

Will I Divorce or Have a Happy Marriage?: Gender Differences in Comparative Optimism and Estimation of Personal Chances Among U.S. College Students

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Previous research shows inconsistent evidence in regard to gender differences in optimism for experiencing a happy marriage or avoiding divorce depending on whether optimism is measured as comparative optimism (thinking you are better off than your peers) or as personal optimism (estimating your own chances). Results from four samples of unmarried college students ($N=814$) indicated that men exhibited greater *comparative optimism* than women for having a happy marriage but not for getting divorced. For having a happy marriage and avoiding divorce, men exhibited greater *personal optimism* relative to women. Experience (with parental divorce) moderated the gender difference in personal optimism and perceived control partially mediated the gender difference in comparative optimism (but only for having a happy marriage) and in personal optimism (for both having a happy marriage and avoiding divorce). Results are discussed as they relate to the existing literatures on risk perception and gender differences in romantic relationships.

Anyone who has attended a wedding may remember the optimism that was likely evident on the glowing faces of the bride and groom as they confidently exchanged promises to love each other in good times and bad. Indeed, it has been documented that people tend to hold more positive beliefs and less negative beliefs about their relationship compared to others' relationships (Van Lange & Rusbult, 1995) and believe that they are more likely than others to have a happy marriage (Boyer-Pennington, Pennington, & Spink, 2001; Lin & Raghuram, 2005) and less likely to get divorced (Baker & Emery, 1993; Boyer-Pennington et al., 2001; Heaton & Albrecht, 1991; Weinstein, 1980). This

propensity to believe that one is less likely than others to experience negative events and more likely to experience positive events is referred to as comparative optimism (also sometimes referred to as optimistic bias; Helweg-Larsen & Shepperd, 2001). The tendency of individuals to exhibit comparative optimism has been demonstrated for numerous types of events and across demographic and cultural groups, underscoring the pervasive and robust nature of this phenomenon (e.g., Harris, Griffin, & Murray, 2008; Weinstein, 1980).

The finding that people exhibit optimistic expectancies about their prospects for romantic relationships may seem somewhat surprising in the context of current marriage trends in the United States. In recent history, the divorce rate in the United States has fluctuated (i.e., doubling between the mid-1960s and the mid-1970s, declining since 1981), but data generally suggest

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a steady rise in divorce, whereas marriage rates have remained stable (Stevenson & Wolfers, 2007). Further, data from the National Survey of Family Growth (conducted using a nationally representative sample of women ages 15–44) reveal that divorce is relatively common. For example, 33% of women's first marriages end in divorce or separation within 10 years; after 20 years of marriage, the probability that a first marriage will end in divorce or separation increases to 50% (Bramlett & Mosher, 2001). Notably, a study using a sample of recently married individuals found that, despite displaying relatively accurate knowledge of the general likelihood of and effects of divorce for the population, participants still exhibited comparative optimism for their own relationship outcomes (i.e., relationship longevity and likelihood of divorce; Baker & Emery, 1993).

Because marriage and divorce are common life events in U.S. society, understanding how people view their chances for these events likely holds public interest in addition to having practical implications. For example, research demonstrates that expectations about romantic relationships can predict future interactions in and satisfaction with a relationship (e.g., McNulty & Karney, 2004). As noted earlier, there are several studies documenting that people exhibit comparative optimism about their chances of avoiding divorce and having a happy marriage (e.g., Lin & Raghbir, 2005; Weinstein, 1980). However, there is a dearth of research examining variables that might be associated with individual differences in the magnitude of comparative optimism. The contribution of the present study is thus the exploration of several variables that might be related to or influence the amount of optimism present when individuals think about future risk of divorce or future chance of having a happy marriage. These variables, namely, gender, previous experience with negative marital outcomes (i.e., a parental divorce), and perceived control, are reviewed in the following sections.

GENDER, COMPARATIVE OPTIMISM, AND ESTIMATION OF PERSONAL CHANCES

In the extensive body of literature on comparative risk estimates for a wide range of negative events, there are generally few if any gender differences (e.g., Harris et al., 2008). In other words, men and women exhibit similar mean levels of comparative optimism when estimating their own and others' risk for a future event (but see Finucane, Slovic, Mertz, Flynn, & Satterfield, 2000). This is not surprising given that many of the events examined are not uniquely associated with one gender. However, one might expect gender differences with regard to comparative optimism about relationships given the extensive literature demonstrating that women

and men think about relationships differently (Acitelli, 1992; Harvey, Wells, & Alvarez, 1978; Rubin, Peplau, & Hill, 1981).

There has been limited research examining possible gender differences in comparative optimism for having a happy marriage or getting divorced, but one recent study has demonstrated that men relative to women exhibited greater comparative optimism for both having a happy marriage and avoiding divorce (Lin & Raghbir, 2005). The difference in comparative optimism was attributable to gender differences in estimation of personal chances (i.e., men had more optimistic self estimates than women did) for happy marriage ($d=0.50$) and avoiding divorce ($d=0.51$) as opposed to gender differences in the level of risk estimated for an average other person (Lin & Raghbir, 2005). Thus, there is evidence suggesting a moderate effect size difference between men's and women's perceptions of their personal chances for certain marital outcomes, which is notable given that most gender differences in the psychological literature are associated with only small effect sizes (Hyde, 2005). However, other research has shown that women relative to men displayed more optimistic personal expectations for getting married and avoiding divorce (Boyer-Pennington et al., 2001). Thus, the existing research on gender differences in optimism for marriage and divorce is preliminary and inconsistent at best, and continued research is needed to better understand how gender may relate to perceptions of chances for these events. If in fact gender differences in comparative optimism or personal chance estimation do exist, it would be useful to identify factors that could moderate or mediate the association between gender and expectations for marital outcomes.

