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Derogation or Enhancement? Attractiveness Evaluations
of Potential Partners by Single and Coupled People

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Abstract

Derogation or Enhancement? Attractiveness Evaluations of Potential Partners by Single and Coupled People

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Coupled people and single people evaluate potential partners differently, such that coupled people rate potential partners as significantly less appealing than single people. Yet, at present, it is impossible to determine the mechanism that underlies this mean difference: derogation, the tendency for partnered individuals to devalue attractive alternatives, or enhancement, the tendency for single people to bolster the attractiveness of potential partners. In the current study, we aim to provide clarity on this issue by conceptually replicating and advancing previous work on the derogation and enhancement of potential partners. We do this using a baseline comparison group (neutral coders who also rated the attractiveness of the participants' potential partners) in addition to coupled and single peoples' evaluations. Also, unlike previous derogation and enhancement studies, participants in the present study evaluated potential partners with whom they interacted in their everyday lives. We found the expected mean difference

between ratings made by coupled and single individuals. Additionally, compared to the neutral baseline ratings, enhancement emerged as a stronger mechanism than derogation. Limitations of this study and potential explanations for these results are discussed.

Keywords: Derogation, enhancement, commitment, romantic relationships

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Introduction

Attractiveness Evaluations of Potential Partners by Single and Coupled People

Ample and consistent evidence shows that coupled people and single people evaluate potential partners differently, such that coupled people rate potential partners as significantly less appealing than do single people (Johnson & Rusbult, 1989; Simpson et al., 1990; Miller, 1997; Lydon et al., 1999; Lydon, 2010; Karremans & Verwijmeren, 2008; Maner et al., 2009; Petit & Ford, 2015; Bazzini & Shaffer, 1999). One explanation that researchers have proposed to explain this difference is that coupled people devalue the attractiveness of potential partners, whereas single people do not. This process, the *derogation of attractive alternatives*, is believed to be a strategy by which partnered individuals maintain commitment to their current relationships (Simpson et al., 1990; Miller, 1997; Lydon et al., 1999; Lydon, 2010; Karremans & Verwijmeren, 2008; Maner et al., 2009). Other researchers have suggested, however, that the difference between how coupled versus single people evaluate potential partners is not due to the tendency of coupled individuals to devalue attractive targets, but rather to the tendency for single people to bolster the attractiveness of potential partners. This process, called *enhancement*, may have evolved to facilitate relationship initiation (Bazzini & Shaffer, 1999).

At present, it is impossible to determine which process underlies the observed mean difference between coupled versus single peoples' evaluations of potential partners. Therefore, the present study aims to provide clarity concerning this issue by conceptually replicating previous work on the derogation and enhancement of potential partners. Both

coupled and single people evaluated a range of potential partners, and we also included an additional comparison group (neutral attractiveness ratings of the potential partners being evaluated) which, importantly, serves as a baseline against which we can compare the attractiveness ratings of coupled and single people. The inclusion of these neutral baseline ratings should make it possible to determine the extent to which coupled people are derogating or single people are enhancing the attractiveness of potential partners. In addition, unlike previous derogation and enhancement studies, which have largely relied on hypothetical potential partners, the present study asked participants to evaluate potential partners that were present in their everyday lives.

The effect of relationship status on the evaluation of potential partners

Relationship status has a profound impact on people's evaluations of potential partners, including attractiveness, romantic desire, and romantic interest judgments (e.g., Simpson et al., 1990). Overall, people in exclusive relationships are less likely than single individuals to find opposite-sex individuals attractive. For example, when evaluating magazine advertisements, exclusive daters rated physically attractive same-age, opposite-sex others as less attractive than did those not involved in dating relationships (Simpson et al., 1990). This relationship status effect also emerged in similar paradigms: The mean difference between exclusive daters' and singles' evaluations of potential partners emerged when participants evaluated the attractiveness of opposite-sex others in internet dating profiles (Lydon et al., 1999) and in hypothetical interactive scenarios (Bazzini & Shaffer, 1999). The mean difference between single and coupled individuals' evaluations of potential partners also emerged when researchers measured participants' evaluations

implicitly (indirectly, through behavioral responses), such that coupled people were less likely than singles to mimic opposite-sex confederates (Karremans & Verwijmeren, 2008), to fixate their attention on photographs of attractive opposite-sex targets (Maner, Gailliot, & Miller 2009), and to exhibit physiological reactivity in response to attractive models in magazine ads (Miller, 1997). Furthermore, another study demonstrated the effect of relationship status longitudinally: Over time, participants who stayed in their relationship rated their alternatives as less desirable than did those who broke up (i.e., became single; Johnson & Rusbult, 1989).

The mean difference between coupled and single peoples' attractiveness ratings of the targets appears in Figure 1 as effect A. As is, the mean difference between the two groups could be explained by either derogation or enhancement mechanisms. That is, coupled people could be devaluing others compared to single people, or, single individuals could be bolstering their evaluations of potential partners when compared to those who already have partners. Ultimately, either derogation by committed individuals or enhancement by non-committed individuals (or some combination of the two) could account for the effect of relationship status.

Derogation as a possible explanation for the relationship status effect

The most common explanation as to why exclusive daters rate opposite-sex people less favorably than do uncommitted individuals (effect A) is the psychological process of *derogation*. Derogation is a process by which individuals in committed romantic relationships devalue attractive alternatives (Johnson & Rusbult, 1989; Lydon, 2010; Maner, Rouby, & Ganzaga, 2008). Derogation can help preserve relationships

when sexually attractive potential partners threaten the stability of the relationship. Consequently, people who are more attentive to attractive alternatives are less committed to their relationships and are more likely to break up (Johnson & Rusbult, 1989; Miller, 1997). In fact, mere exposure to highly physically attractive alternatives is associated with decreased relationship satisfaction, commitment, and love (Kenrick, Gutierrez, & Goldberg, 1979). Therefore, evaluating potential partners as less desirable than they really are may be an adaptive bias that (a) aids daters in defending against relationship threats (e.g., Kenrick et al., 1989) and (b) ultimately helps them preserve their existing relationships. Relationship preservation plays a critical role in the reproductive process by keeping couples together long enough to successfully bear and raise their offspring (Maner, Kenrick, Becker, Delton, Hofer, Wilbur, & Neuberg, 2003).

