

# Giving when it costs: How interdependent self-construal shapes willingness to sacrifice and satisfaction with sacrifice in romantic relationships

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## Abstract

Do some people exhibit a greater willingness to sacrifice in romantic relationships and derive more satisfaction from doing so, even in the face of high costs? In a cross-sectional study and a daily experience study, we show that people low in interdependent self-construal were less willing to sacrifice when the costs were relatively high, whereas people high in interdependent self-construal were equally willing to make high- and low-cost sacrifices. Further, when people low in interdependent self-construal chose to sacrifice, they felt less authentic when the costs were high, which in turn, detracted from their satisfaction with sacrifice. In contrast, people high in interdependent self-construal did not feel less authentic and were buffered against feeling less satisfied when making more costly sacrifices. The findings identify a set of individuals who are more willing to sacrifice, even in the face of high costs, and who feel more satisfied and authentic when doing so.

## Keywords

Authenticity, interdependent self-construal, romantic relationships, sacrifice, self-construal

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In our close relationships, we are motivated to give to others, and sometimes we do so in the face of considerable personal costs. In romantic relationships, a partner's needs and goals are intrinsically tied to one's own (Aron, Mashek, & Aron, 2004), so many people are willing to incur considerable costs to help or *sacrifice* for a romantic partner in need (see reviews by Day & Impett, 2016; Impett & Gordon, 2008). Who is most willing to sacrifice for their romantic partner when it is costly for the self? Do some people derive more satisfaction from sacrifice than others, and if so, why? In the current research, we suggest that individual differences in *interdependent self-construal*—that is, the extent to which people value social relationships and connections with others (Markus & Kitayama, 1991; Singelis, 1994)—will be important in determining people's willingness to sacrifice and satisfaction with sacrifice in their romantic relationships.

## Sacrifice in romantic relationships

Sacrifice—or giving up one's own desires for the benefit of another person—is a vital part of maintaining relationships, as it is inevitable that romantic partners' needs will conflict over the course of a long-term relationship (see review by Day & Impett, 2016). Several studies have shown that people who are more willing to sacrifice for their romantic partner report greater relationship satisfaction and are less likely to breakup (Van Lange, Agnew, Harinck, & Steemers, 1997; Van Lange, Rusbult, et al., 1997). In turn, when people perceive that their partner is willing to sacrifice their own self-interest, they experience increased commitment and trust in their partner's responsiveness (Joel, Gordon, Impett, MacDonald, & Keltner, 2013; Wieselquist, Rusbult, Foster, & Agnew, 1999). Research has further shown that these benefits are most likely to be reaped when romantic partners feel *authentic* or “true” to themselves. Experience sampling studies have shown that on days when people feel more authentic about their sacrifices, they experience boosts in positive emotions and relationship satisfaction (Impett et al., 2012; Impett, Javam, Le, Asyabi-Eshghi, & Kogan, 2013). Indeed, given that it is important to feel *authentic* when making a sacrifice for a partner, suppression of negative emotions has been found to have negative consequences for satisfaction with sacrifice. In one study, participants who experienced lower levels of trust in their romantic partner were more likely to suppress negative emotions during sacrifice, which in turn led to lower satisfaction with sacrifice (Righetti, Balliet, Visserman, & Hofmann, 2015; see also Impett et al., 2012).

While a growing body of research has documented the personal and interpersonal outcomes of sacrifice, little research has focused on understanding people's *willingness* to sacrifice (see Day & Impett, 2016). When people choose to sacrifice, they have to overcome their own selfish impulses in order to prioritize the well-being of their romantic partner or their relationship (Van Lange, Rusbult, et al., 1997). The decision about whether or not to sacrifice likely becomes even more difficult when the personal costs to the self are high. Indeed, in one study of 24 hypothetical sacrifices (Powell & Van Vugt, 2003), people were less willing to sacrifice when doing so required them to incur a high cost (such as moving to a new city) versus a low cost (such as a partner borrowing a book that you wanted to read). This study revealed that people's long-term orientation toward their relationship—or their level of commitment—also mattered.

Whereas almost everyone was willing to make low-cost sacrifices for their romantic partner, for higher cost sacrifices, people who were higher in commitment were more likely to sacrifice than those low in commitment (Powell & Van Vugt, 2003). Further, research from a variety of domains, including behavioral economics, philosophy, and neuroscience, provides converging evidence that people tend to be averse to experiencing loss (Zamir, 2015). Indeed, in one study, researchers showed that people were less willing to sacrifice the things that they perceived to be more important to them than the things they felt were less important, even when controlling for relationship commitment (Mattingly & Clark, 2010). Further, research has found that when cohabitating couples perceive a greater ease of making sacrifices, they report greater relationship quality (Corkery, Curran, & Parkman, 2011).

### **Interdependent self-construal and authenticity**

Existing research on sacrifice and more general decision-making that has shown that people are typically averse to losing resources when making decisions, suggests that people should be less willing to make high- than low-cost sacrifices. In this article, we suggest that not everyone reacts to the costs of sacrifice in the same way and that the extent to which people construe themselves as highly interdependent with close others (Markus & Kitayama, 1991; Singelis, 1994) is an important moderator that will shape people's willingness to sacrifice and satisfaction with sacrifice in the face of high personal costs.