VARIABLES ASSOCIATED WITH A GENDER AND COMPARATIVE OPTIMISM LINK

Previous research suggests that many factors may influence the magnitude of comparative optimism (Harris et al., 2008; Helweg-Larsen & Shepperd, 2001), although none have examined beliefs about marital outcomes specifically. Two variables are examined in the current study: (a) whether men and women have *past experience* with a negative marital outcome (such as witnessing a parental divorce) and (b) how much *control* men and women perceive over having a happy marriage or avoiding divorce and. First, prior experience with the event influences comparative optimism and estimation of personal chances. Research generally shows that across domains, previous experience with an event tends to relate to higher self-risk estimates for experiencing that event in the future (e.g., Helweg-Larsen, Harding, & Kleinman, 2008). One form of previous experience that

could influence comparative optimism for having a happy marriage or avoiding divorce is experiencing a parental divorce in the family of origin. In fact, research suggests that individuals with divorced parents hold less favorable attitudes toward marriage (Jennings, Salts, & Smith, 1992), rate a hypothetical future spouse as less dependable (Franklin, Janoff-Bulman, & Roberts, 1990), and are less optimistic about their chances of experiencing a satisfying marriage and of not getting a divorce (Boyer-Pennington et al., 2001) compared to individuals from intact homes. Further, there is evidence to suggest that the relationship between parental divorce and self-risk estimates for relationship outcomes may be influenced by gender. For example, women's increased levels of emotional intimacy and communication with their mothers (Maccoby, 1990) and tendency to be more relationally focused (Acitelli, 1992; Feingold, 1994; Maccoby, 1990) suggest that women, more so than men, may be more sensitive to the experience of a parental divorce and subsequently more likely to integrate this experience into their own relationship expectations. Thus, the experience of a parental divorce could interact with gender to predict optimism for future relationship outcomes.

Second, a great deal of literature suggests that greater perceived controllability of an event is associated with lower self-risk estimates and more comparative optimism (for a review and meta-analysis, see Klein & Helweg-Larsen, 2002). Similarly, research shows that college men more so than women think they can control certain aspects of their relationships (e.g., relationship conflicts; Clements, Ogle, & Sabourin, 2005). Thus, perceived control over relationship outcomes may be a mechanism that could explain gender differences in optimism, a hypothesis tested in the current study.

The primary aims of the present study were to examine if there are gender differences in comparative optimism and perception of personal chance of experiencing a divorce or having a happy marriage in a U.S. sample and to examine possible reasons for such a gender difference. We examined both comparative optimism and perception of personal chance because the past literature (just reviewed) examines both of these variables. Furthermore, the two variables are obviously related (personal risk perception is mathematically part of comparative optimism) yet distinct (Ranby, Aiken, Gerend, & Erchull, 2010). Finally, past research has found either that all the effect of a comparative optimism effect was in personal risk perception (e.g., Lin & Raghuram, 2005; for a review, see Helweg-Larsen & Shepperd, 2001) or that there were no comparative optimism effects but important effects related to personal risk perception (e.g., Helweg-Larsen et al., 2008). We examined comparative optimism/perception of personal chance for both having a happy marriage and getting a divorce due to previous research suggesting

that individuals estimate risk differently depending on whether the event in question is positive or negative in nature (e.g., Weinstein, 1980), and because risk estimations of positive and negative events may have different consequences (e.g., Taylor, 1991). We examined this question among unmarried college students.

We expected (a) that participants would exhibit comparative optimism for their risk of divorce and chances of having a happy marriage and (b) that men relative to women would exhibit both greater comparative optimism and greater perception of personal chance in their ratings of likelihood of avoiding divorce or having a happy marriage. Furthermore, we expected that (c) personal experience with a parental divorce would moderate the association between gender and comparative optimism/perception of personal chance, such that experiencing a parental divorce would be associated with less optimism for women but not for men, and that (d) gender differences in perceived control would mediate the relationship between gender and comparative optimism/perception of personal chance, such that perceptions of control would explain one process or pathway by which gender is related to optimism.

METHOD

Participants

Participants were 814 unmarried, heterosexual undergraduate students (275 men, 539 women). The average age was 19.10 ($SD = 1.24$); 19.9% had parents who were divorced, and 71.3% reported having been in a serious/committed romantic relationship. One participant who indicated she was married was excluded from the sample. Furthermore, data from 36 participants who did not check "heterosexual" were excluded because the primary questions were about marriage/divorce and it is not clear how men and women in same-sex relationships might be able to marry/divorce in the future.

Materials

Risk perception. Two items asked the participants to assess their personal chances of experiencing a happy marriage or having a divorce. Questions asked, "What is the chance that you one day will experience getting a divorce [have a happy marriage]?" They were also asked to estimate the chance that the typical undergraduate student of their gender would experience these two events. The questions stated, "What is the chance that the typical undergraduate student (of your gender) will one day experience getting a divorce [have a happy marriage]?" These questions are typical of this literature (for review, see Helweg-Larsen & Shepperd, 2001). The

response scale for the four risk perception items ranged from 1 (*not at all likely*) to 7 (*extremely likely*). The personal/typical student chance of divorce variables were reverse coded so that higher numbers indicated a more optimistic outlook. Thus, for all variables higher numbers indicate optimism (e.g., more likely to have a happy marriage and more likely to avoid divorce).

