

Gender differences in unrealistic optimism about marriage and divorce: Are men more optimistic and women more realistic?

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Two studies (n = 497) examine gender differences in “unrealistic optimism” in beliefs of marriage using a Taiwanese population. Unrealistic optimism is defined as the beliefs that positive (negative) events are more (less) likely to happen to ones self versus others. While the bias is robust, it has been shown to be lower amongst people with an inter-dependent orientation – specifically those from a collectivist culture (e.g., Taiwan). We find that the unrealistic optimism bias is stronger (Study 1) and more resilient to change when base-rates are provided (Study 2) for men as compared to women. Results are consistent with the interpretation that men have a less relationally interdependent self-construal than women. Theoretical implications for unrealistic optimism, cross-cultural psychology, as well as gender differences are discussed.

Key Words: Unrealistic Optimism, Gender Differences, Base-rates, Cross-cultural psychology, Expectation of Marriage and Divorce, Self-Construal

Unrealistic optimism is a well-researched effect: people believe that good things are more likely to happen to themselves than to average others, and bad things are more likely to happen to others (Perloff & Fetzter, 1986; Weinstein, 1980). The bias has been shown to have both favorable and unfavorable effects. The bias is important as it can affect people's intentions to engage in preventative behaviors (Mulkana & Hailey, 2001), as well as affect the manner in which they process information to update their beliefs (Radcliffe & Kline, 2002). However, unrealistic optimism has not only been associated with positive mental health (Taylor &

Brown, 1988), but in the specific context of marriage satisfaction, idealistic individuals have been shown to make their relationships more satisfying than realistic individuals (Murray, Holmes & Griffin, 1996a, 1996b).

In this paper we focus on gender differences in unrealistic optimism. It is important to study individual differences in unrealistic optimism in contexts where such differences could lead to a mismatch of expectancies between groups or dyads, with consequences for the quantity and quality of their interaction. Consistent expectancies between marriage partners are important, especially for marital

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counseling, as marital satisfaction is mediated by individuals' perceptions of their spouse's goals for the marriage (Sanderson & Cantor, 2001), and expectancies can be self-fulfilling (Murray et al., 1996b). Given this, surprisingly, the literature has not systematically examined differences in unrealistic optimism among men and women's levels of optimism regarding marriage (but see Murray et al., 1996a, 1996b).

While the bias is robust, there are a multitude of reasons--motivational, cognitive, and cultural--to expect gender differences in unrealistic optimism (also referred to as "self-positivity"). Most of these reasons point to the prediction that men would show greater levels of unrealistic optimism than women. For example, prior literature has shown that unrealistic optimism is greater for events that are perceived to be more controllable (Lin, Lin & Raghurir, 2003a, 2003b), and greater for individuals who have a higher illusion of control (Harris & Middleton, 1994; McKenna, 1993). Given that men have been shown to demonstrate higher levels of the illusion of control and over-confidence (Barber & Odean, 2001), this would imply that men would demonstrate higher levels of unrealistic optimism.

Cognitive factors, such as the ability to identify an exemplar representative of the category for which a judgment is being made have also been shown to attenuate the unrealistic optimism bias (Fiedler, 1996). As women have been shown to have closer, intimate relationships with others' than men (Shek, 1995), it can be argued that they would be more likely to have specific knowledge of the status of their acquaintances' marriages. This would imply that their beliefs about their own marriage may reflect greater realism rather than unrealistic optimism.

Research on cross-cultural psychology makes a similar prediction. Prior research has found that individual differences such as self-construal (Sedikides, Gaertner, & Toguchi, 2003), and culture (Chang, 1996, Heine & Lehman, 1995) both moderate the presence and strength of the unrealistic optimism bias. The bias is stronger for individuals with an independent (versus interdependent) self-construal and for those who live in individualistic (versus collectivist) cultures. There is some evidence that men have a more independent self-construal and women have a more interdependent self-construal (Cross & Madson, 1997). These findings have since been refined by others who have pointed out that this

difference does not in any way imply that men are less social than are women; just that women invest in few close relationships, while men invest in a larger sphere of relationships (Baumeister & Sommer, 1997). In fact, women may focus on the more relational aspects of interdependence while men may focus on its more collective aspects (Gabriel & Gardner, 1999). If women are more relationally interdependent than men, the unrealistic optimism bias should be stronger and more resilient for men versus women.

Study 1 tests the strength of the unrealistic optimism bias for men versus women in the domain of the expectations for a happy marriage or divorce. We expect men to have greater levels of unrealistic optimism than women.