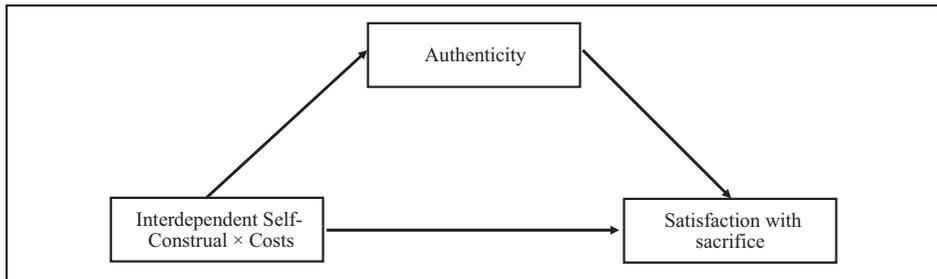
There are two orthogonal self-construal styles that can coexist within a given individual (Singelis, 1994). An interdependent self-construal emphasizes the importance of maintaining harmony in social relationships, while an independent self-construal emphasizes autonomy and uniqueness from others (Markus & Kitayama, 1991; Singelis, 1994). People who are highly interdependent tend to experience sacrifice differently than those who are less interdependent (Impett, Le, Asyabi-Eshghi, Day, & Kogan, 2013; Le & Impett, 2013). Indeed, past research on a related construct—relational interdependent self-construal (Cross, Bacon, & Morris, 2000)—has shown that highly interdependent people are more willing to make sacrifices for their partners because they see their relationship as being more communal in nature (Mattingly, Oswald, & Clark, 2011). Further, whereas people low in interdependent self-construal experience less positive emotion, more negative emotion, and lower relationship quality when sacrificing for avoidance goals, such as preventing their partner from becoming angry, those who are high in interdependent self-construal do not experience these same declines in mood and relationship quality when sacrificing for avoidance goals (Impett, Le, et al., 2013). People high in interdependent self-construal are also buffered against the negative effects of emotional suppression during sacrifice. Specifically, people who are low in interdependent self-construal experience decline in personal well-being and relationship quality if they suppress their negative emotions during a sacrifice. However, those who are high in interdependent self-construal experience greater personal well-being and relationship quality when they suppress their emotions (Le & Impett, 2013). It has been hypothesized that highly interdependent individuals are buffered against drops in well-being in these difficult sacrifice situations because avoiding conflict allows them to

achieve their superordinate goal of maintaining harmony in their relationships (Impett et al., 2013).

The past research that has found that highly interdependent people experience fewer costs of avoidance motivated sacrifice (Impett et al., 2013; Le & Impett, 2013) has also shown that an important reason why highly interdependent people maintain well-being when sacrificing in difficult situations is because they feel a sense of authenticity. Feelings of authenticity arise when people feel that they are behaving in a way that is consistent with their internal sense of self (Kernis & Goldman, 2006). For example, Le and Impett (2013) found that while people low in interdependent self-construal felt less authentic after suppressing their negative emotions during a sacrifice, those who were high in interdependent self-construal felt *more* authentic after suppressing their negative emotions during sacrifice. Similarly, Impett et al. (2013) found that while those low in interdependent self-construal felt less authentic after making a sacrifice for an avoidance motivated reason, those who were high in interdependent self-construal were buffered against drops in felt authenticity. Taken together, these results suggest when people make a sacrifice for avoidance motivated reasons, or when they suppress their negative emotions, people high in interdependent self-construal are better off, because they are able to maintain a sense of authenticity, even when sacrificing in difficult situations for their partners.

In the present research, we focus on situations that may be similarly difficult when they arise: Situations in which people consider making relatively high-cost sacrifices for their romantic partner. Because highly interdependent people are motivated to maintain harmony in their close relationships (Markus & Kitayama, 1991), we expected that individual differences in interdependent self-construal should be particularly relevant to understanding why some people are more or less willing to sacrifice their own self-interest as well as feel more authentic and satisfied in the face of high personal costs. In particular, we expected that people who are low in interdependent self-construal would be less willing to sacrifice and feel less authentic and satisfied with their decision to sacrifice when the costs of sacrifice are high as opposed to low—that is, they should be relatively more loss averse and sensitive to the rising costs of sacrifice than people with a more highly interdependent self-construal. In contrast, we expected that highly interdependent people would be just as willing to sacrifice and feel just as authentic and satisfied with their decision when the costs of making a sacrifice are high as when they are low since incurring substantial costs to benefit a partner should allow interdependent people to maintain the relationship harmony that they so highly value (Elliot, Chirkov, Kim, & Sheldon, 2001; Le & Impett, 2013). We display these predictions in a conceptual moderated mediation model, depicted in Figure 1, and test them in a cross-sectional study (Study 1) and a 14-day experience sampling study (Study 2).

In order to bolster our confidence in our effects, in both studies, we sought to rule out five alternative hypotheses. First, given that interdependent and independent self-construals can coexist within a given individual (Singelis, 1994), we sought to show that the effects are specific to interdependent self-construal by controlling for independent self-construal in our analyses. Second, because past research has shown that people with higher relationship satisfaction report less difficulty with making sacrifices (Ruppel & Curran, 2012), we will control for relationship satisfaction, to ensure that our



**Figure 1.** Theoretical model with authenticity as a mediator of the interactive effect of interdependent self-construal and costs to the self of making a sacrifice on satisfaction with sacrifice.

results are not due to differences in satisfaction. Third, given that past research has found that those high in commitment are more willing to make high-cost sacrifices than those low in commitment (Powell & Van Vugt, 2003), we wanted to rule out the possibility that commitment could be playing a role in our results, thus we controlled for commitment in each of our studies. Fourth, because emotional suppression in the context of sacrifice has negative relational consequences (Impett et al., 2012, Impett, Le, Kogan, Oveis, & Keltner, 2014), and emotional suppression may be associated with the cost of a sacrifice (because there may be little to no negative emotions to suppress with a low-cost sacrifice), we will measure and control for emotional suppression in our analyses. Fifth, in order to rule out the possibility that those high versus low in interdependent self-construal perceive and rate the costs of sacrifice differently, we had a team of coders rate the objective costs of each sacrifice in both studies.

