $SD = 1.52$ ) and the other scoring 5.88 ( $SD = 1.62$ ).

#### 5.3.2. Novel Pilot Study

Participants ( $N = 175$ ) ranged in age from 18 to 62 years ( $M = 20.29$  years,  $SD = 4.21$ ). Most (73.6%) identified as female, whereas 24.1% identified as male, 1.1% as transgender, and the remainder declined to report a gender identity. With respect to ethnicity, 15.4% identified as Hispanic and 84.6% as non-Hispanic. With respect to race, 80.0% identified as White, 8.0% as Asian/Pacific Islander, 5.7% as Latino/a, 5.1% as Black/African American, 2.9% as Native American or Aleut, and 1.7% as another race.

Following the procedure of the Custer pilot study [33], five female images were culled from online sources and

presented in greyscale. Participants were asked the same question about attractiveness that was used by Custer. A repeated-measures ANOVA using Huynh-Feldt-corrected degrees of freedom found that the five photos differed significantly in attractiveness,  $F(3.81, 663.82) = 80.85$ ,  $p < .001$ ,  $\eta^2 = .46$ . According to a two-tailed pairwise comparison, however, two specific photos did not differ significantly in attractiveness,  $t(174) = 1.74$ ,  $p = .08$ , with one photo scoring 5.15 ( $SD = 2.08$ ) and the other scoring 4.91 ( $SD = 2.01$ ).

### 5.4. Manipulations

The profiles to which participants responded embodied two manipulations. First, the gender of the person featured in the profile was manipulated by using two male and two female photos (photo A and photo B for each gender) determined by pilot research not to differ significantly in their physical attractiveness. Second, the trait affection level of the person featured in the profile was manipulated by describing high-affection daters as “very affectionate,” low-affection daters as “reserved with showing affection,” and daters with control profiles with no additional statement describing affectionate behavior. In summary, each profile—whether high-affection, low-affection, or control—contained identical statements, but the control group excluded any statement referencing affection and thus had overall four statements instead of five. Each statement was complemented by identical neutral statements. The trait affection level of the profile was checked in the questionnaire by asking participants questions about the affection level of the person being featured in the profile.

Male participants were randomly assigned to view a female high- or low-affection profile, and female participants were randomly assigned to view a male high- or low-affection profile. The study design was therefore a  $2$  (profile photo sex: male v. female)  $\times 3$  (affection level of profile: high affection v. low affection v. control)  $\times 2$  (individual photo: photo A v. photo B) factorial in which participant sex and affection level were fixed factors and individual photo was a random factor.

### 5.5. Measures

*Parental evaluation*, the degree to which the participant viewed the profile as a potentially fit parent, was measured by two items as 7-point Likert scale type questions (from 1 = *strongly disagree* to 7 = *strongly agree*). The two items were “I imagine that this person would make a good parent” and “this person seems like he or she would someday be a good parent.” *Romantic partner evaluation*, the degree to which the participant viewed the profile as a potentially fit romantic partner, was measured by two items as 7-point Likert scale type questions (from 1 = *strongly disagree* to 7 = *strongly agree*). The two items were “this person strikes me as someone who would be a good romantic partner” and “I wouldn’t think of this person as being a very good romantic partner.” *Dating desirability*, the degree to which the participant viewed the profile as desirable to engage in a romantic relationship, was measured by two items as 7-point Likert scale type questions (from 1 = *strongly disagree* to 7 = *strongly agree*). The two items were “If I

were looking to date someone, I would be interested in this person” and “I would have no interest in dating this person.” Table 1 presents descriptive statistics, internal reliability estimates, and intercorrelations for all study variables.

**Table 1. Descriptive statistics, internal reliability estimates, and intercorrelations for study variables ( $N = 901$ )**

| Variable               | <i>M</i> | <i>SD</i> | $\alpha$ | 1    | 2    |
|------------------------|----------|-----------|----------|------|------|
| 1. Parental evaluation | 4.35     | 1.19      | .95      | --   |      |
| 2. Partner evaluation  | 4.33     | 1.41      | .81      | .61* | --   |
| 3. Interest in dating  | 3.73     | 1.88      | .89      | .46* | .65* |

Note. \* $p < .01$  (two-tailed).