Commitment as a moderator of derogation. Derogation, or devaluation compared to a baseline, has rarely been linked to the difference between coupled and single individuals in prior studies (Maner et al., 2008; Maner et al., 2009). Instead, the majority of evidence for derogation comes from studies examining the effects of commitment among coupled people. Commitment refers to the extent to which individuals feel psychologically “attached” to their relationship and intend to maintain it into the future (Rusbult, 1980; 1983; Rusbult & Buunk, 1993). Commitment is a function of both the value of the relationship and the individual’s perceived alternatives (Rusbult, 1980) and is associated with motivated biases that function to maintain relationships. For example, higher levels of commitment are associated with less interest in and less attraction to alternative partners (meta-analytic $r = -.52$; Le & Agnew, 2003), especially

when the alternative partner is attractive and thus more threatening to the primary relationship (Johnson & Rusbult, 1989).

Additionally, strong commitment promotes perceived relationship superiority, a relationship maintenance tactic in which people hold more positive beliefs about their own relationships compared to the relationships of others in their social network (Rusbult & Buunk, 1993). Specifically, individuals in more committed relationships tend to report that their partner are more kind, affectionate, open, patient, etc. when compared to their less committed counterparts (Murray, Holmes, & Griffin, 1996, Gagné & Lydon, 2001).

Further, commitment negatively predicts consequential behaviors, such as emotional and physical infidelity. This relationship suggests that commitment aids coupled individuals in avoiding real-life tempting alternatives (Drigotas, Safstrom, & Gentilia, 1999). In essence, people differ in the extent to which they are oriented toward the long-term future of their relationships, and those who adopt a long-term orientation tend to exhibit a multitude of motivated biases, including derogation. These data suggest that a motivated derogation process is occurring among some coupled people (i.e., committed people). Therefore, commitment may be a possible explanation for “effect A;” people in relationships appear to derogate attractive alternatives because highly committed people are driving the effect. Nonetheless, even if the mean difference in attractive ratings between single and coupled people *is* explained by derogation, the mean difference between the groups alone is not a clear indicator that derogation is occurring.

Evidence of derogation as an explanation for the relationship status effect.

The majority of researchers interpret the data depicting effect A as derogation on behalf

of coupled people (e.g., Johnson & Rusbult, 1989; Simpson et al., 1990; Miller, 1997; Lydon et al., 1999; Lydon, 2010; Karremans & Verwijmeren, 2008; Maner et al., 2009; Petit & Ford, 2015). Yet, in order to show evidence of derogation, coupled peoples' ratings of attractiveness must be compared to a neutral baseline, indicated by effect B in Figure 1. Only an effect demonstrating that coupled peoples' attractiveness ratings are less than a baseline (not singles, who may also be biased) would illustrate true derogation.

In the few studies in which coupled peoples' ratings *are* compared to a baseline, control or neutral conditions serve as the comparison. For example, a meta-analysis across two studies showed that exclusive daters decreased their attention (measured implicitly using reaction time) to attractive alternatives when primed with mating-related words than when primed with neutral words (the control condition; Maner et al., 2009). In another study of people in dating relationships, a love prime also reduced attentional attunement to attractive alternatives compared to a control condition (Maner et al., 2008).

Because of the conditions employed in these studies, it is worth noting that the coupled participants in the control condition are not in a romantic mindset when observing the targets. Based on this evidence, coupled participants in a romantic mindset may demonstrate derogation compared to those in a neutral mindset. Furthermore, the data suggest that no relationship effects occur when the situation is neutral (no significant difference emerged between coupled and single participants in the control condition; Maner et al., 2008; Maner et al., 2009). Therefore, especially when mating is made

salient, coupled people derogate attractive alternatives compared to a neutral baseline condition.

Enhancement as an explanation for the relationship status effect

Not all researchers agree, however, that the mean difference between coupled and single people's evaluations of potential partners is due to a motivational bias by which coupled individuals to derogate attractive alternatives. The same pattern of results, others argue, can be better explained by another mechanism: *enhancement* by single individuals. Enhancement is the motivational bias of singles to bolster their judgments of a target's attractiveness in order to maximize their mating opportunities (Bazzini & Shaffer, 1999). Unlike the studies reviewed above, in which results are framed as if single people are objective, Bazzini and Shaffer (1999) assert that *singles* are actually biased. According to this perspective, single people (unlike committed individuals) are in pursuit of valuable mates with whom they can establish relationships and therefore, enhance the attractiveness of potential partners. Relatedly, Bazzini and Shaffer suggest that highly committed individuals are truly objective evaluators of a target's attractiveness because they have experience choosing their own partners. Therefore, the mean difference in attractiveness ratings by exclusive daters and single individuals, according to enhancement explanations, is due to bias by singles.

In the same sense that derogation can only be demonstrated in comparison to a baseline, a baseline is also necessary to show that enhancement is occurring (C in Figure 1). One study made this comparison using a hypothetical scenario in which an attractive stranger expressed interest in either the participant (high-opportunity condition) or the

participant's friend (low-opportunity condition/baseline; Bazzini & Shaffer, 1999). Non-exclusive daters and single individuals reported much higher romantic interest in the stranger when opportunity is high than when opportunity is low. So, when the option to pursue a potential partner becomes available, nonexclusive daters and singles enhance the appeal of that target. In other words, enhancement may explain the effect of relationship status on the evaluation of others when opportunity is present.