## Study 1

In Study 1, participants in romantic relationships recalled the most recent sacrifice they had made for their partner and rated the costs of the sacrifice, their willingness to sacrifice, satisfaction with sacrifice, and authenticity.

## Method

### *Participants and procedure*

We recruited 336 participants involved in a romantic relationship and living with their partner from Amazon's Mechanical Turk. We excluded 29 participants who failed an attention check, leaving a final sample of 307 participants (158 males, 147 females, 2 other or preferred not to disclose). Our sample size gave us 99% power to detect a medium effect size with an  $\alpha$  of .05 (Faul, Erdfelder, Lang, & Buchner, 2007). Participants ranged in age from 18 to 70 ( $M = 32.13$ ,  $SD = 10.69$ ) and were from a diverse range of ethnic backgrounds: 43.8% were European, 37.3% were Asian, 4.5% were Native American, 3.3% were African, 1.8% Latino, and 9.2% self-identified as "other." Nearly half (49.1%) of the participants were married. Participants were paid USD\$1.00 to complete the 20-min survey.

## Measures

*Self-construal* was measured with 24 items developed by Singelis (1994) assessing interdependent self-construal (12 items,  $M = 5.08$ ,  $SD = 0.83$ ,  $\alpha = .85$ ) and independent self-construal (12 items,  $M = 5.16$ ,  $SD = 0.76$ ,  $\alpha = .79$ ). Participants also completed a 5-item measure of relationship satisfaction ( $M = 5.88$ ,  $SD = 1.05$ ,  $\alpha = .92$ ; Rusbult, Martz, & Agnew, 1998) and a 7-item measure of commitment ( $M = 6.09$ ,  $SD = 1.02$ ,  $\alpha = .88$ ; Rusbult et al., 1998). All background measures were completed on 7-point scales (1 = *strongly disagree* to 7 = *strongly agree*). After completing the self-construal scale, participants recalled the most recent sacrifice they made for their romantic partner. In order to reduce perceptions that sacrifice might be inherently negative, we explained that sacrifice is common in romantic relationships and gave an example of a sacrifice (see detailed instructions in Appendix 1). Next, participants read a list of the following four potential *costs of sacrifice* that we developed based on the work of Impett, Gable, and Peplau (2005). Participants first checked off the costs that they thought about when making the sacrifice: "I would lose time that I could have spent on something else"; "I would have to spend money on my partner when I could have spent it on something else"; "I would not be able to spend time with my own friends or family"; and "I would lose the chance to engage in a more desirable activity." This strategy was used to narrow down the list of possible costs to the most relevant ones for the particular sacrifice listed by each participant. Next, participants rated the importance of each of those costs in their decision to sacrifice on a 7-point scale (1 = *not important at all* to 7 = *extremely important*;  $M = 4.79$ ,  $SD = 1.34$ ). Costs that participants rated as more important are described as "high costs" whereas costs that participants rated as less important are described as "low costs." Importantly, this measure was an index of costs associated with the sacrifice, rather than a set of items expected to load onto one factor. For example, we would not have expected sacrifices that required more time to also require more money, and thus computing a Cronbach's  $\alpha$  for this measure was not appropriate.

We then asked participants to rate their *willingness to sacrifice* with the item "Overall, how willing were you to make this sacrifice for your romantic partner?" (1 = *not at all* to 7 = *extremely*;  $M = 5.53$ ,  $SD = 1.23$ ) based on the work of Van Lange et al. (1997). We assessed *satisfaction with sacrifice* with two items "Overall, how did you feel after making this sacrifice?" (1 = *terrible* to 7 = *terrific*) and "How satisfied were you with your decision to make this sacrifice?" (1 = *extremely dissatisfied* to 7 = *extremely satisfied*) based on the work of Impett, Le, Kogan, Oveis, and Keltner (2014) and Righetti, Balliet, Visserman, and Hofmann (2015). Given that the two items were highly correlated ( $r = .57$ ,  $p < .001$ ), we combined them into a composite measure ( $M = 5.24$ ,  $SD = 1.16$ ). Finally, we assessed participants' feelings of *authenticity* with the item "How authentic (true to yourself) did you feel about your decision to make this sacrifice?" (1 = *not at all* to 7 = *extremely*;  $M = 5.24$ ,  $SD = 1.38$ ) based on the work of Impett et al. (2012, 2013). Finally, we asked participants about their emotional suppression during sacrifice "How much did you try to hide your negative emotions from your partner when making this sacrifice?" (1 = *not at all* to 7 = *extremely*;  $M = 4.28$ ,  $SD = 1.97$ ) based on the work of Impett et al. (2012, 2013) and Le and Impett (2013).

**Table 1.** Intercorrelations among all variables in Study 1.

	1	2	3	4	5	6	7	8	9
1	—	.16**	.24***	.10	.30***	.22***	.26***	.22***	.14*
2		—	.28***	.10	.11	.25***	.26***	.23***	.06
3			—	.64***	.03	.38***	.44***	.38***	.02
4				—	-.14*	.36***	.35***	.30***	-.13*
5					—	-.17*	-.16*	-.15*	.10
6						—	.73***	.60***	-.01
7							—	.73***	.04
8								—	.02
9									—

Note. 1 = interdependent self-construal; 2 = independent self-construal; 3 = relationship satisfaction; 4 = relationship commitment; 5 = costs to the self; 6 = willingness to sacrifice; 7 = satisfaction with sacrifice; 8 = authenticity; and 9 = negative emotion suppression.

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ .

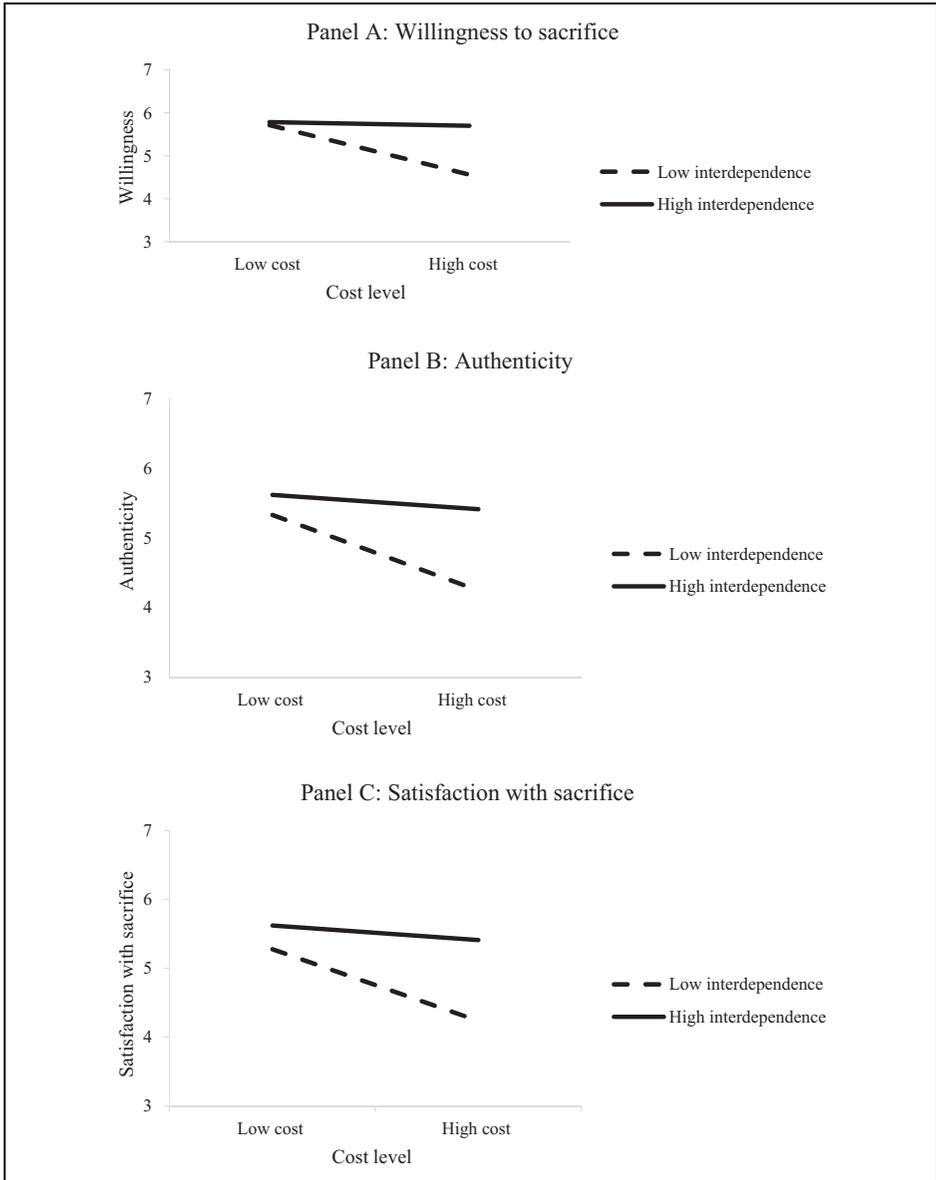
In order to rule out the possibility that those high in interdependent self-construal rated their sacrifices differently than those low in interdependent self-construal, we had three undergraduate research assistants who were blind to our hypotheses rate how costly each of the sacrifices would be to make on a scale from 1 = *not at all costly* to 7 = *highly costly* ( $M = 4.87$ ,  $SD = 1.44$ ,  $\alpha = .87$ ). For example, an example sacrifice that was rated as a 1 on this scale was “I got up to get a glass of water for my partner” and a sacrifice receiving a rating of 7 was “I left a high paying job to be closer to my partner.”

## Results and discussion

We tested our predictions regarding moderated mediation using the SPSS PROCESS macro developed by Andrew Hayes (see Darlington & Hayes, 2016). Our model allowed the pathways from costs to authenticity and costs to satisfaction with sacrifice to be moderated by interdependent self-construal. For any significant interaction effects, we tested simple effects at 1 standard deviation above and below the mean in interdependent self-construal. Intercorrelations among all variables are shown in Table 1.

Our first hypothesis concerned a predicted interaction between interdependent self-construal and costs of sacrifice in shaping people’s willingness to sacrifice. Indeed, the results revealed a significant interaction,  $b = .24$ ,  $SE = .07$ ,  $p = .001$ .<sup>1</sup> As shown in Figure 2 (Panel A), people low in interdependent self-construal were significantly less willing to make sacrifices that they reported to be more costly than those they felt were less costly,  $b = -.43$ ,  $SE = .08$ ,  $p < .001$ . However, highly interdependent people were just as willing to make high- versus low-cost sacrifices,  $b = -.03$ ,  $SE = .09$ ,  $p = .73$ .

We then tested our hypothesis that interdependent self-construal would moderate the link between costs to the self and satisfaction with sacrifice. As expected, the results revealed a significant interaction,  $b = .19$ ,  $SE = .07$ ,  $p = .006$ . As depicted in Figure 2 (Panel B), people low in interdependent self-construal felt less satisfied with sacrifice when they perceived the costs to the self to be relatively high versus low,  $b = -.39$ ,



**Figure 2.** Interactions between interdependent self-construal and costs to the self in Study 1.

$SE = .08, p < .001$ . In contrast, people high in interdependent self-construal felt just as satisfied about making high- and low-cost sacrifices,  $b = -.08, SE = .08, p = .35$ .