## 5.6. Manipulation Check

The affection manipulation was checked by asking participants to report their agreement with two statements: “The person in this profile seems quite affectionate” and “Based on the profile, I would expect this person to be an affectionate person.” Agreement on each item was measured on a 7-point Likert scale (from 1 = *strongly disagree* to 7 = *strongly agree*), Cronbach’s  $\alpha = .94$ .

## 6. Results

### 6.1. Manipulation Check

Participants’ reports of the profiles’ affection levels were compared in a oneway ANOVA with the experimental condition (high, low, control) as the independent factor. The ANOVA was significant,  $F(2, 898) = 128.85$ ,  $p < .001$ ,  $\eta^2 = .22$ . Three single-*df* planned contrasts were used to verify that the high-affection condition was perceived as more affectionate than the low-affection and control conditions and that the control condition was perceived as more affectionate than the low-affection condition. The first contrast, which assigned coefficients of 1 to the high condition, -1 to the low condition, and 0 to the control condition, was significant,  $t(898) = 15.72$ ,  $p < .001$ , 95% CI for value of contrast [1.6295, 2.0946]. The second contrast, which assigned contrast coefficients of 1 to the high condition, 0 to the low condition, and -1 to the control condition, was significant,  $t(898) = 5.43$ ,  $p < .001$ , 95% CI for value of contrast [.4122, .8791]. Finally, the third contrast, which assigned contrast coefficients of 0 to the high condition, -1 to the low condition, and 1 to the control condition, was significant,  $t(898) = 10.49$ ,  $p < .001$ , 95% CI for value of contrast [.9889, 1.4439]. These contrasts verify the success of the manipulation. Means and standard deviations appear in Table 2.

**Table 2. Means and standard deviations for manipulation check ( $N = 901$ )**

| Condition      | <i>M</i> | <i>SD</i> |
|----------------|----------|-----------|
| High affection | 4.95     | 1.53      |
| Low affection  | 3.09     | 1.64      |
| Control        | 4.30     | 1.12      |

## 6.2. Comparisons of Profile Versions

Versions A and B of the profiles were compared with respect to the outcome variables, using independent-samples *t*-tests, and all comparisons were nonsignificant. Thus, versions A and B were collapsed for the hypothesis tests.

## 6.3. Descriptive Analyses

Table 1 presents the means, standard deviations, and intercorrelations of the dependent measures. All three variables varied as a function of participant gender. Men ( $M = 4.64$ ,  $SD = 1.12$ ) gave higher parental evaluation scores than did women ( $M = 4.06$ ,  $SD = 1.18$ ), Welch’s  $t(890.68) = -7.64$ ,  $p$  (two-tailed)  $< .001$ , Cohen’s  $d = .51$ . Likewise, men ( $M = 4.76$ ,  $SD = 1.28$ ) gave higher romantic partner evaluation scores than did women ( $M = 3.90$ ,  $SD = 1.41$ ), Welch’s  $t(882.43) = -9.64$ ,  $p$  (two-tailed)  $< .001$ ,  $d = .64$ . Finally, men ( $M = 4.51$ ,  $SD = 1.72$ ) reported higher interest in dating than did women ( $M = 2.94$ ,  $SD = 1.69$ ), Welch’s  $t(892.79) = -13.76$ ,  $p$  (two-tailed)  $< .001$ ,  $d = .92$ . The *t*-tests temporarily suppressed data from six participants who did not report their gender. Due to the significant gender differences, gender was included as a factor in the hypothesis tests. None of the variables was significantly correlated with participants’ age.