Derogation or enhancement: the necessity of neutrality

As noted above, in order to determine if derogation or enhancement are at work, the relationship status groups need to be compared to a neutral baseline. The few studies which included neutral baselines employed control conditions in which participants operated in a neutral mindset (e.g, primed with neutral words; Maner et al, 2009). Interestingly, prior studies demonstrating effect A typically put participants in a romantic mindset; for example, participants were asked to evaluate physical and sexual attractiveness of opposite sex others (e.g., Simpson et al., 1990) or attractiveness of online daters (Lydon et al., 1999). That is, the relationship status effect (the difference between singles and coupled participants) primarily appears in a romantic or mating-relevant context.

Consistent with this logic, relationship status effects do not emerge in neutral conditions (in the few studies which include them). When in a neutral mindset while completing a reaction time task, single and coupled participants show no differences in their evaluations of opposite-sex others; the relationship status effect disappeared in the meta-analysis across two studies mentioned earlier (Maner et al., 2009). Similarly, in the

hypothetical scenario study by Bazzini and Shaffer (1999), when the participants evaluated the interested target from the perspective of their friend, the relationship status effect also disappeared.

Thus, if no romantic primes are presented, and if no opportunity is available, results from Maner and colleagues (2009) and Bazzini and Shaffer (1999) suggest that people can be objective, regardless of their relationship status. Ultimately, the existence of a baseline group for both singles and coupled people provides an opportunity for comparison which can determine whether derogation (effect B) or enhancement (effect C) explains the difference between the two relationship status groups. For this reason, in the current study, we asked an assortment of neutral coders of varying relationship statuses to rate photos submitted by our participants.

Testing hypotheses beyond the lab

Although the evidence for a relationship status effect on attraction to opposite-sex targets is compelling, all studies summarized above (with one exception; Drigotas et al., 1999), use hypothetical targets as stimuli (e.g., models in magazine ads, computer dating profiles). Little evidence showing how peoples' evaluations of *real-life* potential partners are influenced by relationship status exists. The current study extends previous work on how single individuals and coupled people rate potential partners by using targets provided by the participants themselves—the real people with whom they interact on a daily basis.

Furthermore, in real life, there are other ways that single people and coupled people could exhibit motivational biases beyond their ratings of their interaction partners.

For example, single and coupled people may elect to surround themselves with people of differing attractiveness. Specifically, single people may seek out interactions with especially attractive potential partners, and coupled people may surround themselves with unattractive, non-threatening alternative partners. These possibilities have not yet been addressed in existing research.

Summary

In order to reconcile the opposing perspectives of derogation and enhancement, we depict the theoretical predictions offered by proponents of derogation (e.g., Johnson & Rusbult, 1989; Simpson et al., 1990) and enhancement (Bazzini & Shaffer, 1999) in Figure 1. All four simple effects illustrated in Figure 1 are addressed in the current study. In short, although there is considerable support for effect A, evidence for effects B, C, and D is inconclusive in the existing literature.

The Current Research

The opposing perspectives reviewed above make diverging predictions about how people evaluate potential partners. Pitting these perspectives against each other, and including a baseline comparison, can help researchers determine the true explanation underlying the relationship status effect. Do people in relationships evaluate their alternatives as less attractive than do neutral coders (e.g., Maner et al., 2009)? Or do single people bolster their evaluations of potential partners compared to evaluations by neutral coders (Bazzini & Shaffer, 1999)? Or do both processes contribute to the mean difference between ratings made by coupled and single participants simultaneously?

In the current study, single and coupled participants rated the attractiveness of real alternatives who they encounter in their daily lives. Research assistants then rated the attractiveness of the same targets to serve as a neutral baseline to which we can compare the participants' ratings, a novel advance in this literature. Our research assistants appropriately provide a neutral baseline; the neutral coders (1) were prompted to rate the photos objectively, (2) were not primed with relationship status, and (3) were in a non-threatening and low-opportunity situation (they would never meet the targets; Maner et al., 1997, Bazzini & Shaffer, 1999).

As long as neutral coders are able to provide unbiased ratings of attractiveness, regardless of their own relationship status, any difference that may emerge between groups in the neutral baseline condition would indicate that some alternative psychological process is at work. Specifically, effect D, a difference between the baselines for single and coupled people, would emerge if singles and coupled people

select different social environments; if the neutral coders rate the interaction partners of single people and those of coupled people differently, it would reveal that each group interacts with people of varying attractiveness.

Overall, the four categories of ratings (potential partners of single people rated by the single person, potential partners of coupled people rated by the coupled person, potential partners of single people rated by neutral raters, and potential partners of coupled people rated by neutral raters) enabled us to test four simple effects described in Figure 1.

Hypotheses

We expected to find a significant rater (participant v. neutral coder) by relationship status (single vs. coupled) interaction, characterized by the following four underlying simple effects. Firstly, based on established differences in attractiveness ratings, we hypothesized that (1) single people would rate opposite-sex others as more attractive than do coupled people (effect A in Figure 1). Should the data be consistent with a derogation mechanism (e.g., Maner et al., 2008; Maner et al., 2009), (2) people in romantic relationships would rate opposite-sex others as less attractive compared to a baseline, in this case, neutral raters (effect B in Figure 1). Pure derogation (with no enhancement) is depicted in Figure 2. Alternatively, if the data are consistent with an enhancement mechanism (Bazzini & Shaffer, 1999), (3) single people would rate their interaction partners as more attractive than do the neutral raters (effect C in Figure 1). Pure enhancement (with no derogation) is depicted in Figure 3. Lastly, we explored (4) whether or not single people have a social circle that is more attractive than that of

coupled people (effect D in Figure 1). In a test of whether or not commitment moderates derogation effects, consistent with Johnson and Rusbult (1989), we tested if (5) devaluation of opposite-sex others by coupled people was predicted by the participant's commitment to his/her romantic partner. Additionally, we compared coupled and single people in their evaluations of potential partners to see if (6) mean differences were specific to attractiveness traits or all personal traits included in the study.