Our final hypothesis was that authenticity would mediate the interactive effect of interdependent self-construal and costs of sacrifice in predicting satisfaction with sacrifice. Indeed, costs to the self and interdependent self-construal interacted to predict

**Table 2.** Results of the interdependent self-construal by cost interactions with various control analyses in Study 1.

	Willingness	Authenticity	Satisfaction with sacrifice
Relationship commitment	.26 (.07)***	.23 (.08)**	.21 (.06)**
Independent self-construal	.19 (.07)*	.14 (.09) <sup>+</sup>	.13 (.07) <sup>+</sup>
Relationship satisfaction	.22 (.07)**	.17 (.08)*	.16 (.06)**
Emotional suppression	.25 (.07)**	.20 (.08)*	.19 (.07)**

Note. Numbers outside the parentheses are unstandardized  $\beta$ s and numbers inside the parentheses are standard errors.

\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ ; <sup>+</sup> $p < .10$ .

authenticity,  $b = .20$ ,  $SE = .08$ ,  $p = .018$ . As shown in Figure 2 (Panel C), whereas people low in interdependent self-construal felt significantly less authentic about making a high- versus a low-cost sacrifice,  $b = -.41$ ,  $SE = .10$ ,  $p < .001$ , highly interdependent people felt equally authentic about making a high- versus a low-cost sacrifice,  $b = -.08$ ,  $SE = .10$ ,  $p = .45$ . Further, after controlling for the interaction between interdependent self-construal and costs to the self, authenticity significantly predicted satisfaction with sacrifice,  $b = .55$ ,  $SE = .04$ ,  $p < .001$ . Most critically, at low levels of interdependent self-construal, authenticity mediated the relationship between costs of a sacrifice and satisfaction with that sacrifice (indirect effect 95% CI  $[-.36, -.09]$ ). However, this was not true at high levels of interdependent self-construal (indirect effect 95% CI  $[-.14, .06]$ ). Further, the direct effect was reduced to nonsignificance,  $b = .08$ ,  $SE = .05$ ,  $p = .11$ .

In order to bolster our confidence in our effects, we conducted several additional analyses controlling for independent self-construal, relationship commitment, relationship satisfaction, and emotional suppression, each in separate models. Due to the fact that both interdependent and independent self-construals can coexist within an individual (Singelis, 1994), we conducted an analysis controlling for independent self-construal. All of our effects remained significant, with two exceptions, but in both cases the results remained marginally significant. The interactions between interdependent self-construal and costs to the self in predicting authenticity and satisfaction with sacrifice became marginally significant when we controlled for independent self-construal,  $b = .14$ ,  $SE = .09$ ,  $p = .095$ ;  $b = .13$ ,  $SE = .07$ ,  $p = .054$ ; respectively. We also controlled for relationship satisfaction and relationship commitment separately, and all of our results remained significant. Further, because emotional suppression was slightly (though nonsignificantly) correlated with costs to the self ( $r = .10$ ,  $p = .143$ ), we controlled for suppression of negative emotions, and all of our results remained significant (see Table 2 for complete results with control analyses).

We also sought to rule out the possibility that those high in interdependent self-construal rated their sacrifices differently than those low in interdependent self-construal. We tested an interaction between interdependent self-construal and outside observer ratings of costs of sacrifice predicting participants' own subjective ratings of the costs of their sacrifice. A significant interaction would suggest that those high in interdependent self-construal rate sacrifices differently than those low in interdependent self-construal in terms of costs. Importantly, we did not expect to find a significant

interaction here, because we did not expect that those high in interdependent self-construal have any perceptual biases around the costs of sacrifice as compared to those low in interdependent self-construal. Indeed, as expected, interdependent self-construal did not interact with objective ratings of costs to predict subjective ratings of costs, suggesting that those high in interdependent self-construal were not over or under-perceiving their costs of sacrifices compared to those lower in interdependent self-construal ( $b = -.02$ ,  $SE = .08$ ,  $p = .802$ ). Rather, those high in interdependent self-construal are accurately perceiving the relatively high costs of some sacrifices—but critically—they continue to feel authentic when making them. This suggests that highly interdependent people know that they are incurring relatively high personal costs but feel authentic doing so because of the benefit to their romantic partner.

## **Study 2**

In Study 2, we sought to replicate our findings using a more ecologically valid design in which participants came into the lab and then reported on their daily sacrifices over 14 consecutive days. This study design had two distinct advantages. First, an in-lab session allowed us to explain in detail to participants our definition of sacrifice and encourage them to report on their sacrifices accurately. Second, sampling multiple sacrifices repeatedly in daily life allowed us to examine a within-person question, that is, whether the daily links between costs of sacrifice and both authenticity and satisfaction with sacrifice are different for people who vary in interdependent self-construal. Because each person's daily ratings of costs of sacrifice are compared to a person's own average levels of costs over the 14-day study, this design feature enabled us to rule out the possibility that our results could be caused by between person variation (individual differences) in the types of sacrifices that people high versus low in interdependent self-construal make in their day-to-day lives.

## **Method**

### *Participants and procedure*

The sample consisted of 164 undergraduate psychology students (89 females, 74 males, 1 other or preferred not to disclose) currently involved in a dating relationship from a large Canadian university who completed a background survey in the lab and at least two daily surveys at home. Participants received two course credits for completing the study. The participants ranged between age 17 and 43 ( $M = 19.30$ ,  $SD = 3.13$ ). We required a minimum relationship duration of 3 months to participate and the length of relationships ranged from 3 months to 10 years, 2 months ( $M = 21$  months,  $SD = 18$  months). Participants comprised a diverse range of ethnic backgrounds: 26% were European, 5% were African American, 33% were Asian, 7% were Latino or Mexican, 1% were Native American, 9% were Middle Eastern, and 19% were multiethnic or self-identified as "other."

