

Original Article

Predictors of How Often and When People Fall in Love

Andrew Galperin, Department of Psychology, University of California, Los Angeles. Email: andrew_galperin@yahoo.com (Corresponding author).

Martie Haselton, Communication Studies and the Department of Psychology, University of California, Los Angeles.

Abstract:

A leading theory of romantic love is that it functions to make one feel committed to one's beloved, as well as to signal this commitment to the beloved (Frank, 1988). Because women tend to be skeptical of men's commitment, this view entails that men may have evolved to fall in love first, in order to show their commitment to women. Using a sample of online participants of a broad range of ages, this study tested this sex difference and several related individual difference hypotheses concerning the ease of falling in love. There was mixed evidence for sex differences: only some measures indicated that men are generally more love-prone than are women. We also found that men were more prone to falling in love if they tended to overestimate women's sexual interest and highly valued physical attractiveness in potential partners. Women were more prone to falling in love if they had a stronger sex drive. These results provide modest support for the existence of sex differences in falling in love, as well as initial evidence for links between several individual difference variables and the propensity to fall in love.

Keywords: romantic love, passionate love, sex differences, physical attractiveness, sexual misperception

Introduction

Until fairly recently, many social scientists held the view that romantic love was a quirk of Western culture (Jankowiak, 1995). Romantic love was long considered a mark of cultural refinement, an intricate emotion that could only be experienced by the most educated or enlightened individuals. However, researchers have increasingly documented the existence of romantic passion across many different cultures (Buss, 1989; Jankowiak, 1995; Jankowiak and Fischer, 1992), providing support for the notion that the experience of love is universal (Buss, 1988, 2006; Diamond, 2003, 2004; Frank, 1988). For instance, Jankowiak and Fischer (1992)

conducted a study in which people in 148 out of 166 sampled cultures described having an experience that fit into the rubric of romantic passion.

Thus, romantic love appears to be a species-typical trait. Although the capacity for love is likely to be universal, love might manifest differently across individuals in an adaptively patterned fashion. Such individual differences could be rooted in biological sex, other characteristics of the self, or the characteristics of the target of love. These individual difference factors are the focus of the current study, which tested evolutionarily-derived hypotheses about the associations between susceptibility to falling in love and biological sex, sex drive, perceptions of others' interest, and targets' physical attractiveness.

Why men might be more love prone

Evolutionary psychologists have posited many possible adaptive functions that love might serve. These functions range from signaling fidelity or parental investment to displaying material resources through gift-giving (Buss, 1988, 2006). The hypotheses tested in this paper emerged primarily out of a leading theory that posits that love is a *commitment device* (Frank, 1988). This theory stipulates that the subjective feeling of love motivates people to focus on a particular partner and avoid pursuing alternatives, thereby staying socially monogamous for an extended period of time. Social monogamy is adaptive in many circumstances because human offspring have an unusually long maturation period that is greatly facilitated by having biparental care (Buss, 2006; Hurtado and Hill, 1992). A key aspect of this theory, however, is that love serves as a powerful motivation that drives individuals to make "costly displays" to their partner. People in love tend to invest tremendous amounts of time and resources into their love interest – time and resources that cannot be given to other potential mates. This costly nature of being in love allows it to function as what Zahavi (1975) called an "honest signal". Love honestly signals commitment because it is difficult to fake love, so the target individual can be reasonably sure that his or her partner is committed to the relationship. In the last decade, Frank's theory has received empirical support (Gonzaga, Haselton, Smurda, Davies, and Poore, 2008; Gonzaga, Keltner, Londahl, and Smith, 2001; Maner, Rouby, and Gonzaga, 2008). For example, individuals who are asked to relive an episode of love for their partner are better at suppressing thoughts about (Gonzaga et al., 2008) and less likely to visually notice (Maner et al., 2008) an attractive individual of the other sex.

Combining Frank's commitment theory of love with well-established sex differences in mating preferences led us to hypothesize a sex difference in falling in love. Whereas both men and women value commitment from their partners, men are more inclined to seek out sexual opportunities with multiple partners (Buss and Schmitt, 1993), and thus women tend to be skeptical of men's commitment (Haselton and Buss, 2000). Further, women face higher levels of obligatory investment in offspring (e.g., pregnancy, lactation; Trivers, 1972), and women in hunter-gatherer societies often depend on their male partners to provide food and assist with childcare (Hurtado and Hill, 1992; Marlowe, 2001). These higher costs associated with reproduction put particularly strong pressure on women to identify whether a man is committed

to the relationship (Pillsworth and Haselton, 2006). In addition, men have an incentive to deceive women about their level of commitment, and women have especially strong negative reactions to such deception (Haselton, Buss, Oubaid, and Angleitner, 2005). Therefore, in the courtship stage there is usually a greater onus on men to show that they are committed, which might be accomplished by signaling that one is in love. Our first hypothesis stems from this logic.

Hypothesis 1: Men fall in love more easily than do women.