Methods

Participants

The original sample for this study included 118 people (20 men and 98 women). Seventeen total participants were removed: 13 did not record a single interaction that met the study criteria; three indicated a 1 or 2 on a 1-9 rating scale in agreement with the statement, “I am exclusively attracted to members of the opposite sex” (and therefore, are unlikely to see the opposite-sex targets they submitted as potential partners; a convention used in previous work, e.g., Tidwell & Eastwick, 2013); and one was 34 years old (a clear outlier; she and her only qualifying interaction partner both appear significantly older than the other participants and the coders rating the photos for attractiveness; therefore, the attractiveness ratings may not be comparable).

The sample used in the following analyses consisted of 101 participants (13 men, 88 women) who reported on 508 eligible targets. The participants ranged from 18 to 26 years old ($M = 19.88$, $SD = 1.53$). Of the retained sample, 41.6% were European-American, Anglo, or Caucasian, 30.7% were Hispanic American, 11.9% were Asian-American, Asian, or Pacific Islander, 7.9% were African American, 5.9% were Bi-racial or Multicultural, and 2.0% identified as “other.” Some variation in sexual orientation remained, but 73.3% “Completely Agree” and an additional 11.9% “Agree” with the statement, “I am exclusively attracted to members of the opposite sex.” Additionally, 38.6% of the participants self-identified as being in a committed romantic relationship.

Ten research assistants (2 male and 8 female) were used for coding purposes. The raters ranged from 20 to 24 years old ($M = 22$, $SD = 1.15$). Six of the coders (60.0%) were

European-American, Anglo, or Caucasian, one (10.0%) was Hispanic American, two (20.0%) were Asian-American, Asian, or Pacific Islander, and one (10.0%) was African American. Additionally, four were single, three were casually dating, and three were in romantic relationships at the time the coding was completed.

Procedure

Participants enrolled in the study using an online system which keeps track of their participation in order to receive course credit. Signing up for the study enabled a link to an online preliminary survey which included a battery of measures described below. After completing the preliminary survey, the participants received an email from the researcher instructing them how to complete 5 target reports (a 2-5 minute online survey for each) for the first five opposite-sex peers with whom they had an interaction lasting at least 10 minutes. These interactions could occur face-to-face, over the phone, or via Skype (or video chat). Participants were asked to report only unique interactions (i.e., no repeat targets) and to complete the survey as soon as possible (i.e., within 24 hours) after the interaction occurred. The participants were also asked to email a publically available photo (e.g. current Facebook profile picture) of the target to the researcher. Of 508 targets, we were able to collect photos for 503 of them.

Measures

Attractiveness. Participants indicated on a 1 (*not at all*) to 9 (*a great deal*) rating scale how “physically attractive” and how “sexy/hot” they believed their interaction partner to be. Responses to these two items were averaged to calculate *attractiveness*. The two items were highly positively correlated, $r=.98$. The publically available photos

were later coded by 10 research assistants in the lab using the same items and scale, combined in the same way, to form a “*neutral baseline*” *attractiveness* variable. The research assistants’ ratings of how physically attractive and how sexy/hot the targets were had good internal consistency across the neutral coders (Cronbach’s $\alpha = .88, .87$, respectively).

Personal traits. Participants indicated on a 1 (*not at all*) to 9 (*a great deal*) rating scale how much they believed each trait fit their interaction partner. In addition to “physically attractive” and “sexy/hot,” participants evaluated the targets on 12 other traits taken from existing research (e.g., Tidwell, Eastwick, & Finkel, 2013): good career prospects, ambitious, fun, funny, responsive, trustworthy, friendly/nice, charismatic, confident, assertive, smart, and intellectually sharp. These traits fit into 5 distinct categories combined in this way: (1) good career prospects and ambitious, (2) fun and funny, (3) responsive, trustworthy, and friendly/nice, (4) charismatic, confident, and assertive, and (5) smart and intellectually sharp. These traits were rated only by the participants; we did not ask our coders to estimate these traits.

Relationship status. Relationship status was assessed with a single, dichotomous item on the preliminary survey. Participants were first prompted to enter the initials of their current romantic partner or, if they did not have one, the name of someone who would make an ideal/desirable partner. They were then asked, “Are you currently in a committed, romantic relationship with [previous answer]?” Of the sample, 41.5% reported that they were in a romantic relationship at the time of participation.

Commitment level. Seven items measuring commitment appeared on the preliminary survey from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998). Participants used a 9-point rating scale anchored at 1 (*Do not agree at all*) and 9 (*Agree completely*) to respond to items like “I want our relationship to last forever,” and, “I would not feel very upset if our relationship were to end in the near future.” Necessary items were reverse coded before taking the average of the responses to create a *commitment* score. Coupled participants had commitment scores between 3.86 and 9.00, with a mean of 7.65 (SD=1.33).

Partner type. Whether or not the target was categorized as a partner or non-partner was based on a single, multiple-choice item on the interaction survey. After entering the name or initials of a person with whom the participant interacted, participants were prompted to identify their relationship with that person from nine available options. Casual dating partners and serious dating partners were later categorized as “partners.” “Non-partners” included strangers, acquaintances without romantic potential, acquaintances with romantic potential, friends without romantic potential, friends with romantic potential, family members, and “other.” This variable determines which data points are included in each of the analyses. Only non-partners are examined in hypotheses 1-6. Hypothesis 7 looks only at partners. Of the usable photos obtained, 490 were non-partners and 48 were partners of the participants.

Results

Descriptive Statistics

The participants' and neutral raters' attractiveness ratings of the targets are summarized in Table 1 below. Participants' and neutral coders' ratings are split by partner type.

Tests of hypotheses

In order to examine the possible interaction between rater and relationship status, we first conducted a mixed model subsuming the four simple effects of interest (Aiken & West, 1991) using only the targets who were not partners of the participants. In order to run this multi-level analysis, the data set was doubled such that each target had two rows, one indicating the participants' ratings of the target's attractiveness and the other indicating the neutral rating of the target's attractiveness. The rater (participant v. neutral coder) and partner type (partner v. non-partner of the participant) were dummy coded.