Study 2 follows up by examining the resilience of the bias among men and women. Prior research has shown that the unrealistic optimism bias is difficult to eliminate even with extensive training (Baker & Emery, 1993). If men are more optimistic than women, a corollary question is whether their beliefs are also more resilient to change. Study 2 examines gender differences in using base-rate information to change one's beliefs about one's own marriage. We expect men's beliefs to be less likely to be influenced by base-rates.

Following the description of the two studies, we discuss the implications of our findings for the unrealistic optimism bias, gender effects, use of base-rate information, self-construal and cultural differences.

Study 1: Are men more optimistic than women?

The purpose of this study is to examine whether the unrealistic optimism bias replicates in the context of marital expectancies with a Taiwanese population, and whether it is stronger for men as compared to women.

Method

Participants. Three hundred and nine second and third year undergraduate students from a Taiwanese university participated in the study. All participants were single. Their average age ranged from 19 to 21. There were 166 men and 143 women in the sample.

Design. We used a 4 (target person: self, same-sex best friend, average undergraduate, and average person) \times 2 (events: likelihood of getting divorced / having a happy marriage) \times 2 (gender: male/ female) mixed design, with the target person

manipulated within subjects, event, a replicate factor, manipulated between subjects, and gender measures.

The order of elicitation of the target person was counter-balanced with half the respondents estimating the event for themselves, followed by their best-friend, average undergraduate and then average person, and the other half making estimates in the reverse order (Average person → Average undergraduate → best friend → self). The order was counter-balanced as the unrealistic optimism effect has been shown to be exacerbated when other's estimates are elicited prior to self estimates for events believed to be uncontrollable (Lin, Lin & Raghbir, 2003a).

Event was manipulated in two ways: "Happy marriage" and "Divorce" to examine the robustness of the unrealistic optimism effects by gender. The two events not only differ in terms of valenceⁱ, but may also differ in terms of ambiguity, base-rates and other criteria. Given differences between the two events, it is important to assess whether unrealistic optimism effects exist for both events for a Taiwanese population, and whether gender differences exist for both types of events. Participants were assigned at random to one of the four (order of target x event) between-subjects conditions. Half of the participants answered questions regarding the likelihood of having a happy marriage, and the other half answered a question regarding the likelihood of getting divorced.

Study Procedure. After a brief introduction to the study, stating that it was related to prospects of life events among undergraduates, subjects were asked to estimate the likelihood of an event occurring in the future from 0% to 100% for each of the four targetsⁱⁱ. Specifically, the introduction read: "This research is for academic use. The goal of this research is to understand the prospects of life events among undergraduates. Please estimate the likelihood of getting a divorce [having a happy marriage] for the following different persons from 0 to 100: yourself, your same sex best friend, average undergraduate student, average person in Taiwan [average person in Taiwan, average undergraduate student, your same sex best friend, yourself]." Finally, demographic information was collected from the participants. They were debriefed and thanked for their participation.

Results

Unrealistic optimism is defined in terms of relative differences between self and non-self estimates. Specifically, if people estimate their own likelihood of a happy marriage as higher than another person's they demonstrate the bias. Similarly, if they estimate their own likelihood of getting divorced as lower than another person's they show the bias. As the three non-self targets' estimates were highly correlated ($\alpha = 0.81$), we combined them into a single "non-self" index for ease of analysis. Complete results are provided in Table 1.

The overall 2 (target: self vs. non-self others) x 2 (event) x 2 (gender) ANOVA revealed a main effect of event ($F(1, 305) = 80.71, p < .001$), reflecting a higher estimate of the likelihood of a "happy marriage" as compared to "divorce." The three way interaction between target, event, and gender was also significant ($F(1, 305) = 7.75, p < .01$). The pattern of this interaction is analyzed next.

Overall, both groups are unrealistically optimistic. Specifically, men estimate that they are less likely to get divorced than another person ($M_s = 19.15$ and 34.95 for self versus non-self, $p < .05$) as do women ($M_s = 32.15$ and 41.46 for self versus non-self, $p < .05$). Similarly, men estimate that they are more likely to have a happy marriage than the non-self targets ($M_s = 76.74 < 55.34$ for self versus non-self, $p < .05$). The same is true of women ($M_s = 66.11 < 55.83$ for self versus non-self, $p < .05$). Thus, we replicated the unrealistic optimism bias with a Taiwanese population in the domain of marital expectancies.