Comparative optimism. Comparative optimism for a happy marriage was calculated by subtracting *the typical student's chance of a happy marriage* from *my chance of having a happy marriage* (positive scores indicated greater optimism such that participants thought they were more likely to have a happy marriage compared with other students). Similarly, comparative optimism for having a divorce in the future was calculated by subtracting *the typical student's chance of a divorce* from *my chance of a divorce* (positive scores indicated greater optimism such that participants thought they were less likely to divorce than other students).

Perceived control. Two items asked how much control participants thought they had over one day having a happy marriage and one day getting (or avoiding getting) a divorce (questions typical in this literature; for a review, see Klein & Helweg-Larsen, 2002). The response scale ranged from 1 (*no control*) to 7 (*a great deal of control*). Questions regarding perceived control were not asked in the first sample (see a description of the four samples next).

Demographic questions. Questions also asked about age, gender, and marital status; whether their parents were divorced (*yes, no*); and whether they had ever been in a serious/committed romantic relationship (*yes, no*).

Procedure

Four samples were collected at Dickinson College (Samples 1, 2, and 4) and the University of Pittsburgh (Sample 3). Sample 1 completed the studies at their own convenience on a computer using a Web interface. Samples 2 and 4 completed the studies in a laboratory on a computer using a Web interface. Sample 3 used a paper-and-pencil survey, which was completed in the lab. All sample members participated in exchange for course credit via the participant pool. Participants were given written instructions emphasizing the voluntary and anonymous aspects of the study and were asked to be as truthful as possible in their answers. After completing the study participants were debriefed.

RESULTS

Evidence of Comparative Optimism

We examined the extent to which students showed comparative optimism. One-sample *t* tests showed that participants exhibited comparative optimism for having a happy marriage ($M = 0.92, SD = 1.29, t(806) = 20.30, p < .001, d = 0.80$), as well as for experiencing a divorce ($M = 1.81, SD = 1.50, t(808) = 34.25, p < .001, d = 1.47$) (see Figure 1). Furthermore, a paired-sample *t* test showed that these two means were significantly different from each other. That is, students were more comparatively optimistic for the negative event (divorce) than the positive event (happy marriage), $t(805) = 15.02, p < .001, d = 0.63$ (see Figure 1). Thus H1 was supported. This finding is consistent with research showing that people exhibit greater comparative optimism for negative than positive events (Weinstein, 1980).

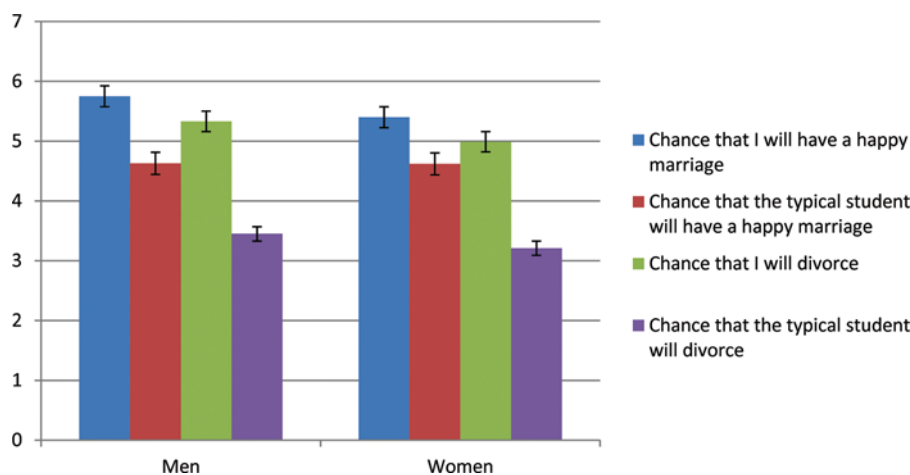


FIGURE 1 Means for estimates of having a happy marriage or getting divorced for men and women. *Note.* Higher numbers indicate greater optimism (i.e., greater chance for happy marriage and lower chance of divorce). (Error bars display standard error.)

Gender Differences in Comparative Optimism

We conducted a 2 (comparative optimism: divorce vs. happy marriage) \times 2 (gender: men vs. women) mixed analysis of variance (ANOVA) to test the first part of H2, which stated that men relative to women would exhibit greater comparative optimism for divorce as well as happy marriage. Results showed two main effects and an interaction. The main effect of gender revealed that men were more comparatively optimistic ($M = 1.52$, $SD = 1.12$) than women ($M = 1.28$, $SD = 1.11$), $F(1, 804) = 10.15$, $p = .001$, $\eta_p^2 = .01$. The main effect of event revealed (as previously described) that people showed greater comparative optimism for divorce ($M = 1.81$, $SD = 1.50$) than having a happy marriage ($M = 0.92$, $SD = 1.29$), $F(1, 804) = 178.46$, $p = .001$, $\eta_p^2 = .18$. These main effects were moderated by a significant interaction, $F(1, 804) = 8.12$, $p = .004$, $\eta_p^2 = .01$. Follow-up tests showed that for *happy marriage* men ($M = 1.21$, $SD = 1.33$) were more comparatively optimistic than women ($M = 0.77$, $SD = 1.24$), $F(1, 805) = 22.00$, $p = .001$, $\eta_p^2 = .027$, whereas for *divorce* men ($M = 1.88$, $SD = 1.55$) and women ($M = 1.77$, $SD = 1.48$) were equally comparatively optimistic, $F(1, 807) = 0.83$, $p = .36$, $\eta_p^2 = .001$. Note that all the previous four means were significantly different from zero (one-sample t tests, $t_s > 14.33$, $p_s < .001$) indicating that both men and women were comparatively optimistic for the two events. In sum, men were more comparatively optimistic for having a happy marriage, but there were no gender differences in comparative optimism for divorce. Thus, the first part of H2 was supported for comparative optimism for marriage but not divorce.