There has been relatively little research on sex differences in falling in love, and the existing literature provides mixed evidence concerning whether men fall in love more easily than women do. One piece of evidence supporting a sex difference was found in an early study in which undergraduate men were more likely than women to report feelings of love early on in their most recent relationship (Kanin, Davidson, and Scheck, 1970). In the study, 27% of men but only 15% of women said they experienced feelings of love within the first four dates. Notably, however, no sex difference emerged in instances of “love at first sight”. In a subsequent study, of 231 undergraduate couples (Rubin, Peplau, and Hill, 1981), researchers administered a romantic beliefs scale to participants. They found that men in couples scored higher than their female partners on items assessing belief in “love at first sight” and the belief that “love can overcome ideological and economic barriers”. More so than did women, these men also listed the “desire to fall in love” as an important reason why they entered their relationships. More recently, Sprecher and Metts (1989) developed a newer version of the “romantic beliefs scale” and reported similar results in a sample of 730 undergraduates. For instance, men were more likely to believe in “love at first sight” than women. Montgomery (2005) again replicated this result with an adolescent population, and also found that male adolescents reported having fallen in love more times than female adolescents. In contrast to the above, two studies using international participants (Sprecher et al., 1994) and American undergraduates (Hendrick and Hendrick, 1986) found that a higher percentage of women than men reported being in love at the time of the study. Another cross-cultural study found no sex difference in the likelihood of being in love at the time of the study (Doherty, Hatfield, Thompson, and Choo, 1994).

Some of these previous studies, however, have sampled very young populations and tended to ask participants mostly about their romantic *beliefs*, not their actual love experiences. When they did ask about experiences, these usually consisted of a single measure per study. Thus, the first goal of the current study was to clarify and extend the above findings by deploying several different measures of proneness to falling in love. If men fall in love more easily than women do, this could manifest itself in terms of falling in love in a very short period of time (in the extremes, experiencing “love at first sight”), or in falling in love before their partner falls in love with them. This tendency for men to fall in love faster than women could then lead men to fall in love with more individuals over time than women, which could then lead

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to more unreciprocated loves (in which the man falls in love first but the woman does not reciprocate his feelings). Thus, based on our theoretical framework, we made the following predictions:

Prediction 1A (timing): Men, relative to women, will be more likely to report having fallen in love first with their most recent partner.

Prediction 1B (frequency): Men, relative to women, will report having been in love with more individuals throughout their lifetimes.

Prediction 1C (frequency): Men, relative to women, will report having experienced more episodes of “love at first sight.”

Prediction 1D (reciprocation): Men, relative to women, will report a higher percentage of individuals with whom they were in love but never had a relationship.

Using an evolutionary framework, we also identified several individual differences that could be associated with falling in love more easily. Specifically, we examined whether people fall in love more easily if they: (i) tend to overestimate the extent to which others are interested in them; (ii) consider physical attractiveness to be a particularly important trait in a romantic partner; and (iii) have a stronger sex drive. Compared to women, men appear to overestimate potential partners' interest (Haselton and Buss, 2000), put a greater premium on physical attractiveness (Li and Kenrick, 2006), and have a stronger sex drive (Baumeister, Catanese, and Vohs, 2001; Peplau, 2003). We reasoned that if the hypothesized sex difference in falling in love were found in this study, these three factors might act as mediators that explain the sex difference, as we elaborate below.

Hypothesis 2: Individuals who overperceive others' sexual interest will report falling in love more frequently.

In the ancestral past, men likely gained fitness advantages by seeking sexual opportunities with multiple female partners (Buss and Schmitt, 1993; Trivers, 1972; Symons, 1979). This strategy contributed to fitness because in contrast to women, men could successfully reproduce with little obligatory parental investment – thus, each new sex partner presented a new reproductive opportunity. However, men faced the problem of identifying whether women were sexually interested in them. This judgment had to be made under considerable uncertainty, making errors likely. In general, two types of errors are possible: a false positive (thinking a woman is interested when she is actually not) and a false negative (failing to detect that a woman is interested). According to error management theory (Haselton and Buss, 2000), whenever there was recurrent asymmetry in the fitness costs of errors, selection designed judgment adaptations

to be biased toward committing the less costly error. In this case, the reproductive opportunity cost for men in failing to pursue a viable sexual opportunity was likely to have been greater than the fitness consequences of mistakenly assuming female sexual interest where there was none. Thus, men are predicted to be biased toward over-inferring women's sexual interest, because this was, on average¹, the less costly of the two errors in ancestral environments.

Many studies using diverse methods have found that men tend to overestimate the degree to which women are sexually interested in them. For instance, men interpret the same actual (Abbey, 1982) and hypothetical (Haselton and Buss, 2000) behaviors enacted by women as indicating more sexual intent than women do. Women, more than men, recall instances of their own sexual intent being overestimated (Haselton, 2003). Men, but not women, also estimate that their other-sex acquaintances' sexual interest in them is greater than their acquaintances state (Koenig, Kirkpatrick, and Ketelaar, 2007) and infer sexual interest in truly neutral other-sex faces after being cognitively primed with a mate-search goal (Maner et al., 2005).