The three-way interaction suggests that the unrealistic optimism bias may be different for men and women across the two events. To examine this, we first assessed the two genders' beliefs regarding the non-self targets, followed by their beliefs regarding themselves. Men and women do not differ from each other in term of their beliefs regarding other targets' likelihood of getting divorced or having a happy marriage. However, men estimate that they themselves are less likely to get divorced ($M = 19.15$) than do women ($M = 32.15, F(1, 153) = 9.36, p < .005, h^2 = .058$). They also estimate a higher likelihood that they will have a happy marriage ($M_{\text{male}} = 76.74$ versus $M_{\text{female}} = 66.11, F(1, 153) = 10.16, p < .005, h^2 = .062$). Overall, this pattern shows that the difference between men's self and non-self estimates is greater than women's, *i.e.*, that they are more unrealistically optimistic than are women.

Table 1

Estimated Likelihood of Divorce and Happy Marriage by gender—Study 1

Gender	Getting Divorced		Happy Marriage	
	Men	Women	Men	Women
N	86	68	80	75
Self Estimate	19.15	32.15	76.74	66.11
Other Estimate	34.95	41.46	55.34	55.83
Difference	-15.8*	-9.31*	21.4*	10.53*

*Significantly different from 0 at $p < .05$.

Discussion

To summarize, results of this study show that Taiwanese men and Taiwanese women are unrealistically optimistic in the domain of relationships, and that men believe that positive events, such as a happy marriage, are more likely to happen to them versus an average person than do women. Analogously, they believe that negative events, such as “divorce,” are less likely to happen to them than to an other person as compared to women.

Gender research has shown that men and women have different expectations of marital quality (Bernard, 1976, Williams, 1988, Shek, 1995) and different definitions of what constitutes a “happy marriage” (Fowers, 1991). This could have lead them to differentially define what constitutes a “happy marriage”. “Divorce” on the other hand has a clear legal definition – either is person is divorced or they are not. Further the actual base-rates for the two events vary in Taiwan, with the population base-rate for a “happy marriage” being much higher (60%: cf. Government Statistical Reports) than the population base-rate for a divorce (25%). The fact that the unrealistic optimism effect was greater for men than for women in both events suggests that it is not due to a differential interpretation of an event across the two groups.

One explanation for this pattern of results is that men may simply have a more positive prior, in general, than women. In Study 1 we found that men’s self estimates for a happy marriage were indeed higher than those of women’s (with the opposite pattern for estimates for own divorce). In Study 2 we examine if this effect replicates (*i.e.*, whether men’s self estimates are consistently higher than women’s for a positive event) prior to drawing a conclusion from it. Note, the actual estimates of having a happy marriage/ divorce may reflect response effects due to lack of information about the actual rates, and are meaningless in and of themselves. The relative estimates of differences between self

and non-self others are the variables of key interest.

Lin, Lin and Raghubir (2003b) showed that patterns of updating a self-estimate are different for those with a negative prior (pessimists) versus those with a positive prior (optimists). Those with a negative prior showed patterns of self-negativity (self estimates were lower than “other” estimates for a positive event, and higher for a negative event). However, pessimists (negative prior) updated self-estimates when provided base-rate information. Those with a positive prior, the optimists, showed the typical pattern of unrealistic optimism (self estimates were higher than other estimates for a positive event, and lower for a negative event). People with a positive prior also did not update their self-estimate for those events they believed were controllable and impacted their self-esteem when they were provided population base-rates.

Given this, it is important to identify those subjects whose have positive or negative priors *per se*, before we examine men’s and women’s patterns of updating self-estimates. This would help in differentiating between whether it is men’s initial sense of optimism about themselves that leads to the bias (perhaps because they respond to the scale differently), or whether they would like to believe that they are better off. If it is the latter, then this would imply that they process information differently, in a manner to remain optimistic, or show a higher degree of optimism versus realism.

Study 2: Ignoring Inconsistent Negative Information

To control for individual differences in actual estimates, in this study, we categorize men and women as those whose self-estimates are more favorable than population base-rates (positive prior) and those whose self-estimates are less favorable than population base-rates (negative prior). We then examine how each of

the four groups reacts to base-rate information about the actual likelihood of an event occurring: *i.e.*, whether their self-estimates incorporate base-rate information or whether their biases are resilient, with self-estimates not being amended in the direction of base-rate information once it has been provided. If men are more optimistic than women, pessimistic men should be willing to update self-estimates in the direction of base-rate information, while optimistic men should not. Similarly, if women are more realistic, both optimistic and pessimistic women should update self-estimates in the direction of base-rate information.