The interaction of rater by participant relationship status (for targets that are not partners) was significant, $\beta = -.63$, $t(449,63) = -2.96$, $p = .003$. In other words, the difference between the participants' attractiveness ratings and the ratings of the neutral coders differed depending on whether the target was nominated by someone who was single or someone who was in a relationship. The pattern indicated that ratings of attractiveness were greatest for the interaction partners of single people when rated by the single participants who reported them. The mean attractiveness ratings for non-partner targets, as rated by neutral coders and the participants, appear in Figure 4.

Next, we examined each of our four simple effect hypotheses underlying this interaction. The effect of relationships status on participants' attractiveness ratings was significant. As hypothesized, (1) single people rated opposite-sex others as more attractive than did coupled people, $\beta = .51$, $t(176.14) = 2.33$, $p = .021$.

To evaluate any evidence of derogation (Maner et al., 2008; Maner et al., 2009), we tested to see if people in romantic relationships rated opposite-sex others as less attractive than did neutral raters. The main effect of rater on attractiveness ratings for the interaction partners of coupled people was marginally significant, in the opposite direction than was expected: (2) People in romantic relationships actually rated opposite-sex others as slightly more attractive as did neutral raters, $\beta = .31$, $t(451.05) = 1.79$, $p = .074$. This fails to support the hypothesis that people in romantic relationships derogate their alternative partners.

In order to examine support for enhancement (Bazzini & Shaffer, 1999), we tested to see if single people rate their interaction partners as more attractive than did neutral raters. The main effect of rater on attractiveness ratings for the interaction partners of single participants was significant. As predicted, (3) single people rated their interaction partners as more attractive than did the neutral raters, $\beta = .93$, $t(446.91) = 7.50$, $p < .001$. This supports the theory of enhancement and is consistent with Bazzini and Shaffer's findings (1999) on singles' enhancement of others' attractiveness.

Lastly, the main effect of a participant's relationship status on attractiveness ratings made by neutral raters was not significant. Our exploratory analysis revealed that

(4) single people had a social circle that was no more attractive than that of coupled people according to our neutral coders, $\beta = -.12$, $t(183.13) = -0.54$, $p = .593$.

Using only participants who were in relationships, we examined the extent to which commitment predicted attractiveness ratings. (5) Commitment did *not* predict attractiveness ratings of (non-partner) targets, standardized $\beta = -.09$, $t(185) = -1.26$, $p = .208$. This means that highly committed and less committed people did not vary in their attractiveness ratings of alternative partners. However, the participants' commitment *did* significantly predict the neutral ratings of the targets, standardized $\beta = -.18$, $t(175) = -2.35$, $p = .020$, indicating that more commitment to one's partner predicted lower levels of attractiveness of the alternatives in his or her social circle.

In an additional series of analyses, we sought to determine if (6) the difference in ratings of non-partners made by single people and coupled people is unique to attractiveness, or if other traits reveal a similar pattern. In an examination of 12 other traits (e.g., ambitious, funny, trustworthy, smart) categorized as five constructs, only one category of traits (besides attractiveness) emerged as marginally significantly different between the two groups. A series of mixed models revealed that single people rated their interaction partners slightly higher than did people in relationships in all 5 trait categories, but no significant differences between the groups were found. A complete table of results can be found in the appendices (Table 2). These results indicate that attractiveness ratings are somewhat unique in how they differ between groups. Single people and coupled people significantly differed only in attractiveness ratings, but not when evaluating potential partners on other criteria.

Exploratory analyses

Positive Illusions

Following hypothesis testing, a series of exploratory analyses were conducted to provide greater insight into the data. Previously, a meta-analysis of accuracy of judgements in romantic relationships revealed an overall positive mean-level bias in which participants idealize romantic partners over alternatives (Fletcher & Kerr, 2010). To measure positive illusions in the current study, we examined if individuals in relationships enhance the attractiveness of their significant others. Specifically, we expected to find a rater by target interaction in which the difference between a person's rating of their partner's attractiveness compared to the neutral ratings would be much greater than the difference between a person's rating of a non-partner's attractiveness compared to the neutral rating.

Therefore, we compared neutral and participant ratings of the participants' partners (as applicable; $n = 48$). An independent samples t-test was conducted to compare the attractiveness ratings of partner targets for neutral raters and participants. There was a significant difference between the scores for neutral raters ($M=4.57, SD=1.52$) and participants ($M=8.06, SD=1.03$); $t(82.303) = 13.29, p < .001$, such that coupled people rated their significant others as more attractive than did the neutral raters. The magnitude of the difference in the means was very large (Cohen's $d = 2.70$). Figure 5 depicts the mean attractiveness ratings of non-partner targets made by neutral coders and participants captured by Figure 4 with the addition of the mean attractiveness ratings of partner targets by both groups.

Scale Use

Regarding the difference between attractiveness ratings of non-partners made by coupled people and singles, both groups appeared to use the scale with comparable degrees of variance. Levine's test for the equality of variances revealed no difference between the groups. However, Levine's test did reveal a significant difference between the variance of participants and neutral coders; the neutral coders were significantly less variable in their ratings of the targets than were the participants, $F(1,893) = 151.92, p < .001$. The lack of homogeneity in variance indicates that the participants and the neutral coders actually use the attractiveness scales differently.

Discussion

The mean difference in how coupled people and single people regard attractive opposite-sex others (A in Figure 1) is well established in the existing literature. Consistent with the previous research (e.g., Simpson et al., 1990), we found support for hypothesis 1, that coupled and single peoples' attractiveness ratings of potential partners significantly differ. Coupled people rated the attractiveness of potential partners more negatively than single participants did.