Given this male bias, it would not be surprising if men fell in love more easily, because the perception that one is liked often leads to reciprocal liking (Kenny, 1994). Thus, when a man overestimates a woman's interest in himself, he may feel greater attraction to her than if he accurately estimated her interest. Importantly, this logic is not limited to one sex: members of both sexes who perceive more attraction from others are expected to feel more attracted to those others. All else equal, these individuals are predicted to fall in love more frequently. This hypothesis gives rise to two predictions:

Prediction 2A: Individuals who overperceive others' sexual interest will report a greater lifetime number of loves.

Prediction 2B: Individuals who overperceive others' sexual interest will report more lifetime episodes of "love at first sight".

Hypothesis 3: Individuals who value physical attractiveness more in potential partners will fall in love more easily.

Because physical attractiveness is an easily observable attribute, individuals of either sex who value it more highly can more quickly assess partner desirability. Compared to women, men weigh physical attractiveness more heavily in evaluating long-term dating partners (Li and Kenrick, 2006). Thus, it is possible that if men fall in love more easily than women do, this sex difference could at least in part be attributable to men's greater emphasis on physical attributes. Several researchers have already hinted at this possibility (Buss, 2006, p. 69; Jankowiak, 1995, p. 10; Kanin et al., 1970, p. 71), although none have tested it empirically. One study has found that partner's attractiveness predicts the likelihood that respondents fell in love "at first sight" with the partner (Sangrador and Yela, 2000), but this study did not look at sex differences or measure how important attractiveness was to participants. Thus, the third hypothesis, that valuing

¹ We emphasize "on average" because in some contexts in ancestral environments, the asymmetry in costs could have been systematically different. For instance, over-inferring the interest of a woman who is already mated could entail very high fitness costs, such as physical retaliation from her partner. See Haselton and Nettle (2006) for a broader discussion of how error management biases are evoked differently depending on context.

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physical attractiveness facilitates falling in love more easily, leads to the following specific predictions:

Prediction 3A: Individuals who value physical attractiveness more highly will report a greater lifetime number of loves.

Prediction 3B: Individuals who value physical attractiveness more highly will report more lifetime episodes of “love at first sight”.

Prediction 3C: Respondents who value physical attractiveness more highly will be more likely to have fallen in love first with their most recent partner, particularly if the partner is rated as highly attractive.

We reasoned that if an overall sex difference were found in this study, such that men fall in love more easily than women do, then men’s greater emphasis on physical attractiveness would mediate this sex difference. Also note that when the dependent variable is the timing of falling in love, the hypothesis predicts an interaction (Prediction 3C): highly valuing physical attractiveness will lead to falling in love more quickly insofar as the target of love is highly physically attractive.

Hypothesis 4: Individuals with a stronger sex drive are more susceptible to falling in love.

Another important factor that might explain how easily people fall in love is sex drive. There is some compelling evidence that the two are at least partly distinct phenomena. For instance, love promotes pair-bonding with a specific individual, whereas sexual desire motivates sexual approach-related behaviors (Gonzaga, Turner, Keltner, Campos, and Altemus, 2006). Love and sexual desire can also be directed toward different individuals or even different sexes (Diamond, 2003, 2004). Nevertheless, previous research has shown a partial overlap in the feelings and behavioral manifestations associated with love and sexual desire, and there is still a debate in the literature about how tight the connection is between the two phenomena (Hatfield and Rapson, 2009). Our reasoning is that individuals with a stronger sex drive might be generally more attuned to prospective romantic or sexual partners, thereby increasing their chances of falling in love at any given time point. In other words, the stronger one’s sex drive, the more motivated one might be to seek out interactions with members of the other sex, and the more opportunities to fall in love will arise.

However, the connection between sex drive and falling in love might be stronger for women than for men. Women are more likely than men to experience sexual desire in the context of a relationship, are more likely to disagree with the statement “Sex without love is OK”, and so on (Diamond, 2003; Hatfield and Rapson, 2009; Oliver and Hyde, 1993). This closer connection between love and sex may lead women who feel sexual desire for a man to

also more readily feel love for the man as well.

Whether or not sex drive affects falling in love is an empirical question, one which has not been tested. To summarize, on the basis of the existing literature on sex drive, we made the following prediction:

Prediction 4A: Individuals who have a stronger sex drive will report falling in love more frequently, and this association will be stronger for women than for men.

Note that this is not in contradiction with the logic of Hypothesis 2, which states that individuals who over-perceive *others'* sexual interest would fall in love more, simply because the perception of being liked breeds reciprocal liking. In contrast, Hypothesis 4 posits a connection between *one's own* generalized sexual interest and falling in love. This connection exists for different reasons, namely more frequent social contact with the other sex, and (for women) a strong psychological connection between sexual desire and love.