All three variables varied as a function of ethnicity and/or race. Means and standard deviations for the racial categories of Black, Asian, and White, and the ethnic category of Hispanic, appear in Table 3, with significant differences identified (no other racial comparisons were significant). When racial and/or ethnic comparisons were significant, they were included as covariates in the hypothesis tests.

**Table 3. Racial and ethnic differences on dependent measures ( $N = 901$ )**

| Variable            | Black                 |                       | White                 |                       | Asian                 |                       | Hispanic              |                       |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|                     | Y                     | N                     | Y                     | N                     | Y                     | N                     | Y                     | N                     |
| Parental evaluation | <b>4.16</b><br>(1.22) | <b>4.38</b><br>(1.18) | <b>4.43</b><br>(1.18) | <b>4.18</b><br>(1.17) | <b>4.11</b><br>(1.08) | <b>4.38</b><br>(1.20) | 4.32<br>(1.25)        | 4.35<br>(1.18)        |
| Partner evaluation  | <b>4.10</b><br>(1.32) | <b>4.37</b><br>(1.42) | 4.39<br>(1.45)        | 4.20<br>(1.31)        | 4.29<br>(1.19)        | 4.33<br>(1.44)        | 4.44<br>(1.42)        | 4.32<br>(1.40)        |
| Dating interest     | <b>3.17</b><br>(1.82) | <b>3.83</b><br>(1.88) | <b>3.81</b><br>(1.92) | <b>3.54</b><br>(1.78) | 3.76<br>(1.63)        | 3.72<br>(1.91)        | <b>4.25</b><br>(1.84) | <b>3.68</b><br>(1.88) |

Notes. Comparisons are between those who did (Y) and did not (N) identify with the racial or ethnic category. Standard deviations are in parentheses. Within each racial or ethnic category, means for a given variable presented in bold type differ significantly from each other, per two-tailed *t*-test.

## 6.4. Hypotheses

Hypothesis 1 proposed that affection levels attributed to profiled individuals are positively related to participants’ evaluations of those individuals as fit potential parents. It was therefore expected that evaluations of fit parenthood are highest in the high-affection condition, lower in the control condition, and lowest in the low-affection condition. The hypothesis was tested using an ANCOVA with parental evaluation as the dependent variable. The

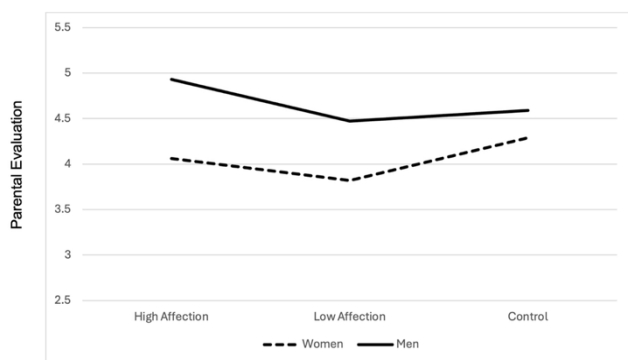
profile affection manipulation (high, low, control) and participant sex (female, male) were fixed factors, and the racial identifications of Asian, Black, and White (dummy coded as 1 = yes, 0 = no) were entered as covariates. The ANCOVA temporarily suppressed data from six participants who did not report their gender.

The ANCOVA revealed significant main effects for affection manipulation,  $F(2, 886) = 8.78, p < .001$ , partial  $\eta^2 = .02$ , and participant gender,  $F(1, 886) = 62.33, p < .001$ , partial  $\eta^2 = .07$ , as well as a condition-by-gender interaction,  $F(2, 886) = 4.62, p = .01$ , partial  $\eta^2 = .01$ .

Means and standard deviations for the manipulation-by-gender interaction, which appear in Table 4, reveal an interaction that was ordinal for gender (men scored higher than women at every level of the manipulation) but not for experimental condition (the order of scores at different levels of the manipulation varied by gender). A visual display of the interaction appears in Figure 2.