Despite the prevalence of the derogation phenomenon in researchers' explanations of this effect, we found no evidence of derogation in the current study (hypothesis 2). Instead, we found marginal support for enhancement by coupled people compared to neutral raters. We suspect the increase in attractiveness ratings made by the participants (compared to the neutral raters) resulted from four possibilities: (1) familiarity effects, (2) "calibration," (3) the medium of the stimuli, and/or (4) reciprocity. Firstly, people may rate their interaction partners higher in attractiveness simply based on evidence that familiarity breeds liking (Reis et al., 2011); we expect that, just by knowing their interaction partners in real life (i.e., by being familiar with them), participants report more liking for the targets than would someone who has never met or seen them before (e.g., the neutral coders). Secondly, the lack of support for derogation in these data may be consistent with the "calibration hypothesis," which states that a person may not devalue a potential partner unless he or she is experiencing threat (Lydon et al., 1999). In that case, if the targets submitted by coupled participants were truly platonic (non-threatening) friends, then derogation may not be evident. Thirdly, the results may be

explained by the difference in the information available to the participants and raters when making their ratings. Although the participants know the featured targets in real life, the neutral raters judged them only by their photograph. Additionally, some work shows that people rate photos more harshly than real-life people (Hunt, Eastwick, & Finkel, 2015); the medium alone might be sufficient to produce a difference between the participants' and neutral coders' ratings. Lastly, the lack of derogation in these data may be explained by reciprocity—that liking begets liking. Likely, the targets are friends and/or valued members of the participants' social network, and within networks, liking tends to be reciprocated. These relationships may lead to the inflation of attractiveness scores by the participants. Consequently, any combination of the above mechanisms could have contributed to the lack of derogation in the current study.

We did, on the other hand, find strong support for the enhancement bias by singles (hypothesis 3). Single people reported higher attractiveness ratings than those made by neutral raters. Although enhancement was expected to emerge only among single people, it was surprising to see evidence of enhancement among coupled people, possibly due to the mechanisms described above.

The neutral raters did not discriminate between the attractiveness of targets submitted by coupled people and those submitted by single individuals (hypothesis 4). Conceptually, the similarity between groups provides some evidence that relationship status is not predictive of the attractiveness of the potential partners with whom a person interacts.

Surprisingly, commitment did not predict the coupled participants' attractiveness ratings of non-partner targets (hypothesis 5), but it did predict the neutral ratings of the same targets. This finding indicates that the more committed a person is to his or her relationship, the less attractive are his or her alternatives (as judged by neutral raters). This finding is consistent with the investment model (Rusbult, 1980) in which the quality of one's alternatives is predictive of his/her commitment to the primary relationship partner. Our analysis implies only an association between commitment level and the attractiveness of alternatives; although commitment may drive a person's choice of social network (highly committed partners surround themselves with non-threatening alternatives), it may also be that one's social network is driving his/her level of commitment (the available alternatives are unappealing, and therefore, the person feels more commitment to the primary partner).

In another analysis of the partner targets submitted during the study, it was revealed that coupled participants hold their partners in extremely high regard (in terms of attractiveness). These data are consistent with work on positive illusions (Murray et al., 1996), supporting that individuals in relationships enhance the attractiveness of their significant others.

In a final series of analyses, attractiveness emerged as a unique construct that differed when rated by single people and coupled people. No other trait category showed a significant difference between the two groups, however, ratings by singles were consistently higher than those made by coupled people. Taken together, it appears that

relationship status effects hold for attractiveness ratings, but are weaker for other, less “threatening” variables.

Strengths and Limitations

Although this study was the first to simultaneously test all four simple effects of the derogation and enhancement hypotheses using real-life potential partners provided by the participants, there are some limitations to this work. For one, the sample was comprised of mostly women, who may be more or less likely to show relationship status effects than are men. Because of the underrepresentation of men in the sample, the results may not accurately reflect both genders. The previous literature in which evaluations by coupled people were compared to a baseline revealed that some effects were more reliable for women than men (Simpson et al., 1990). Broadly, however, most of the previous research had equal representation but did not compare men and women (Bazzini & Shaffer, 1999; Johnson & Rusbult, 1989; Karremans & Verwijmeren, 2008; Petit & Ford, 2015) and in the few that did compare the sexes, no significant differences in the main effect (evaluations of attractiveness) were found (Maner et al., 2009; Miller et al., 1997; Lydon et al., 1999). As a result, replication of the current study with more male participants is recommended, but few differences are expected to appear.

Another concern is that participants evaluated targets without indicating their interest in pursuing a relationship. We expect that regardless of the single participants’ interest in pursuing a relationship, he or she would still provide reliable assessments of the targets. However, previous work on enhancement suggests that single participants’ evaluations become more positive when given the opportunity to pursue the potential

partner (Bazzini & Shaffer, 1999). In the current study, however, we cannot be sure if all participants would be interested in taking advantage of such an opportunity, even if the potential partner was physically attractive.

Lastly, ratings made by participants and neutral raters may vary due to the stimuli used in this study. Although the participants know and interact with the targets in real-life, the neutral raters only had 2-dimensional photos to use to make their judgments. Some evidence shows that people rate photographs more harshly than other mediums (e.g., video, real-life interactions; Hunt et al., 2015). As a result, future research should address this, and other limitations.

Future Directions

In future replications and extensions of this work, we would address the limitations above and test potential moderators on the relationships that emerged between variables. We would be interested in examining the effect of the neutral raters' relationship status on their ratings of the targets; despite being in a low-threat condition in which there is no opportunity to meet the photographed target, participants may still be subject to derogation or enhancement effects based on their relationship status. We would also re-create the study using different mediums for stimuli (e.g., video) to assess how the ratings of neutral raters change.

Conclusion

All romantic relationships are vulnerable to the threat of attractive relationship alternatives (e.g., Gonzaga, Haselton, Smurda, Davies, & Poore, 2008), but people may be equipped with a psychological mechanism which defends against temptation by reducing the appeal of alternatives (e.g., Johnson & Rusbult, 1989; Lydon, Fitzsimons, & Naidoo, 2003). Nonetheless, in our examination of real-life alternatives, no support for derogation was found. Rather, the data provide evidence that single individuals, and coupled people (to a lesser extent), enhance the attractiveness of their interaction partners. Enhancement effects amongst coupled people may be linked to familiarity and the non-threatening role of the targets.