Materials and Methods

Participants

A questionnaire was administered to heterosexual community participants over 18 years of age using the online survey website SurveyMonkey (<http://www.surveymonkey.com>). Participants were individuals who clicked on the survey link posted in advertisements on the classifieds website craigslist.com. Overall, 375 participants completed the survey. Two participants were dropped from all analyses because they indicated that they took the survey more than once, and eight others were dropped because they were under 18 years of age. Furthermore, eight other participants provided numerical responses that were extreme outliers above the mean on multiple variables, such as the count measures of number of “loves at first sight” (greater than six standard deviations above the mean) and sexual overperceptions (greater than four standard deviations above the mean), suggesting typographical errors or inflated responding. Thus, there were 357 participants (191 women, 166 men) included in analyses. In the sample, men were about two years older ($M = 32.2$, $SD = 9.8$ years) than women ($M = 29.9$, $SD = 8.8$ years), which is a statistically significant difference ($t(349) = 2.33$, $p < .03$).

Definition of love

Because this study is concerned with falling in love, we asked participants to report about the kind of love that characterizes courtship and the early stages of relationships – so-called “passionate love” (Hatfield, 1988; Hatfield and Walster, 1978). Some hallmarks of passionate love are a strong desire for exclusive union with the beloved, idealization of the beloved, intrusive thoughts about the beloved, tender feelings and a powerful sense of empathy and concern for the beloved’s well-being, and a sense of anxiety at being potentially rejected. This is in contrast with “companionate love”, which is a calmer kind of love associated with well-

established relationships that have high intimacy and commitment but not necessarily high levels of passion (Hatfield, 1988).

After searching the literature, we found no satisfactory definition of passionate love that could be used with a lay audience. Thus, we developed a new definition by incorporating all major facets of Hatfield and Sprecher's (1986) Passionate Love Scale into one lay-language statement. For all love-related questions in the survey, we provided to participants the following definition, which captured the love construct of interest:

“A very powerful emotional experience that might include excitement and anxiety, tender feelings and physical attraction toward a particular person, constant thoughts of the person, and an intense desire to be around the person.”

Dependent measures

Our four dependent measures of primary interest were: (1) the participant's timing of falling in love with his/her most recent love target, defined as whether the respondent or the other person was the first to fall in love (or whether it happened simultaneously), provided that the love was reciprocated; (2) total number of loves, counted by asking participants to list the initials of every person with whom they have ever been in love, according to the above definition; (3) number of episodes of “love at first sight”, for which no additional definition was provided; and (4) a reciprocation variable, defined as the proportion of all loves listed that occurred in or led to relationships with the beloved, and counted by asking participants to circle the initials of those individuals with whom they have “ever been in a relationship”. Participants were also asked to rate the physical attractiveness of their most recent love target, in order to test the interaction in Prediction 3C.

Predictor measures

Our predictor measures were chosen to test the four hypotheses outlined above. The predictors were (1) participant sex; (2) a count measure of sexual overperception of others' interest in oneself (“Have you ever mistakenly thought that someone wanted to have sex you, but he/she really did not? If yes, approximately how many people have you experienced this with?”); (3) a 10-item Importance of Physical Attractiveness scale developed by Bailey, Gaulin, Agyei, and Gladue (1994; see Appendix); and (4) a 4-item scale measuring sex drive (Ostovich and Sabini, 2004; see Appendix). Both scales were aggregated by calculating the arithmetic mean of the individual items.

Control measures

We also measured two crucial control variables: participant age and degree of social contact with the other sex. Age was important to control because older participants have had more chances to fall in love throughout their lifetimes, so for instance, any average age difference between men and women in this sample needed to be held constant. Social contact

with the other sex, a composite of 3 questions, was controlled for a similar reason: respondents who have many friends and acquaintances of the other sex have more chances to fall in love or overperceive others' interest in themselves. The three questions were measured on a 1-7 scale and were as follows: "Compared to the average person of your age and sex, how many different people have you dated in your lifetime? Compared to the average person of your age and sex, how many long-term romantic relationships have you had in your lifetime? Compared to the average person of your age and sex, how much do you interact with members of the opposite sex?" The scale reliability (α) for these three items was .604, and they were combined by calculating their arithmetic mean.

Results

Correlations between all major predictor, control, and outcome variables are presented in Table 1. These correlations show some basic patterns that one would expect: for instance, for both men and women, the total number of loves in one's lifetime is positively associated with both age and the reported amount of contact with members of the other sex. Preliminary analyses also replicated well-established sex difference findings in the literature. For instance, men scored higher than women on the Importance of Physical Attractiveness Scale ($M = 4.39$, $SD = .83$ for men and $M = 4.05$, $SD = .83$ for women, $t(349) = 3.77$, $p < .001$), which is theoretically in line with Li and Kenrick (2006) and replicates the results of Bailey et al. (1994). Men also reported more episodes of overestimating the sexual interest of other-sex others than did women ($M = .99$, $SD = 1.80$ for men and $M = .35$, $SD = .74$ for women, $t(349) = 4.45$, $p < .001$), in line with Haselton and Buss (2000) and Haselton (2003). Our replication of these existing findings indicates that our sample was comparable to those used in the extant literature.