**Table 4. Means and standard deviations for gender-by-condition interaction on parental evaluation ( $N = 901$ )**

| Condition      | Female <i>M/SD</i> | Male <i>M/SD</i> |
|----------------|--------------------|------------------|
| High affection | 4.06 (1.22)        | 4.93 (1.11)      |
| Low affection  | 3.82 (1.19)        | 4.47 (1.16)      |
| Control        | 4.29 (1.07)        | 4.59 (1.05)      |



**Figure 2.** Plot of means for condition-by-gender interaction on parental evaluation ( $N = 895$ )

Given the unhypothesized condition-by-gender interaction, the prediction was tested using a Tukey post-hoc test within each gender. Three comparisons were examined: a) comparing high-affection to controls; b) comparing high-affection to low-affection; and c) comparing controls to low-affection. The first comparison (a) was unsupported. The second comparison (b) was significant for men but not for women. The third comparison (c) was significant for women but not for men. Hypothesis 1 is partially supported. Results for the main effect of gender appear in the descriptive analyses above.

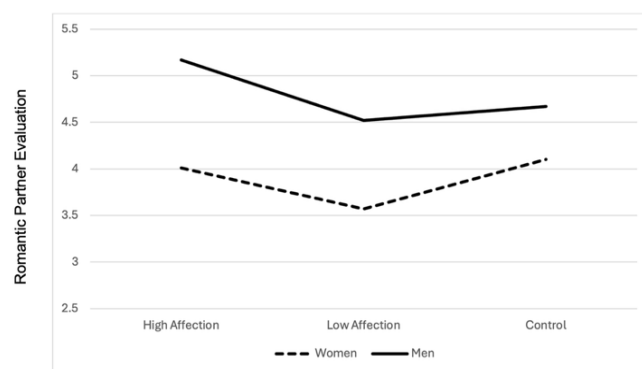
Hypothesis 2 proposed that affection levels attributed to profiled individuals are positively related to participants' evaluations of those individuals as fit potential romantic partners. It was therefore expected that evaluations of fit romantic potential are highest in the high-affection condition, lower in the control condition, and lowest in the low-affection condition. The hypothesis was tested using an ANCOVA with romantic partner evaluation as the dependent variable. The profile affection manipulation (high, low, control) and participant sex (female, male) were fixed factors, and the racial identification of Black

(dummy coded as 1 = yes, 0 = no) was entered as covariates. The ANCOVA revealed significant main effects for affection manipulation,  $F(2, 887) = 12.76, p < .001$ , partial  $\eta^2 = .03$ , and participant gender,  $F(1, 887) = 96.71, p < .001$ , partial  $\eta^2 = .10$ , as well as a condition-by-gender interaction,  $F(2, 887) = 3.75, p = .02$ , partial  $\eta^2 = .01$ .

Means and standard deviations for the manipulation-by-gender interaction, which appear in Table 5, reveal an interaction that was ordinal for gender (men scored higher than women at every level of the manipulation) but not for experimental condition (the order of scores at different levels of the manipulation varied by gender). A visual display of the interaction appears in Figure 3.

**Table 5. Means and standard deviations for gender-by-condition interaction on romantic partner evaluation ( $N = 901$ )**

| Condition      | Female <i>M/SD</i> | Male <i>M/SD</i> |
|----------------|--------------------|------------------|
| High affection | 4.01 (1.42)        | 5.17 (1.18)      |
| Low affection  | 3.57 (1.39)        | 4.52 (1.32)      |
| Control        | 4.10 (1.35)        | 4.67 (1.21)      |



**Figure 3.** Plot of means for condition-by-gender interaction on romantic partner evaluation ( $N = 895$ )

Given the unhypothesized condition-by-gender interaction, the prediction was tested using a Tukey post-hoc test within each gender. Three comparisons were examined: a) comparing high-affection to controls; b) comparing high-affection to low-affection; and c) comparing controls to low-affection. The first comparison (a) was supported for men but not for women. The second comparison (b) was significant for both genders. The third comparison (c) was significant for women but not for men. Hypothesis 2 is partially supported. Results for the main effect of gender appear in the descriptive analyses above.