Method

Participants .One hundred and eighty eight second and third year undergraduate students (men = 75, women = 113) drawn from the same pool as Study 1 participated in this study. No individual participated in more than one study. All participants were single and their age ranged from 19 to 21. Half each of the men and women were assigned at random to one of the two event conditions: divorce (men = 37, women = 56) or happy marriage (men = 38, women = 57).

Design and Procedure. Similar to Study 1, after a brief introduction to the study, stating that it was related to prospects of life events among undergraduates, study participants were asked to estimate their own likelihood (“Self-Before”)

for the event condition they were assigned to. This was used to categorize them into those with a negative prior and those with a positive prior. Those with a positive prior were defined as those who estimated a positive event occurring at a greater likelihood than the actual base rate (and a negative event as occurring at a lower likelihood), with the remainder defined as those with a negative prior. Men and women were equally likely to have a positive or a negative prior ($\chi^2 = 0.89, p > .20$). This suggests that Study 1 results cannot be explained in terms of men being overall more optimistic than women.

Subsequent to their first likelihood estimate, all participants were provided base-rate information for the event to which they were assigned (Divorce = 25%, Happy Marriage = 60%). The base-rates were based on an official publication of the Government Statistical Reports: Monthly Bulletin of Statistics. After being exposed to base-rate information, all respondents were asked to estimate their own likelihood of the event occurring (“Self-After”), as well as estimate the likelihood of the event occurring to their best friend and the average person. The two non-self estimates were averaged to form an “Other-After” likelihood score ($r = .59$). As this correlation is low, results are presented for the two non-self targets separatelyⁱⁱⁱ.

Table 2
Means of Estimates of Likelihood of Divorce and Happy Marriage by condition-- Study 2

	Getting Divorced		Happy Marriage	
	Men	Women	Men	Women
Positive Prior				
N	19	23	28	40
Base-rates	25 ^c	25 ^b	60 ^{ab}	60 ^a
Self estimate before base-rate	9.18 ^a	12.17 ^a	81.68 ^c	82 ^d
Self estimate after base-rate	9.26 ^a	11.65 ^a	80.36 ^c	79.55 ^c
Best friend after base-rate	13.53 ^b	21.13 ^b	66.25 ^b	70.68 ^b
Average person estimate after base-rate	26.32 ^c	33.91 ^c	56.25 ^a	58.33 ^a
Negative Prior				
N	18	33	10	17
Base-rates	25 ^a	25 ^a	60 ^b	60 ^c
Estimate before base-rate	50.39 ^{cd}	49.79 ^c	47 ^a	39.53 ^a
Estimate after base-rate	42.94 ^{bc}	49.09 ^c	50 ^{ab}	49.82 ^b
Best friend after base-rate	48.33 ^c	38.55 ^b	58.00 ^b	61.59 ^c
Average person estimate after base-rate	34.06 ^b	38.67 ^b	43.50 ^a	47.06 ^{ab}

Means that do not share a common superscript are significantly different from 0 at $p < .05$.

We confirmed that the base-rate information was believable, using a 7-point scale, with higher numbers indicating greater believability of base-rate information. After they indicated their gender, participants returned the questionnaire and were debriefed, thanked, and dismissed.

Results

The means by condition for self estimates before and after base-rate information, best-friend estimates and average person estimates are provided in Table 2. To examine how men and women update their beliefs, we conducted a 2 (gender: men/ women) x 2 (prior: positive/ negative) x 2 (event: divorce/ happy marriage) x 2 (time: self estimate before/ after base rate information) ANOVA.

The gender x prior x time interaction was significant ($F(1, 180) = 5.39, p < .05$), with the only other significant effect, a main effect of event ($F(1, 180) = 223.34, p < .001$), reflecting that estimates of a happy marriage are higher than estimates for divorce (see Table 2). The three-way interaction implies that men and women may exhibit different patterns of incorporating base-rate information into their self-estimate (the time factor), contingent on their initial prior. To examine this more fully, we analyze (a) differences in self-before and after estimates for each of the four groups: men with a positive prior, women with a positive prior, men with a negative prior and women with a negative prior; (b) whether the self-after estimate continues to exhibit unrealistic optimism (self versus best friend and average person comparisons), and (c) whether self-after estimates continue to diverge from base-rate information (self versus base-rate comparison). Analyses are conducted separately for both events: divorce and a happy marriage.