Table 1 also foreshadows the hypothesis-relevant results derived from multivariate regression analyses below, such as the significant correlation between total number of loves and sex drive for women but not for men.

Table 1. Summary of binary correlations between all hypothesis-relevant predictor, control, and outcome variables

Variable	Importance of Phys Att		Overperception		Sex Drive		Age		Other-Sex Contact		# of Loves		# of Loves at 1st Sight	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Importance of Phys Att	---	---												
Overperception	.04	.00	---	---										
Sex Drive	.17*	.07	.09	.08	---	---								
Age	.02	-.07	.11	.01	-.15†	.01	---	---						
Other-Sex Contact	.14	.07	.22**	-.01	.20*	.13†	.14	.16*	---	---				
# of Loves	.01	-.04	.24**	.03	.01	.18*	.28**	.17*	.24**	.21**	---	---		
# of Loves at 1st Sight	.03	.03	.17*	.03	.15†	.10	.11	.15*	.21**	.18*	.39**	.17*	---	---
Reciprocation Ratio	.07	.09	.17*	-.09	.03	-.01	.19*	.02	.26**	.36**	-.28**	-.25**	-.05	.08

Notes: M = Men, W = Women; *ns* = 166 men, 191 women.

†*p* < .07 **p* < .05 ***p* < .01

Tests of hypotheses

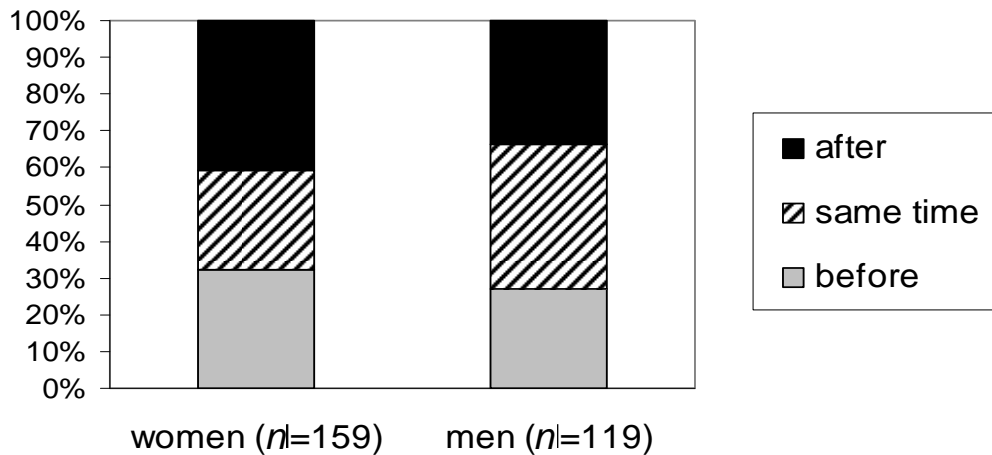
Hypothesis 1: Men fall in love more easily than do women.

Hypothesis 1 was partially supported, as two of its four predictions showed the predicted pattern. Prediction 1A was not supported: there was no sex difference in how likely the respondent was to fall in love with their partner first (27% of men fell in love first and 32% of women fell in love first, $\chi^2(3) = 4.82, p = ns$). These percentages are relatively low because many participants reported that they and their partner fell in love at the same time (see Figure 1). Prediction 1B was that men, relative to women, would report having been in love with more individuals throughout their lifetimes. It was also not supported: there was no sex difference in the total number of loves reported ($M = 4.44, SD = 4.44$ for men and $M = 4.57, SD = 3.43$ for women; $t(349) = .29, p = ns$), even when age and other-sex contact were included as covariates in an ANCOVA ($F(3, 347) = .21, p = ns$).

Two predictions were supported. Prediction 1C was that men would report having

experienced more episodes of “love at first sight” than women. Consistent with the prediction, men reported a greater number of such experiences ($M = .67$, $SD = 1.18$ for men and $M = .40$, $SD = .67$ for women; $t(349) = 2.62$, $p < .01$), even when controlling for age and other-sex contact ($F(3, 347) = 7.30$, $p < .01$). However, when sex drive is added as an additional covariate, the sex difference is no longer significant, although there is still a notable trend in the predicted direction ($F(4, 346) = 2.70$, $p = .10$). Finally, prediction 1D – that men, relative to women, would report a higher percentage of unreciprocated loves – was also supported. Men had a relationship with a smaller percentage of their love targets than did women (69% for men and 80% for women). Because our reciprocation measure was a ratio, we used the nonparametric Mann-Whitney U test (Corder and Foreman, 2009) rather than a standard independent-samples t-test. This test indicated that the sex difference was significant ($z = 2.73$, $p < .01$). As this test cannot control for covariates, we also confirmed this result with an ANCOVA in which the covariates were controlled ($F(3, 347) = 10.9$, $p < .001$).