Hypothesis 3 proposed that affection levels attributed to profiled individuals are positively related to the individuals' desirability for dating. It was therefore expected that evaluations of dating desirability are highest in the high-affection condition, lower in the control condition, and lowest in the low-affection condition. The hypothesis was tested using a univariate ANCOVA with dating interest as the dependent variable. The profile affection manipulation (high, low, control) and participant sex (female, male) were fixed factors, and the ethnic/racial identifications of Hispanic, Black, and White (dummy coded as 1 = yes, 0 = no) were entered as covariates. The ANCOVA revealed a nonsignificant main effect for affection manipulation,  $F(2, 886) = 1.84, p = .160$ . The hypothesis is not supported. A significant main effect emerged for participant gender,  $F(1, 886) = 173.32, p$

$< .001$ , partial  $\eta^2 = .16$ . Means and standard deviations for the main effect of gender appear in the descriptive analyses above.

## 7. Discussion

Hypothesis 1 proposed that affection levels attributed to profiled individuals are positively related to participants' evaluations of those individuals as fit potential parents, with the evaluations of fit parenthood being highest in high-affection condition, lower in control condition, and lowest in low-affection condition. Experimental condition interacted with gender to influence the perception of fit parenthood. The high-affection and control conditions did not differ from each other for either men or women, yet the high-affection condition differed significantly from the low-affection condition, albeit for men only. Conversely, the control and low-affection conditions differed significantly, but only for women. This finding suggests that affection levels attributed to profiled individuals affect parental judgments in a way that is moderated by gender, wherein the evaluator's gender can influence sensitivity to portrayals of affection.

Hypothesis 2 proposed that affection levels attributed to profiled individuals are positively related to participants' evaluations of those individuals as fit potential romantic partners. It was expected that evaluations of fit romantic potential be highest in the high-affection condition, lower in the control condition, and lowest in the low-affection condition. An unexpected condition-by-gender interaction emerged once again. The high-affection and control conditions were significantly different for men, indicating men may view women who portray high-affection as more fit partners than those who do not mention affection. This difference was not observed in women. The comparison between high- and low-affection conditions was significant for both genders, whereas the comparison between low-affection and control conditions was significant only for women.

Finally, hypothesis 3 proposed that affection levels attributed to profiled individuals are positively related to the individuals' desirability for dating, with the expectation that evaluations of dating desirability are highest in the high-affection condition, lower in the control condition, and lowest in the low-affection condition. Hypothesis 3 was ultimately unsupported, as a nonsignificant main effect for affection condition was observed. However, a significant main effect emerged for participant gender, wherein men perceived a higher interest in dating the subjects of the profiles than did women.

### 7.1. Implications

The hypotheses, and especially H1 and H2, were grounded in AET's postulate 3b, which asserts that affectionate behavior serves fertility motives by portraying an individual as a fit potential parent and partner. Thus, H1 anticipated that affection levels attributed to profiled individuals are positively related to participants' evaluations of those individuals as fit potential parents, whereas H2 anticipated those same attributed affection profiles to be positively related to evaluations as fit

potential partners. However, unanticipated interaction effects were observed in both, wherein gender moderated evaluations as a fit parent and a fit partner.

In H1, the high-affection condition differed significantly from the low-affection condition for men while the control and low-affection conditions differed significantly but only for women. The finding suggests that affection levels attributed to profiled individuals affect parental judgments in a way that is moderated by gender, wherein the evaluator's gender can influence sensitivity to portrayals of affection. Specifically, men may be more sensitive to displays of high affection, whereas women are more sensitive to displays of low affection. These implications may be supported by Trivers's parental investment hypothesis, which claims that the sex with greater required investment in offspring tends to be more sexually selective [34]. Considering the difference in selectivity, women have reason to judge a low-affection individual as a less fit parent and may not be as easily impressed by high affection. Conversely, men may be less judicious in their selectivity and thus their sensitivity to an affectionate partner may lead males to assess them as a more fit potential parent.