Gender Differences in Personal Chance Perceptions

We then examined gender differences in perception of personal chance to test the second part of H2. A 2

(personal chance of event: happy marriage vs. divorce) \times 2 (gender: men vs. women) mixed ANOVA revealed two main effects and no interaction. The main effect of gender indicated that men ($M = 5.54$, $SD = 1.09$) were more optimistic than women ($M = 5.20$, $SD = 1.09$), $F(1, 807) = 18.10$, $p < .001$, $\eta_p^2 = .02$. The main effect of event indicated that people were more optimistic about having a happy marriage ($M = 5.52$, $SD = 1.18$) than avoiding divorce ($M = 5.10$, $SD = 1.33$), $F(1, 807) = 80.73$, $p = .001$, $\eta_p^2 = .09$. Thus, the second half of H2 was supported in that men were more optimistic for both events than women.

In sum, both men and women showed comparative optimism in that they thought their personal chance of having a happy marriage was greater than that of a typical student and that their personal chance of divorce was less than that of a typical student. Men exhibited more comparative optimism than women for a happy marriage, but there were no gender differences in comparative optimism for divorce. When just personal chance was examined, results showed that men were more optimistic than women for both events.

Next we turn our attention to variables that may explain or affect the relationship between gender and estimation of comparative optimism/personal chances for happy marriage or divorce, namely experience with parental divorce and perceived control. Correlations among all the variables are displayed in Table 1.

Experience With Parental Divorce

We examined whether experience with parental divorce would be differentially associated with comparative optimism/personal chances of a happy marriage or avoiding divorce for men and women. Men (18%) and women (21%) were equally likely to have parents who were divorced, $\chi^2(N = 805) = 1.36$, $p = .14$.

TABLE 1
Correlations Among Chance Estimations, Perceived Control, and Experience With Parental Divorce

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---------|---------|--------|--------|---------|---------|--------|---------|---------|
| 1. Comparative optimism of happy marriage | — | .317** | .566** | .314** | -.586** | -.056 | .159* | .182** | .063 |
| 2. Comparative optimism of divorce | .270** | — | .426** | .697** | .049 | -.529** | .369** | .389** | .073 |
| 3. Personal chance of happy marriage | .584** | .454** | — | .450** | .301** | -.045 | .399** | .349** | -.082 |
| 4. Personal chance of divorce ^a | .450** | .686 | .547** | — | .080 | .239** | .274** | .282** | .113 |
| 5. Typical student chance of happy marriage | -.491** | .191** | .420** | .089* | — | .029 | .209** | .129 | -.158** |
| 6. Typical student chance of divorce ^a | .167** | -.525** | .038 | .260** | -.144** | — | -.161* | -.178** | .033 |
| 7. Personal control over a happy marriage | .279** | .289** | .473** | .379** | .198** | .046 | — | .540** | -.012 |
| 8. Personal control over divorces | .185** | .190** | .284** | .206** | .097* | -.020 | .581** | — | -.041 |
| 9. Parents divorced ^b | .098* | .135* | .146** | .224** | .059 | .084 | .049 | .015 | — |

Note. Correlations above the diagonal are for men ($N_s = 228-273$); correlations below the diagonal are for women ($N_s = 412-536$).

^aReversed so that higher numbers indicate greater optimism.

^b1 = yes, 2 = no.

* $p < .05$. ** $p < .01$.

We tested the first part of H3 by examining the role of parental divorce for comparative optimism. We conducted a 2 (comparative optimism: happy marriage vs. divorce) \times 2 (gender: men vs. women) \times 2 (parental divorce: yes vs. no) mixed ANOVA. We were primarily interested in the parental divorce main effect and interactions involving that variable.

Results indicated (as previously discussed) a main effect of event (people showed more comparative optimism for avoiding a divorce than for a having a happy marriage), a main effect of gender (men were more comparatively optimistic than women), and an Event \times Gender interaction (men more so than women were comparatively optimistic for marriage, but there were no gender differences for comparative optimism for divorce). In addition, a main effect of parental divorce showed that participants whose parents were not divorced were more comparatively optimistic ($M = 1.48$, $SD = 1.16$) than participants whose parents were divorced ($M = 1.16$, $SD = 1.20$), $F(1, 793) = 9.16$, $p = .003$, $\eta_p^2 = .011$. This suggests that personal experience is indeed associated with less comparative optimism, but it does not support the notion that parental divorce is a moderator of the gender difference in comparative optimism. Thus, the first part of H3 was not supported.

What role did parental divorce play in perceptions of personal chance? We conducted a 2 (type of event: happy marriage vs. divorce) \times 2 (gender: men vs. women) \times 2 (parental divorce: yes vs. no) mixed ANOVA for personal chance to test the second part of H3. If experience with parental divorce moderated the Gender \times Type of Event interaction, we would expect to find an interaction with gender. Results revealed three main effects, an Event \times Parental Divorce interaction, and a Gender \times Parental Divorce interaction.

First, as before we found a main effect of event (participants were more optimistic about having a happy marriage than about avoiding divorce), a main effect of gender (men were more optimistic than women), and a main effect of parental divorce, which showed that overall participants whose parents were not divorced were more optimistic ($M = 5.45$, $SD = 1.12$) than participants whose parents were divorced ($M = 5.12$, $SD = 1.15$), $F(1, 796) = 10.00$, $p = .002$, $\eta_p^2 = .012$.