Even if coupled participants' targets were non-threatening, real-life alternatives *can* interfere with the stability of a monogamous relationship; approximately half of people who are tempted by alternatives and engage in infidelity do so with a coworker (46% of women and 62% of men, Glass, 2003; 46%, Wiggins & Lederer, 1984) and 16% of husbands and 29% of wives do so with a friend or neighbor (Glass, 2003). Accordingly, not all daily interaction partners are non-threatening in reality; oftentimes real threats come from this seemingly platonic pool of people.

We found evidence, on the other hand, that commitment effects and positive illusions are more in line with the defense-motivated behaviors which appear in earlier literature (e.g., Johnson & Rusbult, 1989). For coupled people, more commitment was associated with interacting with less attractive alternatives (based on judgments from neutral coders). Relative to neutral coders, coupled people also tended to hold inflated

perceptions of their partners, which are associated with positive relationship outcomes (e.g., Murray et al., 1996). Although derogation did not explicitly emerge in the current study, it appears that other protective relationship mechanisms are in place.

Appendix A

Table 1.

Descriptive Statistics of Participants' and Neutral Raters' Evaluations of Targets Split by Partner Type

Rater type	Partner type	N	Min	Max	Mean	SD
Participant	Non-partner	503	1.00	9.00	4.53	2.33
	Partner	50	5.00	9.00	8.06	1.03
Neutral rater	Non-partner	490	1.20	7.85	3.93	1.32
	Partner	48	1.90	7.35	4.57	1.52

Table 2.

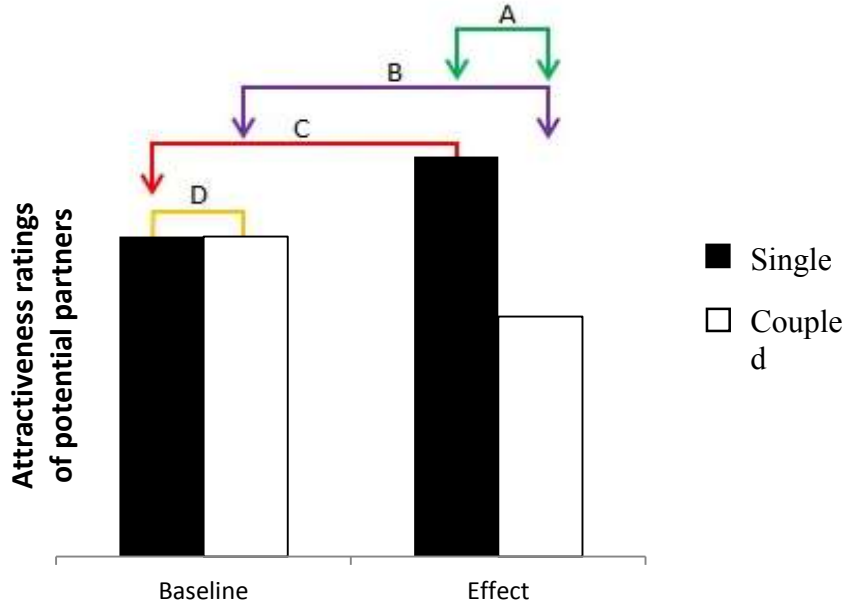
Results of Mixed Models Comparing Coupled and Single Participants on Their Evaluations of Non-partner Targets on Five Trait Categories

Traits	Parameter	Estimate (β)	df	T	P
Career-oriented/ambitious	Intercept	6.56	104.22	17.78	.000
	Rel Status	0.21	99.28	0.97	.337
Fun/funny	Intercept	6.43	110.70	18.91	.000
	Rel Status	0.32	105.51	1.59	.116
Responsive/Trustworthy/Friendly	Intercept	6.94	108.27	21.17	.000
	Rel Status	0.10	104.20	0.52	.604
	Intercept	6.72	108.72	18.52	.000
Charismatic/Assertive/Confident	Rel Status	0.11	105.51	0.54	.593
	Intercept	7.16	109.11	19.82	.000
	Rel Status	0.02	104.80	0.07	.941
Sharp/Smart					

Note. The beta estimates indicate that, for each trait category, single people rated their non-partner targets slightly higher than did coupled people. However, the p-values indicate that none of these differences are significant.

Figure 1.

A Conceptual Graph of Derogation and Enhancement Theories



Note. Effects of relationship status on targets' attractiveness rating compared to baseline.

A captures the typical effect of relationship status on attractiveness ratings. Coupled people rate targets as less attractive than do single individuals. B represents coupled peoples' derogation of alternatives when compared to a baseline. C represents enhancement by single individuals and non-exclusive daters when compared to a baseline. D depicts the baselines to which we can compare relationship status effects; as shown here, coupled and singles' baselines do not differ.

Figure 2.

Perfect Derogation: Attractiveness Ratings for Non-partner Targets by Participants and Neutral Raters

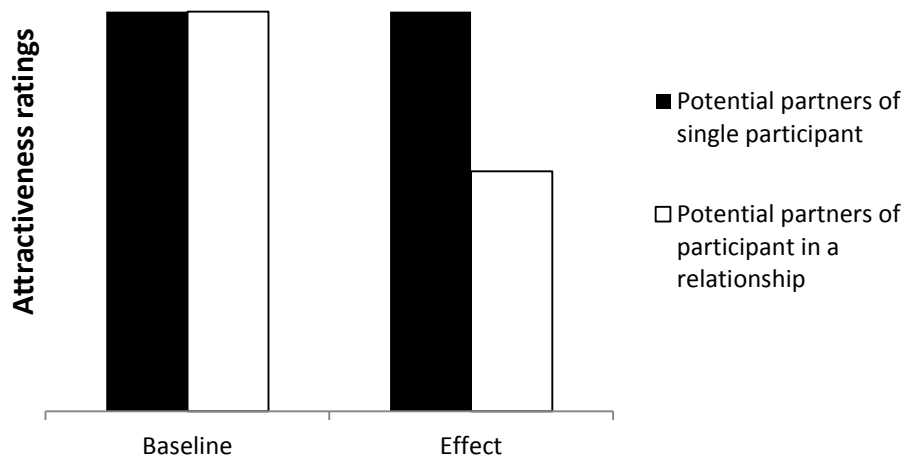


Figure 3.