In H2, the high-affection and control conditions were significantly different for men, but this difference was not observed in women. The comparison between high- and low-affection conditions was significant for both genders, whereas the comparison between low-affection and control conditions was significant only for women. Following the same argument from above, this difference may be due to the difference in sensitivity to affectionate portrayals according to gender. The affectionate portrayal served to present an adequate romantic partner for the high-affection conditions in both genders, but the low-affection and control conditions were judged differently depending on the gender of the evaluator. Men may be valuing high affection as much as women, but when faced with someone reserved in affection or not mentioning affection, there may be a difference in reception. In the case of women, they may view reserved affection as a detracting factor as a partner, while men may not be as affected. It is important to highlight that this hypothesis was focused on assessing a potential partner rather than a parent. Thus, if a profile is not affectionate then perhaps men are less sensitive about a lack of affection when considering a relationship rather than just potential parenthood. In this case, this finding is in line with the previously observed relationship between affectionate communication and reproductive opportunity being stronger for women's mate selections than men's [4].

Hypothesis 3 was offered to directly, and broadly, gauge a participant's interest in dating the person in the profile. Although not derived directly from AET's postulate 3b (as were H1 and H2), this hypothesis was grounded in the logic that if a highly affectionate person is perceived to be a fit potential romantic partner, then the individual making that assessment should show actual interest in dating that person. The results did not support this prediction, however, and one possible reason why is that participants were not actively engaged with a dating site or dating app when assessing their own dating interest. In other words, being asked to evaluate someone's potential as a fit romantic partner or parent is a more

abstract task that participants may have felt able to accomplish in the context of what was clearly a social scientific study. Being asked if they actually wanted to date the person in the profile may have struck participants as a less abstract, more concrete (and more ego-implicated) question that would be appropriate if participants were actually online looking at dating profiles but less appropriate for the context of a research study.

## 7.2. Strengths and Limitations

This study benefited from the use of a large and diverse sample. Over 900 participants responded to the survey, amounting to approximately 75 participants per cell. Although it was not a representative sample of U.S. Americans, it offered strong demographic and geographic diversity. A second strength of the study was the use of pretested experimental stimuli to rule out differences in physical attractiveness that could have exerted independent influences on the dependent outcomes, particularly on dating desirability and perceived partner fitness.

Despite the large and diverse sample, however, all participants were U.S. American adults, making it impossible to generalize the findings beyond this population. In addition, as detailed above, the sample was limited to heterosexual participants for this initial test. AET provides no theoretic reason to expect associations between affectionate communication, partner fitness, and parental fitness to vary as a function of sexual orientation or gender identity, yet until these tests are replicated with a more inclusive sample, that possibility remains adjudicated.

The study is also restricted to an online dating context. As previously noted, although online dating is ubiquitous, sexual selection can occur in a range of circumstances. The design of the manipulation is further limited by its use of static, text-based portrayals of affection, which preclude assessments that would be rooted in observed affectionate behavior. Each of these limitations offers an opportunity for future research to strengthen the tests of AET's hypotheses regarding affectionate communication and reproductive success.

## 7.3. Conclusion

Affection exchange theory describes the tendency to communicate affection as an evolved adaptation in humans. Postulate 3b further asserts that affectionate behavior is a desired quality in romantic and sexual partners as well as fit parents. This study sought to explore the desirability of affectionate communication in heterosexual romantic relationships by testing claims derived from postulate 3b, as well as discerning how affectionate portrayals can influence dating desirability. The findings provided partial support for AET's claims, indicating that the assessments of fit parenthood and partnership were moderated by gender. No association was found between portrayal of affection and dating desirability. The partial support for postulate 3b implies that women and men may hold different sensitivities to portrayals of affection.

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