These main effects were moderated by 2 two-way interactions. First, the Event \times Parental Divorce interaction, $F(1, 796) = 14.95$, $p < .001$, $\eta_p^2 = .018$, revealed that for personal chance of happy marriage, participants were more optimistic when their parents were not divorced ($M = 5.57$, $SD = 1.16$) than when they were divorced ($M = 5.34$, $SD = 1.25$), $t(798) = -2.24$, $p = .025$, $d = 0.19$. Similarly, for chance of divorce, participants were more optimistic when their parents were not divorced ($M = 5.25$, $SD = 1.28$) than when they were

divorced ($M = 4.61$, $SD = 1.36$), $t(799) = -5.48$, $p < .001$, $d = 0.48$. Thus, participants who had experienced parental divorce (relative to no parental divorce) rated as lower their personal chance of future happy marriage and avoidance of divorce, but the effect was greater for divorce. It makes sense that the direct effect of a parental divorce would influence judgments of divorce somewhat more strongly than the judgment of future happiness. Research shows that personal experience affects personal risk estimation more strongly the closer the relationship is between the experience and the outcome measured (e.g., Helweg-Larsen et al., 2008).

More important, a Gender \times Parental Divorce interaction, $F(1, 796) = 5.78$, $p = .016$, $\eta_p^2 = .007$, revealed that men rated their chances equally optimistically whether their parents were divorced ($M = 5.49$, $SD = 0.98$) or not ($M = 5.57$, $SD = 1.05$), $F(1, 270) = 0.22$, $p = .64$, $\eta_p^2 = .001$, whereas women rated their chances more optimistically if their parents were not divorced ($M = 5.33$, $SD = 1.06$) than if their parents were divorced ($M = 4.71$, $SD = 1.13$), $F(1, 527) = 25.68$, $p < .001$, $\eta_p^2 = .046$. Examining that interaction by parental divorce reveals that among participants whose parents were divorced, men rated their chances more optimistically ($M = 5.49$, $SD = 0.98$) than women ($M = 4.74$, $SD = 1.13$), $F(1, 158) = 15.83$, $p < .001$, $\eta_p^2 = .09$. Similarly, among participants whose parents were not divorced, men rated their chances more optimistically ($M = 5.57$, $SD = 1.05$) than women ($M = 5.33$, $SD = 1.06$), $F(1, 641) = 7.66$, $p = .006$, $\eta_p^2 = .01$. The gender difference was much greater among participants whose parents were divorced (than not divorced). Thus, the second part of H3 was supported.

In sum, women appeared to be more sensitive than men to the influence of their parents' divorce but only when the variable was measured as personal optimism as opposed to comparative optimism.

Perceived Control (For Happy Marriage or Divorce)

Did men and women differ in their perceived control of having a happy marriage or avoiding divorce? Men perceived significantly more control over both events than women. Specifically, men ($M = 5.67$, $SD = 1.15$) thought they had more control over one day having a happy marriage than women did ($M = 5.44$, $SD = 1.15$), $t(641) = 2.41$, $p = .02$, $d = 0.19$. Similarly, men ($M = 5.32$, $SD = 1.29$) thought they had more control over one day getting (or avoiding getting) a divorce than women did ($M = 5.08$, $SD = 1.22$), $t(641) = 2.38$, $p = .02$, $d = 0.19$. This is an important finding in and of itself.

Did men's greater perceived control explain men's greater optimism? That is, did perceived control mediate the relationship between gender and comparative

optimism/personal chance (H4)? First, for comparative optimism we estimated three regression equations as per Baron and Kenny (1986). Because there were no gender differences in comparative optimism for divorce, we examined only the mediation for comparative optimism of a happy marriage. First, the mediator (perceived control for happy marriage) was regressed on the independent variable (gender); standardized beta = $-.095$, $t(641) = -2.42$, $p = .02$. Second, the dependent variable (comparative optimism for happy marriage) was regressed on the independent variable (gender): happy marriage, $\beta = -.176$, $t(638) = -4.512$, $p < .001$. Third, the dependent variable (comparative optimism for happy marriage) was regressed on both the independent variable (gender) and the mediator (perceived control of having a happy marriage). Here the effect of the independent variable was smaller but still significant, $\beta = -.154$, $t(637) = -4.036$, $p < .001$. According to Baron and Kenny, the last equation should have a smaller effect than the effect in the second regression, which it does.

Recent work updating the Baron and Kenny recommendations for testing mediation (Preacher & Hayes, 2004; Shrout & Bolger, 2002) has suggested using a bootstrapping methodology to test for the indirect effect. The regressions proposed by Baron and Kenny do not directly test the indirect path (in this case, the path from gender to perceived control to comparative optimism), and this approach also suffers from low statistical power (Preacher & Hayes, 2004). We conducted a mediation analysis using the methods described by Preacher and Hays (2004). For comparative optimism of a happy marriage, the confidence interval around the indirect effect (for the bootstrap results) did not contain zero (point estimate $B = -.0605$, 95% confidence interval around B from -0.1200 to -0.0107 , $N = 640$, 5,000 bootstrapped resamples). Thus, the indirect effect was indeed significantly different from zero at $p < .05$ (two-tailed). The Fairchild and MacKinnon (2009) variance in the dependent variable accounted for by the indirect effect was $.0075$. In sum, perceived control partially mediated the relationship between gender and comparative optimism of a happy marriage.