Figure 1. The percentages of male and female respondents who reported falling in love before, after, and at the same time as their most recent partner.



Hypothesis 2: Individuals who overperceive others’ sexual interest will report falling in love more frequently.

This hypothesis was partially supported. Prediction 2A was that respondents who overperceive more should report having been in love with more individuals. To test whether overperception was associated with love frequency above and beyond other factors, we ran two separate linear regression analyses (one for men, one for women) on total number of loves as the outcome measure and overperception, importance of attractiveness, sex drive, age, and other-sex contact as predictors. The results supported the hypothesis for men, but not for women (see

Table 2). Men who tended to overestimate others' sexual interest in them fell in love more frequently, but this effect did not hold for women. As can be seen in Table 2, the two control variables (age and other-sex contact) were significant or marginally significant for both sexes, highlighting the importance of including them in the analyses. Older respondents, as one might expect, reported more love episodes, as did respondents who had more contact with the other sex. Among men, overperception predicted frequency of falling in love even after controlling for these two variables.

Prediction 2B was similar: respondents who overperceive more were expected to report more episodes of "love at first sight". However, this prediction was not supported. To test this, we again ran separate regression analyses for men and women predicting "loves at first sight" but otherwise identical to those above. Although there was a trend in the predicted direction for men, sexual overperception was not associated with number of loves at first sight for either men ($\beta = .12, p < .14$) or women ($\beta = .02, p = ns$).

Table 2. Summary of linear regression analysis for variables predicting the frequency of falling in love.

Variable	Men			Women		
	<i>B</i>	<i>SE(B)</i>	β	<i>B</i>	<i>SE(B)</i>	β
Importance of Physical Attractiveness	-.11	.41	-.02	-.21	.29	-.05
Overperception of Sexual Interest	.44	.19	.18*	.08	.33	.02
Sex Drive	.00	.43	.00	.47	.21	.16*
Age	.11	.03	.24**	.05	.03	.14 [†]
Contact w/Other Sex	.65	.29	.17*	.47	.20	.17*

ns = 166 men, 191 women.

[†]*p* < .06 **p* < .05 ***p* < .01

Hypothesis 3: Individuals who value physical attractiveness more in potential partners will fall in love more easily.

Three predictions were derived from this hypothesis, one of which was marginally supported. We predicted that respondents who value physical attractiveness more highly would report falling in love more frequently (3A) and more experiences of “love at first sight” (3B). These predictions were tested in the same standard linear regression analysis as those reported in Table 2 but were not supported – the effect for “importance of attractiveness” did not approach significance for either sex.

To test prediction 3C – that individuals who value physical attractiveness and have attractive partners fall will in love faster – we ran an ordinal regression analysis separately for men and women (see Table 3). The outcome measure was the timing of falling in love relative to one’s partner. This variable took on three possible values: -1 (respondent fell in love last), 1 (respondent fell in love first), and 0 (respondent and his/her target of love fell in love at the same time). The predictors were sex, importance of attractiveness, the attractiveness of the love target, and the interaction of the latter two variables². The prediction was marginally supported, as the interaction term was positive and approached significance for men ($p=.06$). At higher levels of both the importance of attractiveness to the respondent and target’s attractiveness as reported by the respondent, men were more likely to fall in love first. In other words, men who cared more about their partner’s attractiveness were especially likely to fall in love first if they thought their partner was highly attractive.

² The other predictors used in the previous regression analysis to predict lifetime frequency of falling in love (overperception, age, other-sex contact, and sex drive) were not included in the results reported here because they are only expected to affect individuals in aggregate, and not the quickness with which individuals fall in love with one particular person. Nevertheless, including these predictors did not change the reported pattern of results.

Table 3. Summary of ordinal logistic regression analysis of variables predicting the quickness of falling in love.

Variable	Men		Women	
	Log Odds	SE	Log Odds	SE
Importance of Physical Attractiveness	-1.94	1.06	-.28	.72
Partner's Physical Attractiveness	-1.25	.80	-.28	.56
Interaction	.35†	.18	.10	.14

ns = 119 men, 159 women.

†p = .06

Hypothesis 4: Individuals with a stronger sex drive are more susceptible to falling in love.

The single prediction stemming from this hypothesis - that individuals, particularly women, who have a stronger sex drive will report falling in love more frequently - was also tested in the regression analysis presented in Table 2. As predicted, sex drive positively predicted the frequency of falling in love in women. However, this association was not found in men.

Discussion

Summary of results

This study had two primary goals. The first goal was to attempt to replicate the few previous findings of sex differences in falling in love. We hypothesized that men would demonstrate a greater susceptibility to falling in love than women, because love is thought to be a signal of commitment and women highly value signs of commitment from their mates in the courtship stage. There was mixed support for this hypothesis: whereas women and men did not differ in either their lifetime number of loves or likelihood of falling in love first, men did report

a higher number of “loves at first sight”, as well as a higher percentage of loves that were not reciprocated, indicating men’s greater willingness to fall in love during the courtship stage.