In the lab, participants completed a 45-min background survey. Then, at home, they completed a 5–10-min online survey at bedtime for 14 consecutive nights. If participants missed a day, they were instructed to continue completing the diaries as normal the next

evening, as missed diaries could not be made up. The participants were e-mailed reminders to complete the diaries each night. After they completed 14 days of daily diaries, participants were sent an e-mail indicating that they should stop taking the daily diaries. All participants who completed at least two daily diaries were included in our final analyses ( $N = 164$ ). Participants completed between 2 and 17 diaries ( $M = 10.24$ ,  $SD = 3.87$ ), as some participants continued to participate in the study even after receiving the e-mail instructing them to discontinue their participation. Although we did not compute formal power analyses given the complexity of determining power in multilevel designs, our sample sizes are aligned with multilevel power recommendations of sampling at least 50 observations at Level 2 to avoid biased estimates of standard errors (current study: 164 observations; Maas & Hox, 2005).

## Measures

In the lab, *self-construal* was measured with the Singelis (1994) scale assessing interdependent self-construal (12 items,  $M = 5.04$ ,  $SD = 0.68$ ,  $\alpha = .72$ ) and independent self-construal (12 items,  $M = 5.10$ ,  $SD = 0.67$ ,  $\alpha = .65$ ). Next, we assessed relationship commitment (7 items,  $M = 6.09$ ,  $SD = 0.87$ ,  $\alpha = .86$ ) and satisfaction (5 items,  $M = 5.80$ ,  $SD = 0.78$ ,  $\alpha = .81$ ; Rusbult et al., 1998). All items were measured on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). During this session, participants were given an information sheet that provided a definition of sacrifice and explained what it meant to have an “opportunity” to sacrifice (see Appendix 2). Specifically, we explained to participants that a sacrifice is defined as any time when they could have done something that they did not particularly want to do for their partner or a time when they chose to give something up that they did want for their partner.

In each of the daily surveys, participants indicated whether or not they had an opportunity to sacrifice for their partner (yes/no). On days when participants reported that they had an opportunity to sacrifice (representing 43.3% of days and 730 days total), they were asked “Did you actually decide to make this sacrifice for your romantic partner?” (yes/no). Participants reported actually making a sacrifice on 35.2% of days in total or 80% of days when they had an opportunity to sacrifice (584 days total). Each day when participants reported an opportunity (i.e., regardless of whether or not they actually made the sacrifice), we assessed *willingness to sacrifice* ( $M = 5.10$ ,  $SD = 1.67$ ), *satisfaction with the decision* (2 items,  $M = 5.51$ ,  $SD = 1.34$ ,  $r = .86$ ), *authenticity* ( $M = 5.50$ ,  $SD = 1.49$ ), and *emotional suppression* ( $M = 3.42$ ,  $SD = 2.12$ ), with the same items used in Study 1, but adapted to a daily context. However, to investigate our research questions regarding authenticity and satisfaction with sacrifice, we only examined these outcomes in our analyses when a sacrifice was actually made.

Next, participants rated the relevance of the same costs of sacrifice used in Study 1, responding to 4 items with the question stem “If I had decided to make this sacrifice . . .” The items included “It would have taken up a lot of my time”; “I would have had to spend money”; “I would have had less time to spend with my own friends or family”; and “I would have missed out on a more desirable activity.” Each item was rated on a 7-point scale (1 = *not at all* to 7 = *a lot*;  $M = 3.17$ ,  $SD = 1.33$ ). An index of the overall cost of the sacrifice was created by averaging the ratings of these four costs, as in Study 1. We

**Table 3.** Intercorrelations among all variables in Study 2.

	1	2	3	4	5	6	7	8	9
1	—	.02	.04	.11	.07	.14***	.06	.10**	.17*
2		—	.23**	.04	-.01	.03	.16***	.14***	.07
3			—	.63***	-.09*	.14***	.11**	.12**	.01
4				—	-.14***	.11**	.09*	.10**	-.11**
5					—	-.16***	-.06	-.08*	.15***
6						—	.42***	.36***	.01
7							—	.73***	-.08*
8								—	-.03

Note. All daily items in the diary were aggregated to produce correlations; 1 = interdependent self-construal (background); 2 = independent self-construal (background); 3 = relationship satisfaction (background); 4 = relationship commitment (background); 5 = costs to the self; 6 = willingness to sacrifice; 7 = satisfaction with sacrifice; 8 = authenticity; 9 = negative emotion suppression.

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ .

also had three undergraduate research assistants who were blind to our hypotheses rate how costly each of the sacrifices would be to make on a scale from 1 = *not at all costly* to 7 = *highly costly* ( $M = 3.85$ ,  $SD = 1.00$ ,  $\alpha = .88$ ) using the same rating scale as in Study 1.

## Results and discussion

We analyzed the data with multilevel modeling with a two-level model in which diaries are nested within people to avoid confounding within- and between-person effects (Kenny, Kashy, & Cook, 2006). The Level 1 predictors (cost of a sacrifice and feelings of authenticity about making a sacrifice) were partitioned into within- and between-person variance components, which were person-mean centered and aggregated, respectively (Zhang, Zyphur, & Preacher, 2009). Both components were then included as main effects and interactions in the models. Our hypotheses concerned the cross-level interactions between interdependent self-construal (Level 2) and costs of sacrifice (Level 1), that is, the within-person effects of costs of sacrifice on willingness to sacrifice, authenticity, and satisfaction for sacrifice for people of varying levels of interdependent self-construal. Intercorrelations among all variables are shown in Table 3.