Next we examined for perceived personal chance of happy marriage/divorce if the gender differences could be explained by perceived control. Following the aforementioned three steps we first regressed the mediator (perceived control for happy marriage or divorce, respectively) on the independent variable (gender): happy marriage, $\beta = -.095$, $t(641) = -2.42$, $p = .02$; divorce, $\beta = -.094$, $t(641) = -2.38$, $p = .02$. Second, the dependent variable (one's own chance of having a happy marriage or not having a divorce, respectively) was regressed on the independent variable (gender): happy marriage, $\beta = -.138$, $t(640) = -3.524$, $p < .001$; divorce,

$\beta = -.128$, $t(641) = -3.260$, $p = .001$. Third, the dependent variable (one's own chance of having a happy marriage or not having a divorce, respectively) was regressed on both the independent variable (gender) and the mediator (perceived control of having a happy marriage or not having a divorce, respectively). Here the effect of the independent variable was smaller but still significant: happy marriage, $\beta = -.097$, $t(639) = -2.747$, $p = .006$; divorce, $\beta = -.106$, $t(640) = -2.763$, $p = .006$.

We again tested the indirect effect using Preacher and Hayes (2004) methods. For personal chance of a happy marriage, the confidence interval around the indirect effect did not contain zero (point estimate $B = -0.1003$, 95% confidence interval around B from -0.1876 to -0.0141 , $N = 642$, 5,000 bootstrapped resamples). The Fairchild and MacKinnon (2009) variance in the dependent variable accounted for by the indirect effect was $.0098$. Similarly, for personal chance of divorce, the confidence interval around the indirect effect did not contain zero (point estimate $B = -0.0616$, 95% confidence interval around B from -0.1190 to -0.0123 , $N = 643$, 5,000 bootstrapped resamples). The Fairchild and MacKinnon variance in the dependent variable accounted for by the indirect effect was $.0052$. Thus, the indirect effect was indeed significantly different from zero at $p < .05$ (two-tailed). In sum, perceived control partially mediated the relationship between gender and comparative optimism for a happy marriage as well as perceptions of personal chance of a happy marriage or avoiding divorce. That is, men were both more optimistic about their marriage outcomes and thought they had more control over those outcomes than women. Perceived control partly explained men's greater optimism about happiness/avoidance of divorce. Thus, H4 was supported.

DISCUSSION

The current study examined whether unmarried men and women in a U.S. college sample would exhibit differences in the magnitude of comparative optimism/personal chance of getting divorced or having a happy marriage in the future and explored possible variables associated with this link. The results for comparative optimism showed that although individuals displayed comparative optimism for both avoiding a divorce and having a happy marriage, individuals were relatively more comparatively optimistic about avoiding the negative event (divorce) than experiencing the positive event (having a happy marriage). Men were more comparatively optimistic than women for having a happy marriage, but there were no gender differences in comparative optimism for divorce. Although parental divorce was associated with less comparative optimism,

parental divorce did not moderate the gender difference in comparative optimism. Perceived control did partially explain the link between gender and comparative optimism for a happy marriage. These findings are consistent with previous research that has established a relationship between perceptions of control and decreased perceptions of risk for a future negative event (Klein & Helweg-Larsen, 2002).

With respect to the results for estimated personal chances of a happy marriage or divorce, men were more optimistic about both events than women. Parental divorce moderated this pattern so that students who had parents who were divorced generally rated their personal chances of a happy marriage/divorce less optimistically, but this was *particularly* true for women. This finding is consistent with previous research that demonstrates a relationship between past experience with a negative relationship event and increased estimates of personal risk for experiencing a similar event in the future (e.g., Helweg-Larsen et al., 2008) and now extends those findings by exploring gender differences. Finally, perceived control partially mediated the gender difference in personal chance of experiencing both events. The magnitude of effect sizes were generally small as is true of other gender differences (cf. Hyde, 2005) and smaller than the effects found in previously reported findings (Lin & Raghuram, 2005).

Of note, the findings of the present study were quite similar whether we examined comparative optimism or personal chance as the outcome variable. One difference was that men exhibited more comparative optimism than women for divorce but not for happy marriage, despite men perceiving greater personal optimism relative to women for both happy marriage and divorce. One explanation for this difference is that event characteristics of marriage or divorce, such as perceived frequency, stereotype salience, or event undesirability, could differ for marriage and divorce among men and women in ways that influence their personal and/or other risk estimations for these two events. Individual differences may interact with event characteristics to predict comparative optimism or personal risk estimates (e.g., Harris et al., 2008), and information-processing strategies may be different for judgments of one's own changes versus comparative optimism (e.g., Ranby et al., 2010). Further research is needed to elucidate reasons why personal risk estimation might differ from comparative risk estimation in regard to sensitivity to gender differences, previous experience, and perceived control.

The finding that women demonstrate less comparative optimism for having a happy marriage relative to men is interesting given current observations about married life in the United States. It is widely accepted that married individuals enjoy better health and protection

against morbidity and mortality than unmarried individuals (e.g., Liu & Umberson, 2008). Married women may benefit from increased economic resources (Lillard & Waite, 1995), whereas married men benefit from increased social support and improvements in health behaviors (Ross, Mirowsky, & Goldstein, 1990). However, although both genders experience positive effects of marriage, research suggests that men benefit more. Married men report higher levels of happiness and fewer physical and mental health problems relative to married women (for a review, see Coombs, 1991). Thus, one interpretation of the present findings could be that the women in our sample are more accurate about their relationship prospects—perhaps women are aware that they are less likely to be happy in a marriage relative to men. However, it seems questionable that women base their risk estimates on empirically demonstrated gender differences in self-reported happiness among married individuals. Alternately, differences in comparative optimism could be explained by differences in how men and women think about their relationships more generally.