Our second goal was to test the previously unexplored individual difference hypotheses that overperceiving others’ sexual interest, highly valuing physical attractiveness, and having a strong sex drive are associated with a greater susceptibility to falling in love. These hypotheses were partially supported. Overperception was associated with falling in love more frequently only for men. Valuing physical attractiveness was associated with falling in love more quickly with an attractive partner, once again only for men. Finally, a stronger sex drive was associated with falling in love more frequently, but only for women, as expected.

Implications of sex difference findings

It is possible that true sex differences in falling in love are easier to detect using certain measures. The sex difference we found in the lifetime number of episodes of “love at first sight” (with men reporting more) is arguably an indicator that men are more susceptible than women to falling in love early on. However, as noted above, this effect became only a non-significant trend when controlling for sex drive, suggesting that some men might be reporting some episodes of sheer sexual desire as “love at first sight”. In addition, we found that relative to women, a lower percentage of men’s loves was reciprocated. This supports the idea that for men, falling in love might function as a signal of commitment that sometimes persuades women to enter a relationship and sometimes does not. However, an alternative and more mundane explanation is that men are simply more willing than women to label their feelings as “love” when these feelings are not in the context of an established relationship.

One possible reason why we did not observe a sex difference in the timing of falling in love is that respondents had a strong tendency to report that they and their most recent love fell in love at the same time (see Figure 1). Such reports of simultaneous love might be inflated, reflecting a romantic ideal rather than the actual experience within relationships. It is possible that the romantic ideal is stronger for men than for women, given that men score higher than women on the Romantic Beliefs Scale (Sprecher and Metts, 1989). It is likewise possible that respondents who tend to fall in love first are the most motivated to miscategorize their loves as simultaneous instead, because they would like to believe that their partners were in love with them from the beginning. If the “simultaneous” category indeed siphoned numbers away from the other two categories, then each of these issues could have obscured a sex difference in the speed of falling in love within relationships. Alternatively, the sex difference in falling in love simply might not be robust.

Implications of individual difference findings

The second goal of our study led to notable and sometimes unexpected results. Because the perception that one is liked leads to reciprocal liking, we hypothesized that over-perceiving others’ interest in oneself would be associated with falling in love more often. This hypothesis was supported, but only for men. Why was this the case, when the logic of the hypothesis would

seem to predict the same effect in each sex? One possibility is that women are more accustomed to having men approach them and express their interest than vice versa (Finkel and Eastwick, in press). Therefore, the perception that a man is interested is relatively more common and less psychologically potent for many women. Given women's relatively greater number of apparent mating options, there is less reason for women to fall in love with someone simply because that person appears to be sexually interested.

Our finding that overperception predicted love outcomes only in men is also interesting from an evolutionary perspective, because it suggests that for a man, the perception that a woman is sexually attracted to him might be enough to induce reciprocal liking, whereas for a woman, the mere perception of attraction is not enough. In fact, for women, falling in love with men who have displayed only sexual interest but no commitment might often have been associated with fitness costs (Haselton and Buss, 2000). This interpretation accords with the literature showing that men tend to be more opportunistic than women in seeking mating opportunities (Buss and Schmitt, 1993).

Because the data are correlational, there are other interpretations of the result. It is possible, for example, that being highly prone to falling in love leads to overperception, instead of vice versa. In other words, when people are in love, they might be more likely to falsely believe that their love target is attracted to them, romantically or sexually.

We also hypothesized that how strongly one values physical attractiveness in potential partners would be positively associated with one's susceptibility to falling in love, because individuals who put an emphasis on others' physical attributes can more quickly identify partners who are desirable to them. We found a marginally-significant interaction providing suggestive evidence for this: the greater the importance of attractiveness for the respondent and the greater their partner's attractiveness, the more likely respondents were to report falling in love before their partner. Contrary to expectations, this trend held only for men. A recent paper might provide an explanation for this unexpected finding, should it prove robust: Buss and Shackelford (2008) showed that women who have high standards for physical attractiveness in men also tend to have high standards for other important attributes, such as those associated with investment and good parenting. Thus, for women more so than for men, high levels of physical attractiveness might be necessary, but not sufficient, to deem someone a desirable partner and fall in love with that person.

Finally, we hypothesized and found that a stronger sex drive predicts the frequency of falling in love for women, but not for men. The logic behind this hypothesis was that a stronger sex drive might lead to more contact with the other sex and thereby more opportunities to fall in love. However, because love and sexual desire are more interconnected for women than for men, we predicted a stronger such association for women than for men. Our prediction was supported: women who have a strong sex drive reported falling in love more often. The same was not true for men.

Strengths, limitations, and future directions

This is one of the first studies to apply an evolutionary approach to sex differences in falling in love. It tested the hypothesis that men are more love-prone than women by using more varied measures of individuals' love experiences than in the existing literature. Past studies, such as those using various "romantic beliefs" scales, have usually focused on men's and women's hypothetical judgments about love, rather than on naturalistic experiences. Past research has also used undergraduate samples almost exclusively, whereas we used a somewhat older online sample that has likely had more varied relationship and love experiences. Despite these strengths, this study also had several limitations, which in combination with our findings raise new questions to be addressed in future research.