Given that participants provided a daily behavioral measure of sacrifice, in this study, we were able to test our hypothesis that highly interdependent people would be equally likely to make sacrifices that were high versus low in cost, whereas less interdependent people would be less likely to make sacrifices that were more costly. Contrary to our expectations, interdependent self-construal and costs did not interact to predict whether or not participants actually made a sacrifice,  $b = -.06$ ,  $SE = .16$ ,  $p = .69$ . Because participants only reported *not* making a sacrifice on 20% of the days on which they reported having an opportunity to do so (on only 146 days out of 736 possible days), we may have had limited power to detect this effect.

Given that there may be some situations in which people are willing to sacrifice but do not ultimately do so, such as when their partner offers to sacrifice instead, we next sought

to examine whether, as in Study 1, interdependent self-construal would interact with costs of sacrifice to predict willingness to sacrifice. Replicating the results of Study 1, we found a marginally significant cross-level interaction between costs of sacrifice and interdependent self-construal predicting willingness to sacrifice,  $b = .17$ ,  $SE = .09$ ,  $p = .053$ . As shown in Figure 3 (Panel A), people who were low in interdependent self-construal were less willing to make sacrifices on days when they perceived the costs of sacrifice to be higher than they typically did over the course of the 14-day study,  $b = -.28$ ,  $SE = .09$ ,  $p = .001$ . However, those high in interdependent self-construal were equally as willing to make high- and low-cost sacrifices,  $b = -.05$ ,  $SE = .08$ ,  $p = .48$ .

Next, we tested our hypothesis that interdependent self-construal and costs to the self would interact to predict satisfaction with sacrifice. Indeed, these results revealed a significant interaction,  $b = .25$ ,  $SE = .08$ ,  $p = .001$ . As shown in Figure 3 (Panel B), people lower in interdependent self-construal felt less satisfied on days when they perceived the costs of sacrifice to be higher than they typically did,  $b = -.34$ ,  $SE = .08$ ,  $p < .001$ , whereas those higher in interdependent self-construal felt equally satisfied about making high- and low-cost sacrifices,  $b = .01$ ,  $SE = .07$ ,  $p = .92$ .

Our final hypothesis was that authenticity would mediate the interactive effect of interdependent self-construal and costs of sacrifice on satisfaction with sacrifice. Indeed, costs and interdependent self-construal interacted to predict authenticity,  $b = .17$ ,  $SE = .09$ ,  $p = .05$ . As shown in Figure 3 (Panel C), people who were low in interdependent self-construal felt less authentic on days when they perceived the costs of sacrifice to be higher than they typically did,  $b = -.29$ ,  $SE = .09$ ,  $p = .001$ , whereas those high in interdependent self-construal felt equally authentic about making a high- and a low-cost sacrifice,  $b = -.06$ ,  $SE = .08$ ,  $p = .42$ . Further, as expected, after controlling for the interaction between interdependent self-construal and costs to the self, authenticity predicted satisfaction with sacrifice,  $b = .61$ ,  $SE = .03$ ,  $p < .001$ . Most critically, at low levels of interdependent self-construal, authenticity mediated the relationship between costs of a sacrifice and satisfaction with that sacrifice (indirect effect 95% CI  $[-.29, -.08]$ ). However, this was not true at high levels of interdependent self-construal (indirect effect 95% CI  $[-.13, .06]$ ). Further, the direct effect was reduced to  $b = .14$ ,  $SE = .06$ ,  $p = .013$ .

As in Study 1, in separate sets of analyses, we controlled for independent self-construal, relationship commitment, relationship satisfaction, and emotional suppression, by entering the main effect of each of these covariates, as well as the interaction between each of the covariates and costs to the self. We found that all of our results remained significant (see Table 4 for more information).

As in Study 1, we tested an interaction between interdependent self-construal and outside observer ratings of sacrifice predicting participants' own subjective ratings of the costs of their sacrifices. As expected, interdependent self-construal did not interact with objective ratings of costs to predict subjective ratings of costs, suggesting that those high in interdependent self-construal were not over or under-perceiving their costs of sacrifices compared to those lower in interdependent self-construal ( $b = .08$ ,  $SE = .07$ ,  $p = .279$ ).