Men's greater optimism about future relationship outcomes could be explained by differences in how men and women evaluate relationship potential. Research shows that men tend to fall in love more quickly and are more open to romantic notions about love in relationships, whereas women appear to exhibit more caution (Rubin et al., 1981). In past decades, researchers have speculated that these differences may be due to social and economic reasons. A woman's economic advantage and social status may be more closely tied to her selection of a mate. Thus, it could be more beneficial for women to be cautious and selective when assessing her relationship prospects, whereas men can better afford to follow romantic impulses (Rubin et al., 1981). These factors may also relate to men's greater perceptions of control within their relationships (e.g., Clements et al., 2005), which may resultantly affect men's sense of optimism about the future of marital outcomes.

Research also suggests that, compared to men, women tend to think more critically and talk more about their relationships (Acitelli, 1992), report more problems in their relationship (Rubin et al., 1981), and initiate breakups more often (Harvey et al., 1978; Rubin et al., 1981). If women spend more time and effort evaluating romantic relationships and are more prone to identify problems in them, it may logically follow that women may be more likely to integrate past negative experiences (such as a parental divorce) into their schemata for relationship expectations. Thus, for women, the experience of a parental divorce could attenuate the expectation that a hypothetical future relationship would be protected from negative outcomes.

Although the present findings lend insight into the nature of gender differences in estimates for relationship outcomes, it is important to note several factors that limit the generalizability of these findings. First, this was a nonrepresentative student sample of unmarried young adults who were asked to provide ratings about the success or failure of a hypothetical future relationship (and not a current, existing relationship). Additional research is necessary before one can generalize these findings to groups characterized by different demographics or to optimism about a current relationship. Further, the present study examined only one type of past experience with relationship failure. It could also be important to examine how multiple past experiences with failed relationships (either one's own or witnessing others') affect perceptions.

A further limitation to this study was the correlational and cross-sectional design. Additional efforts to expand the methodological approach to include experimental manipulation of variables (e.g., laboratory manipulation of perceptions of personal control prior to having participants make risk estimates) would provide more confident interpretation that perceived control causally influences estimates of marital outcomes. Longitudinal designs could examine changes in the magnitude of comparison optimism across time for men and women, particularly around the transition from singlehood to married life, when people may be more likely to enter a "deliberative mind-set" and thus display appraisals that may be more realistic (see Gagne, Lydon, & Bartz, 2003, for discussion of mind-set and predictive validity of relationship appraisals). For example, it is possible that women are less optimistic prior to marriage but become more optimistic once they marry. Holding doubts prior to marriage (e.g., having "cold feet" the day before the wedding) may be a culturally acceptable form of low optimism about the relationship (more acceptable than regret felt during the honeymoon). Perhaps the occurrence of "cold feet" prior to marriage could be analogous to the tendency for people to experience a decrease in optimism (and increase in pessimism) immediately prior to the "moment of truth" when self-relevant feedback is imminent (e.g., Shepperd, Ouellette, & Fernandez, 1996).

The important behavioral implications that may relate to the level of optimism experienced for a future relationship in both positive (e.g., relationship success, satisfaction, commitment) or detrimental relationship outcomes (e.g., failure to engage in relevant protective behaviors, such as obtaining a prenuptial agreement or seeking marital therapy, or increased dissatisfaction when optimistic expectations are not met) underscore the relevance of research on comparative optimism and personal risk estimation. Existing research suggests that multiple processes may operate that depend on

individual, partner, and context to determine whether optimistic expectations are likely to lead to enduring marital bliss or disappointment when expectations are not met (see McNulty & Karney, 2004). In either case, examining comparative optimism for marital outcomes is clearly an important question as marriage and divorce in U.S. society are frequently occurring major life transitions affecting many individuals. Research that further elucidates the complex relations between gender and comparative risk estimates for marital outcomes is likely to have wide public interest as well as many practical implications, such as increased effectiveness in premarital counseling or therapeutic interventions among couples experiencing relationship distress.

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REFERENCES

- Acitelli, L. K. (1992). Gender differences in relationship awareness and marital satisfaction among young married couples. *Personality and Social Psychology Bulletin*, *18*, 102–108. doi:10.1177/0146167292181015
- Baker, L. A., & Emery, R. E. (1993). When every relationship is above average: Perceptions and expectations of divorce at the time of marriage. *Law and Human Behavior*, *17*, 439–450. doi:10.1007/BF01044377
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182. doi:10.1037/0022-3514.51.6.1173
- Boyer-Pennington, M. E., Pennington, J., & Spink, C. (2001). Students' expectations and optimism toward marriage as a function of parental divorce. *Journal of Divorce and Remarriage*, *34*, 71–87. doi:10.1300/J087v34n03_05
- Bramlett, M. D., & Mosher, W. D. (2001). First marriage dissolution, divorce, and remarriage: United States. Advance data from *Vital and Health Statistics* (No. 323). Hyattsville, MD: National Center for Health Statistics.
- Clements, C., Ogle, R., & Sabourin, C. (2005). Perceived control and emotional status in abusive college student relationships: An exploration of gender differences. *Journal of Interpersonal Violence*, *20*, 1058–1077. doi:10.1177/0886260505277939
- Coombs, R. H. (1991). Marital status and personal well-being: A literature review. *Family Relations*, *40*, 97–102. doi:10.2307/585665
- Fairchild, A. J., & MacKinnon, D. P. (2009). A general model for testing mediation and moderation effects. *Prevention Science*, *10*, 87–99. doi:10.1007/s11121-008-0109-6
- Feingold, A. (1994). Gender differences in personality: A meta-analysis. *Psychological Bulletin*, *116*, 429–456. doi:10.1037/0033-2909.116.3.429
- Finucane, M. L., Slovic, P., Mertz, C. K., Flynn, J., & Satterfield, T. A. (2000). Gender, race, and perceived risk: The "white male" effect. *Health, Risk and Society*, *2*, 160–172.