Men with a positive prior. Men with a positive prior initially estimate that their likelihood of getting divorced is low ($M = 9.18$), and they do not update their self-estimate when given base-rate information ($M = 9.26$). Analogously, they estimate a high likelihood of a happy marriage ($M = 81.68$) and do not update it when provided a base-rate of 60% ($M = 80.36$). Even after being provided base-rate information, men with a positive prior continue to exhibit unrealistic optimism versus non-self estimates (M s for friend = 13.53 and 66.25, M s for average person = 26.32 and 56.25 for divorce and happy marriage respectively, all significantly different from self estimates, p 's $< .05$), and their

self-estimates continue to diverge from provided base-rates (p 's $< .05$ for both divorce and happy marriage).

Women with a positive prior. Women with a positive prior initially estimate that their likelihood of getting divorced is low ($M = 12.17$), and, like men, do not update their self-estimate when given base-rate information ($M = 11.65$). However, while they initially estimate that their likelihood of a happy marriage is high ($M = 82.00$), they do assimilate base-rate information and reduce their estimate of their own likelihood of having a happy marriage ($M = 79.55, t(39) = 2.69, p < .01$). They continue to exhibit unrealistic optimism versus friend and average person estimates (friend M s = 21.13 and 70.68, average person M s = 33.91 and 58.33 for divorce and happy marriage respectively, all significantly different from self estimates, p 's $< .05$), and their estimates continue to diverge from provided base-rates (both p 's $< .05$).

Overall, both men and women with a positive prior respond to base-rates of divorce in a similar manner. There are no gender differences regarding the extent to which they assimilate base-rate information into their self-estimate. They show unrealistic optimism (with respect to non-self) both prior to and subsequent to being provided base-rates regarding the likelihood of a divorce. However, women with a positive prior are more likely to update their self-estimate for a "happy marriage" than are men, even though this estimate continues to be unrealistically optimistic, and higher than provided population base-rates.

Men with a Negative Prior. Men with a negative prior initially estimate that they have a very high likelihood of getting divorced ($M = 50.39$), but reduce this estimate when given base-rate information ($M = 42.94, t(17) = 2.75, p < .05$). This lowered self-estimate is no different from estimates of best friend and average others' likelihood of getting divorced (M 's = 48.33 and 34.06 for friend and average others respectively, p 's $> .50$), but continues to be higher than the base-rate provided ($t(17) = 3.42, p < .005$).

These men initially estimate a low likelihood of a happy marriage ($M = 47$), but marginally increase this estimate when informed of base-rates ($M = 50; t(9) = 1.41, p < .10$ one-sided). This updated belief is no different from estimates of friend and average others' likelihood of getting divorced (M 's = 58.00 and 43.50 for friend and average others respectively, p 's $> .50$), or base-rates ($M = 60, p > .15$). To

summarize, men with a negative prior update their self-estimate to reflect population base-rates for both a happy marriage and a divorce, with their final estimates not reflecting unrealistic optimism versus a non-self other.

Women with a Negative prior. Women with a negative prior, on the other hand, estimate a high chance of getting divorced ($M = 49.79$), and, unlike men, do not update it when given base-rate information ($M = 49.09$, $p > 0.70$). However, while they initially estimate a low likelihood of a happy marriage ($M = 39.53$), they appear to assimilate base-rate information and directionally increase this estimate when provided base-rate information ($M = 49.82$, $t(16) = 1.91$, $p < .07$).

Their self-estimate subsequent to base-rate information remains different from base-rates provided (Divorce $t(32) = 6.05$, $p < .001$; Happy marriage $t(16) = 1.92$, $p < .08$), and reflect unrealistic pessimism for divorce versus their best friend and the average person ($M_s = 49.09$ vs. 38.55 vs. 38.67 for self vs. friend vs. average person respectively, p 's $< .01$). For estimates of a happy marriage, although the estimates reflect a pattern of unrealistic pessimism versus one's best friend ($M_s = 49.82$ vs. 61.59 , for self versus friend respectively, $t(16) = -2.31$, $p < .05$), they are no different from estimates of the average person ($M_s = 49.82$ vs. 47.06 , for self versus average person respectively, n.s.). To summarize, like women with a positive prior, women with a negative prior do not update their self-estimate of a divorce, but do update their self-estimate of having a happy marriage.

Discussion

To summarize, when men have a positive prior, they are more reluctant to update their self-estimate when provided base-rate information than are women. Women with a positive prior, update beliefs about a happy marriage towards the base-rate information provided, but men with a positive prior, do not. Neither group updates their estimates regarding their own divorce. Both men and women initially show and continue to demonstrate unrealistic optimism for both expectancies regarding a happy marriage and a divorce.