In analyses of two of four measures, we found that men fall in love more easily than do women. The other two showed no sex difference. To clarify this result further, future studies could improve the measurement of the timing of falling in love within couples by corroborating respondents' self-reports with those of their partners or with mutual friends of the couple. The measurement of the timing of falling in love could be improved by asking participants to indicate the length of time in months or weeks that it took them to fall in love, and separately asking the same question of their partner. This would minimize the chances that respondents would inflate their claims that they fell in love simultaneously.

Just as with the timing of falling in love, we found no sex difference in the lifetime frequency of falling in love. Although this measure of love-proneness had not been used before in the literature, we expected to find such a sex difference based on Frank's (1988) commitment theory and based on the existing evidence that men score higher on measures of romantic beliefs. The lack of a significant sex difference could reflect a limitation of our retrospective-recall measure of love episodes. Specifically, respondents might focus on the strongest love experiences from their past and omit lesser loves (e.g., "crushes"), which are conceptualized in respondents' minds as categorically different than "love" even though they are psychologically similar phenomena³. If men experience more such "crushes" than women but both sexes did not report them, the sex difference would fail to have registered in our data. Future research should examine this possibility.

Crucially, our study was also the first to test the associations of theoretically important individual difference variables with susceptibility to falling in love. We found associations largely in line with predictions, and have begun to establish that sexual overperception and placing a premium on attractiveness are associated with a greater tendency to fall in love among men, and that sex drive is associated with a greater tendency to fall in love among women. One potential limitation was the use of a self-report measure of past overperception experiences, rather than a task measure (e.g., Haselton and Buss, 2000) that does not rely on participants' awareness of their own biases. Future studies could include both types of measures.

Future studies might also explore how other important individual characteristics, such as one's own physical attractiveness or inclination toward short-term sexual encounters (Simpson and Gangestad, 1991), affect propensity to fall in love. Men who are highly physically attractive are more likely to seek out short-term sexual opportunities and less likely to enter committed

³ We tried to minimize this problem by providing a definition of love to participants, which equally applies to either "passionate love" or a "crush". However, it is possible that some participants were simply conservative in applying the label "love" to their experiences.

long-term relationships (Gangestad and Simpson, 2000), and thus might not fall in love as much as other men. Alternatively, these men could use short-lived experiences of love as a tool to attract women (Haselton et al., 2005), in which case these men might actually fall in love more often and more quickly than other men. There is some evidence consistent with the latter view, as men who pursue a short-term mating strategy tend to lose their attraction towards their short-term sexual partners soon after the first instance of sexual intercourse (Haselton and Buss, 2001). This “negative affective shift” might function to decrease these men’s commitment and motivate them to seek a new partner.

Honest signaling and deception

A crucial question for the commitment-signaling theory of love is what features of love honestly signal commitment. Our project cannot address this directly, but we assume that many of the behaviors that accompany passionate love are too costly to fake. For example, in the midst of passionate love, people intensely focus on their partners and invest a great deal of time developing or attempting to develop a relationship with the love target (Buss, 1988; Hatfield, 1988). These behaviors necessarily decrease the amount of effort available to develop other relationships and they can result in severed ties with others. In essence, therefore, people in love “burn their bridges” behind them, demonstrating their commitment to pursuing the love target (Frank, 1988; also see Gonzaga et al., 2008). These behaviors are worth the cost only to those who are genuinely interested in a long-term relationship.

Nonetheless, we do not rule out the idea that some people may engage in lower-cost verbal professions of love that are deceptive (e.g., Haselton et al., 2005; O’Sullivan, 2008). In this study, we set aside this issue by asking respondents only about cases in which they actually felt love for their partner and not cases in which they only pretended as if they were in love. Future research should investigate the continuum of love signals – ranging from low-cost, easily deceptive professions of love to high-cost, honest signals. Following from the commitment theory of love (Frank, 1988), we expect that the latter will be most convincing to love targets and perhaps will be the nexus of fascinating sex differences of the sort we have hypothesized.

Conclusion

In this study, we tested hypotheses arising from the commitment-device theory of passionate love combined with existing knowledge about sex differences in the mating domain. Using new measures, we found modest evidence that men fall in love more easily than do women, and we did not find any evidence of the reverse. This sex difference is largely in agreement with previous studies. In addition, our finding that sex drive predicts lifetime love frequency among women but not among men provides further evidence for the already well-supported view that love and sexual desire, while distinct phenomena with different adaptive functions, are nevertheless more closely related for women than for men. Given that women are more likely than men to feel committed to their sex partners, this may also be construed as supporting the commitment device theory of love. Overall, although there is much more research

needed on this topic, our findings are consistent with the theory that love serves a commitment-signaling function. These findings illustrate how this idea can be used to test novel hypotheses about individual differences in falling in love.

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