- Franklin, K. M., Janoff-Bulman, R., & Roberts, J. E. (1990). Long-term impact of parental divorce on optimism and trust: Changes in general assumptions or narrow beliefs? *Journal of Personality and Social Psychology, 59*, 743–755. doi:10.1037/0022-3514.59.4.743
- Gagne, F. M., Lydon, J. E., & Bartz, J. A. (2003). Effects of mindset on the predictive validity of relationship constructs. *Canadian Journal of Behavioural Science, 35*, 292–304.
- Harris, P. R., Griffin, D. W., & Murray, S. (2008). Testing the limits of optimistic bias: Event and person moderators in a multilevel framework. *Journal of Personality and Social Psychology, 95*, 1225–1237. doi:10.1037/a0013315
- Harvey, J. H., Wells, G. L., & Alvarez, M. D. (1978). Attribution in the context of conflict and separation in close relationships. In J. H. Harvey, W. J. Ickes & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 235–259). Hillsdale, NJ: Erlbaum.
- Heaton, T. B., & Albrecht, S. L. (1991). Stable unhappy marriages. *Journal of Marriage and the Family, 53*, 747–758. doi:10.2307/352748
- Helweg-Larsen, M., Harding, H. G., & Kleinman, K. E. (2008). Risk perceptions of dating violence among college women: The role of experience and depressive symptoms. *Journal of Social and Clinical Psychology, 27*, 551–571. doi:10.1521/jscp.2008.27.6.600
- Helweg-Larsen, M., & Shepperd, J. A. (2001). Do moderators of the optimistic bias affect personal or target risk estimates? A review of the literature. *Personality and Social Psychology Review, 5*, 74–95. doi:10.1207/S15327957PSPR0501_5
- Hyde, J. S. (2005). The gender similarities hypothesis. *American Psychologist, 60*, 581–592. doi:10.1037/0003-066X.60.6.581
- Jennings, A. M., Salts, C. J., & Smith, T. A. (1992). Attitudes toward marriage: Effects of parental conflict, family structure, and gender. *Journal of Divorce & Remarriage, 17*, 67–80. doi:10.1300/J087v17n01_05
- Klein, C. T., & Helweg-Larsen, M. (2002). Perceived control and the optimistic bias: A meta-analytic review. *Psychology & Health, 17*, 437–446. doi:10.1080/0887044022000004920
- Lillard, L. A., & Waite, L. J. (1995). 'Til death do us part: Marital disruption and mortality. *The American Journal of Sociology, 100*, 1131–1156. doi:10.1086/230634
- Lin, Y., & Raghbir, P. (2005). Gender differences in unrealistic optimism about marriage and divorce: Are men more optimistic and women more realistic?. *Personality and Social Psychology Bulletin, 31*, 198–207. doi:10.1177/0146167204271325
- Liu, H., & Umberson, D. J. (2008). The times they are a changin': Marital status and health differentials from 1972 to 2003. *Journal of Health and Social Behavior, 49*, 239–253. doi:10.1177/002214650804900301
- Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist, 45*, 513–520. doi:10.1037/0003-066X.45.4.513
- McNulty, J. K., & Karney, B. R. (2004). Positive expectations in the early years of marriage: Should couples expect the best or brace for the worst? *Journal of Personality and Social Psychology, 86*, 729–743. doi:10.1037/0022-3514.86.5.729
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717–731.
- Ranby, K. W., Aiken, L. S., Gerend, M. A., & Erchull, M. J. (2010). Perceived susceptibility measures are not interchangeable: Absolute, direct comparative, and indirect comparative risk. *Health Psychology, 29*, 20–28. doi:10.1037/a0016623
- Ross, C. E., Mirowsky, J., & Goldsteen, K. (1990). The impact of the family on health: The decade in review. *Journal of Marriage and the Family, 52*, 1059–1078. doi:10.2307/353319
- Rubin, Z., Peplau, L. A., & Hill, C. T. (1981). Loving and leaving: Sex differences in romantic attachments. *Sex Roles, 7*, 821–835. doi:10.1007/BF00287767
- Shepperd, J. A., Ouellette, J. A., & Fernandez, J. K. (1996). Abandoning unrealistic optimism: Performance estimates and the temporal proximity of self-relevant feedback. *Journal of Personality and Social Psychology, 70*, 844–855. doi:10.1037/0022-3514.70.4.844
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods, 7*, 422–445. doi:10.1037/1082-989X.7.4.422
- Stevenson, B., & Wolfers, J. (2007). Marriage and divorce: Changes and their driving forces. *Journal of Economic Perspectives, 21*, 27–52. doi:10.1257/jep.21.2.27
- Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin, 110*, 67–85. doi:10.1037/0033-2909.110.1.67
- Van Lange, P. M., & Rusbult, C. E. (1995). My relationship is better than—and not as bad as—yours is: The perception of superiority in close relationships. *Personality and Social Psychology Bulletin, 21*, 32–44. doi:10.1177/0146167295211005
- Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology, 39*, 806–820. doi:10.1037/0022-3514.39.5.806

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