When people have a negative prior, gender differences in updating beliefs exist. Men with a negative prior update their estimates towards provided base-rates for both events. This pattern replicates the Lin, Lin, Raghbir (2003b) results that people update using base-rates when priors are negative and do not update when priors are

positive. Women's patterns are contingent on the event: beliefs regarding divorce are more resilient to population base-rate information than are beliefs regarding a happy marriage. Thus, women only update their self-estimate regarding a happy marriage, but not about divorce. Overall, men are more likely to update when they have negative priors, but women only update beliefs of a happy marriage, and not beliefs regarding divorce^{IV}. We discuss possible reasons for this difference in the General Discussion below.

General Discussion

Across two studies, we show that: **(a)** both men and women are unrealistically optimistic about their expectations of their marriage; **(b)** men show greater levels of unrealistic optimism versus non-self others than do women; **(c)** given base-rate information, women become more realistic in their estimates about a happy marriage; **(d)** given base rate information, only men with a negative initial prior update their self estimates in the direction of base-rates; those with a positive initial prior do not update their self-estimates; **(e)** women update their beliefs of having a happy marriage more readily than they update their beliefs about the possibility of getting divorced, irrespective of whether their initial priors are positive or negative. These results are interpreted in terms of men, who are relatively more independent than women, being less willing to present themselves as being at equal risk as another person, unless that change leads them to feel better about themselves.

The data reported in two studies is collected using a Taiwanese sample, a culture identified as having a stronger collectivist orientation (Hofstede, 1990). We find the bias replicates, adding to the literature that while unrealistic optimism effects are greater for North Americans as compared to those in the Asian Pacific Rim (Chang 1996, Heine & Lehman, 1995) the bias is a universal phenomenon, occurring in both individualistic and collectivist cultures (Lin et al., 2003a, 2003b; Sedikides et al., 2003). We now discuss the implications of these findings for the literature on unrealistic optimism, marital quality, and the manner in which base-rates are used to update estimates.

Unrealistic optimism

Unrealistic optimism has been demonstrated over a wide range of health domains (AIDS: Bauman & Siegel, 1987; Joseph

et al., 1987; Schneider, Taylor, Kemeny & Hammen, 1991; Raghubir & Menon, 1998, 2001; cardiac diseases: Dolinski, Gromsk & Zawisza, 1987; Lee, 1989; Weinstein & Lachendro, 1982; influenza: Larwood, 1978; hepatitis C: Menon, Block & Ramanathan, 2002, cancer: Perloff & Fetzer, 1986; and mental problems: Drake, 1987; Perloff & Fetzer, 1986, Kuiper & MacDonald, 1983; Kuiper & Derry, 1982). However, gender differences in unrealistic optimism have not been previously examined. This is an important issue, as men and women may show differential levels of unrealistic optimism as a function of context, and may be differentially resilient to information such as base-rates aimed at reducing their bias. Many of the underlying reasons proposed for unrealistic optimism suggest that the bias may be stronger for men as compared to women. Below, we propose a set of routes that would predict gender differences in optimism and argue as to which of these appear more tenable than others.

Manner of Construction of "Other"

Estimates. It has been suggested that the bias is greater for those who use a fuzzy representation of an "other" person to compute average likelihood of an event, rather than a specific exemplar (Price, 2001). If women are more likely to be informed of the status and quality of their friends' and acquaintances' marriages, they should be more likely to base their judgments of an "average" person on a specific exemplar, rather than a generic representation, and therefore, show relatively lower levels of unrealistic optimism. This can explain Study 1 results, but not Study 2 results where we found that women were more likely to update perceptions of a "happy marriage" but not divorce, whereas men were likely to update when they were pessimistic (versus optimistic).

Perceptions of Control. Research on unrealistic optimism has argued that people are optimistic about those events that they perceive as being under their own control (Mckenna, 1993, Harris & Middleton, 1994, and also see Harris, 1996 for a review). If perceived controllability of an event increases the bias as originally argued by Weinstein (1980), then, again, men, with a greater illusion of control (Lundeberg, Fox & Puncochar, 1994) should be more prone to unrealistic optimism. According to this view, men may perceive the health of their marriage to be more controllable than do women, leading to their greater level of optimism^v.

Cognitive Moderators of Unrealistic optimism. Unrealistic optimism has been found to be greater for people who belong to larger groups (Price, 2001). It is possible that women's estimates of "others" were based on more specific exemplars of individuals who they knew to have a happy marriage/ be divorced – a smaller group of people. It does not appear likely that this is the route through which gender effects manifest either, as there were no differences between women's and men's estimates of the likelihood of an event occurring to the average person, and men were less likely than women to update their own estimates based on base-rate information.