Perfect Enhancement: Attractiveness Ratings for Non-partner Targets by Participants and Neutral Raters

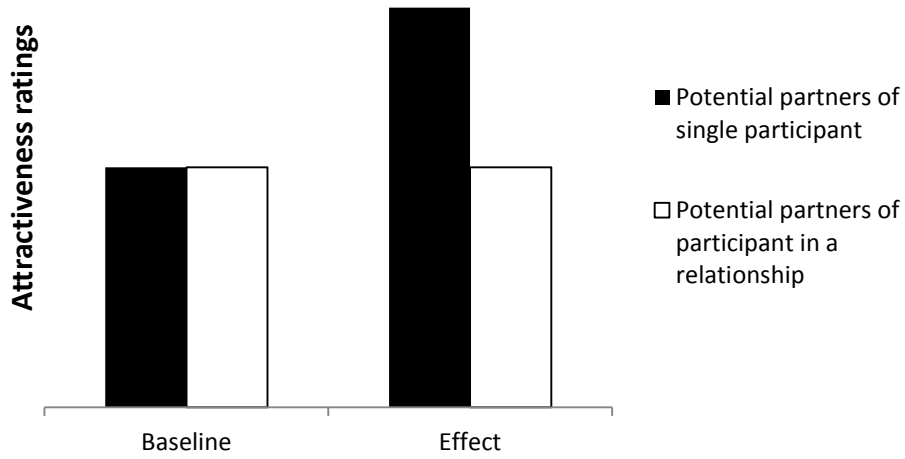


Figure 4.

Observed Attractiveness Ratings for Non-partner Targets by Participants and Neutral Raters

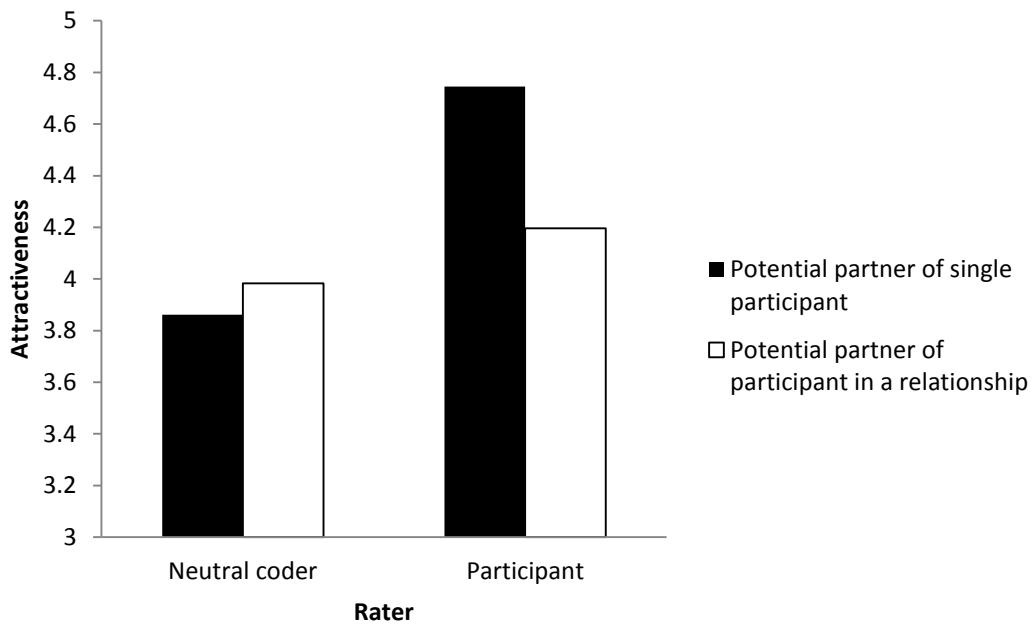
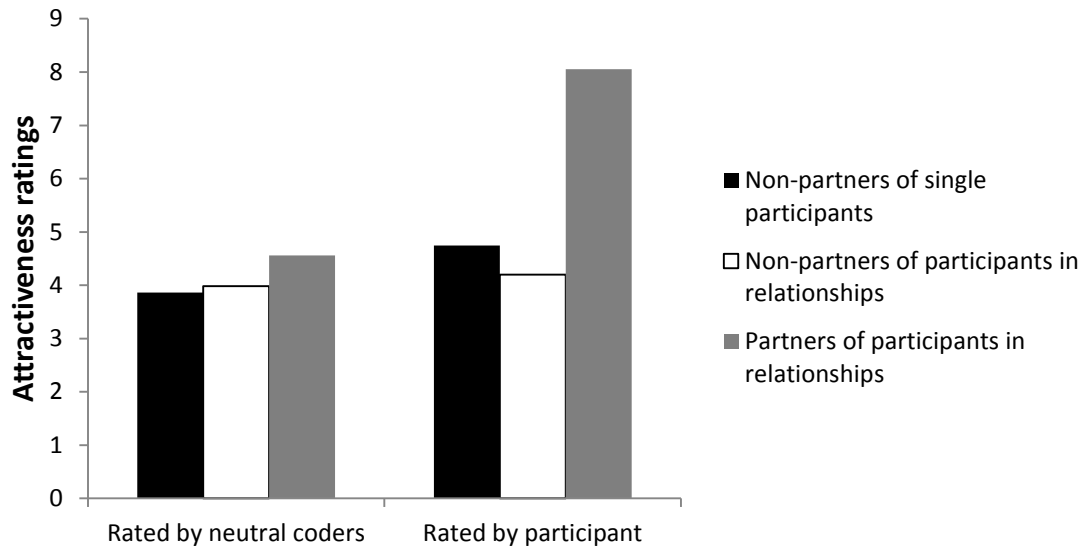


Figure 5.

Attractiveness Ratings for Non-partner and Partner Targets by Participants and Neutral Raters



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