Cultural Differences in Unrealistic Optimism. Recent work on cross-cultural differences in unrealistic optimism has shown that the bias is lower for respondents who belong to collectivist cultures such as Japan as compared to Canadians (Heine & Lehman, 1995). Chang (1996) argued that Chinese individuals would be less prone to the bias than their American counterparts because they are characterized by their pessimistic thinking, and a strong belief in not saying anything negative about others (Hofstede, 1990). However, recent research has shown that people of both types of cultures demonstrate self-enhancement, just on different traits: Americans and independents self-enhance on individualist attributes, while Japanese and inter-dependents self-enhanced on collectivist attributes (Sedikides, Gaertner & Toguchi, 2003). Our studies were conducted with a Taiwanese sample of undergraduate students in the domain of expectations regarding the success of their marriage. As marriage is a relational domain, consistent with a collectivist attribute, the subject population in this domain should demonstrate unrealistic levels of optimism.

However, if there are gender differences in degree and nature of interdependence as suggested (Cross & Madsen, 1997; Gabriel & Gardner, 1999), then this may be a route through which the gender difference in unrealistic optimism operates. If women are more interdependent than men as has been suggested by Josephs, Markus and Tafarodi (1992) building on the earlier review by Markus and Kitayama (1991), then they may have been less likely to present themselves as being better than average. They should have shown a lower level of unrealistic optimism than "independent" men. Our pattern of results is consistent with this interpretation.

Other Moderators of Unrealistic Optimism.

The two events, a “happy marriage” and a “divorce” differ on a number of dimensions, including valence, ambiguity, and base-rates. It is possible that there are differences in degree of unrealistic optimism as a function of valence, given the asymmetry in the processing of negative versus positive information (Taylor 1991). Future research could investigate whether these differences in valence also affect the manner in which self-estimates are amended in the direction of base-rates. Similarly, the *a priori* likelihood of the occurrence of an event versus not, may also affect the degree of unrealistic optimism and the extent to which self-estimates are resilient to change in the direction of base-rates. Future research could disentangle if the differences between “happy marriage” and “divorce” are due to their differential valence or base-rates.

The third dimension on which the two events differ is ambiguity. Differences in the ambiguity of an event may allow a person to redefine the event in a manner consistent with their interpretation of the event. For example, in a study on depression, Raghurir and Menon (forthcoming) showed that relatively ambiguous symptoms such as “decreased ability to concentrate” and “feeling more tired than usual” were re-interpreted depending on the response scale used to measure the symptom, while relatively unambiguous symptoms such as “thoughts about suicide or death” were not. The ambiguity of a symptom allowed the respondents to differentially interpret contingent on the response scale that they were presented.

Given these findings, we conjecture that women behave as though they redefine a relatively ambiguous event (“a happy marriage”) to present themselves as being equally likely to have that event occur to them as to another person. They, however, do not change their estimates for a relatively unambiguous event with a specific legal connotation (“getting divorced”), retaining their initial self-estimates. These results are interpreted in terms of differences in the self-construal of men and women. Men have been shown to have a more independent self-construal than women (Cross & Madden 1997), and when interdependent, been found to work with larger groups rather than a few intimate groups (Baumeister & Sommer 1997), defining themselves less on the relational aspect of the group than the collective aspect of the group (Gabriel & Gardner 1999). Such a cultural orientation may explain why they

are more unrealistically optimistic about themselves, and less likely to update their self-estimate given base-rate information, as compared to women with a relational interdependence. In other words, the ambiguity of the definition of what constitutes a happy marriage between the two genders may differ (Sprecher & Toro-Morn, 2002, for a review of marital quality and expectations among Chinese adults, see Shek, 1995). Men may define a “happy marriage” with a lower bar than do women.

Marital relationships

A review of the literature on gender differences in marital quality shows that, although, a majority of the existing studies show that there is no gender difference in marital quality (e.g., Glenn, 1975; Kazak, Jarmas & Snitzer, 1988; Shek, 1995), some researchers have found significant gender differences in marital quality. For example, Fowers (1991) found that male respondents were somewhat more satisfied with their marital relationships than female respondents. One of the explanations for this effect is based on the premise that male and female marital roles differ, with the roles of married women being more stressful and less gratifying (for a review, see Shek, 1995). Given this, it is possible to reconcile our findings that men expect that they will have a happier marriage than women.

Another explanation for gender differences in marital quality is that men and women hold different expectations about marriage. This view argues that women place higher expectations for intimacy and emotional support in the marital relationship, and these cannot be easily satisfied by men leading to women being less satisfied with the marital relationship than men (Bernard, 1976). Adding to this is the fact that women may fail to fully attain marital expectations as they often have close and intimate relationships that can be used as the basis to evaluate their own marriage (Shek, 1995). If this is the case, then our result that men are more unrealistically optimistic than women is an accurate reflection of a future reality. It may also be a reason why women did not update their beliefs (positive or negative) even when they were provided base-rate information about the likelihood of divorce.

Updating base-rate information

It is possible that differences in self-construal can affect the manner in which people use base-rate information to update estimates. On the basis of our results, we speculate that

people with an individualistic orientation will be less likely to use base-rates for a variety of other judgments, than those with an interdependent orientation as they are less likely to see themselves as being similar to the larger group to which the base-rate applies. This is offered as an area for future research. It also implies cross-cultural differences in the use of base-rates to make judgments. The contexts that we examined were to do with expectancies of marital success. However, it is possible that gender differences may also be found for a range of other expectancies, including perceptions of the risk of various diseases; as well as beliefs regarding personal traits, such as attractiveness, intelligence, and luck. These would be interesting areas for future research.

Finally, we found that women were less likely to use base-rates to amend their beliefs regarding divorce, and were more willing to amend their beliefs regarding “a happy marriage.” It is worth noting that the two events are not direct opposites of the other: *i.e.*, many marriages are not happy but do not end in divorce. The two events differ not only in their valence, but also in their ambiguity. While divorce is for most a negative and unambiguous event, having a happy marriage is a positive, but questionably ambiguous event. It is possible that providing base-rates about the likelihood of a happy marriage changes people’s perceptions of what the event itself means. Following up on how question form and context disambiguate ambiguous events, is also offered as an area for future research.

Self-Esteem

It has been suggested that people with lower levels of self-esteem may have higher self-protective tendencies (Bernichon, Cook & Brown, 2003), and that self-enhancement is associated with decreasing levels of self-esteem (Robins & Beer, 2001). If women, on average, have lower levels of self-esteem as compared to men (Feldman-Sumner & Kiesler, 1974), then women should have demonstrated higher levels of optimism. This was not the pattern found in our studies and requires further investigation.

Our results seem to be closer to the research that has shown that high self-esteem individuals (men) perceive themselves to be better than average on personality traits (Campbell, Rudich, & Sedikides, 2002), and that those with high self-esteem more consistently exploit ambiguity (*e.g.*, in the differential ambiguity of “have a happy marriage” as

opposed to “getting a divorce”) to favor themselves in a self-other comparison task (Suls, Lemos, & Stewart, 2002). It is also consistent with research that has shown that people with higher self-doubt underestimate the extent to which they are loved by their partners, which, in turn leads to lower levels of optimism for the marriage (Murray, Holmes, Griffin, Bellavia, & Rose, 2001). Further understanding these phenomena are also suggested as an area for future research.

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ⁱ We thank US seminar audiences for pointing out that a divorce may be a “positive” event for many. The normative expectation in Taiwanese society is that a divorce is a negative event, while a “happy marriage” is a positive event.

ⁱⁱ Note that the study was conducted in Taiwanese. Here, we provide the closest English translation for the instructions and question wording.

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- ⁱⁱⁱ Conclusions do not change when the analysis is conducted on the “other-after” index.
- ^{iv} One explanation for these results is that men want to appear to be more consistent with their earlier responses than women. To assess the robustness of these effects, we provided all respondents base-rates and asked men ($n = 23$) and women ($n = 25$) to assess their own and others’ likelihood of having a happy marriage/ getting divorced. The absence of the “self-before” response eliminates consistency as a reason for gender differences. Results show that the effects are robust. Both genders showed unrealistic optimism in predictions of divorce (Men M 's = 15.20 < 32.60; Women M 's = 21.46 < 34.15 for self versus non-self, both p 's < .05). However, men’s estimates were lower than base-rates (M 's = 15.20 < 25, $t = 1.65$, $p < .10$), while women’s were not (21.46 vs. 25, $t < 1$, $p > .50$). Both genders displayed unrealistic optimism regarding a happy marriage (Men = 75.13 vs. 55; Women = 65 vs. 56.70 for self vs. non-self). Men’s estimates were higher than base-rates (M 's = 75.13 > 60, $t = 2.67$, $p < .05$), while women’s were not (65 vs. 60, $t = 1$, $p > .30$). These results replicate Study 2 results using a different procedure, and eliminating self-presentation differences in the need to appear consistent as an explanation for the gender difference results.
- ^v Data not presented in this paper showed that there was no difference in the perceived controllability of the two events by gender.