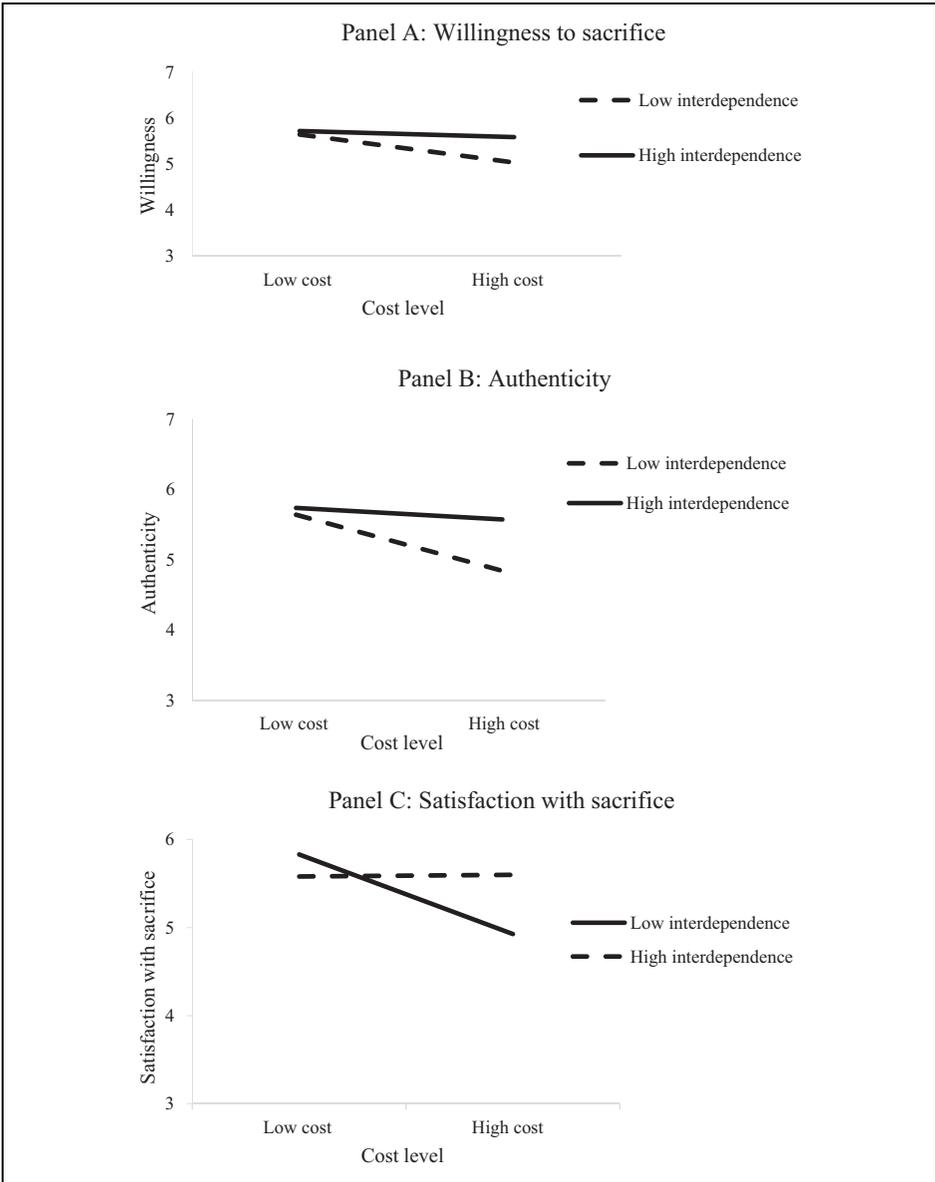


Figure 3. Interactions between interdependent self-construal and costs to the self in Study 2.

### General discussion

As relationships develop and romantic partners learn to coordinate their personal interests, they must inevitably make sacrifices for each other. Many studies have now documented the critical role that sacrifice plays in sustaining satisfying and long-lasting

**Table 4.** Results of the interdependent self-construal by cost interactions with various control analyses in Study 4.

	Willingness	Authenticity	Satisfaction with sacrifice
Relationship commitment	.17 (.09) <sup>+</sup>	.17 (.09) <sup>+</sup>	.25 (.08)**
Independent self-construal	.17 (.09) <sup>+</sup>	.17 (.09)*	.25 (.08)**
Relationship satisfaction	.17 (.09) <sup>+</sup>	.17 (.09)*	.26 (.08)**
Emotional suppression	.17 (.09) <sup>+</sup>	.17 (.09) <sup>+</sup>	.25 (.08)**

Note. Numbers outside the parentheses are unstandardized  $\beta$ s and numbers inside the parentheses are standard errors.

\*\* $p < .001$ ; \* $p < .01$ ;  $p < .05$ ; <sup>+</sup> $p < .10$ .

romantic bonds (Impett, Gable, & Peplau, 2005; Impett et al., 2012; Kogan et al., 2010). Yet little is known about how people make the decision to overcome personal costs to sacrifice for their partner. In a cross-sectional study and a 14-day daily experience study, we showed that people who were lower in interdependent self-construal were less willing to sacrifice for their romantic partner when they perceived those sacrifices to be more costly, whereas people who were higher in self-construal were equally willing to make high- and low-cost sacrifices. Further, those who were lower in interdependent self-construal felt less authentic about making more costly sacrifices, which in turn led them to feel less satisfied with the sacrifices that they chose to make, whereas highly interdependent individuals felt equally as authentic and satisfied when making both high- and low-cost sacrifices.

Given that this work is correlational in nature, we sought to rule out several alternative explanations in order to bolster our confidence in our effects. First, we showed that the effects are specific to interdependent self-construal by controlling for independent self-construal in our analyses. With this analysis, all of our results remained significant, with the exception of the interaction between interdependent self-construal and costs to the self predicting authenticity, which became marginal. Second, we controlled for relationship satisfaction to ensure that our results are not due to differences in satisfaction. Indeed, when we ran these analyses, all of our results remained significant. Third, we controlled for commitment in order to rule out the possibility that commitment could be playing a role in our results. In these analyses, all of our results remained significant, with the exception of the interaction between interdependent self-construal and costs to the self predicting authenticity, which became marginal. Fourth, we controlled for emotional suppression in our analyses, and as we expected, all of our results remained significant. Finally, in order to rule out the possibility that those high versus low in interdependent self-construal perceive and rate costs differently, we had a team of coders rate the objective costs of each sacrifice in both studies. As we expected, we found no differences between these objective ratings of sacrifice and the more subjective ratings people made of their own sacrifice based on people's levels of interdependent self-construal, suggesting that perceptual biases cannot account for our results and instead highly interdependent people know that they are incurring relatively high personal costs but feel authentic doing so because of the benefit to their romantic partner.

### *Theoretical contributions*

This work contributes to a growing literature on the role of interdependent self-construal in shaping sacrifice in romantic relationships. Past research has shown that people high in interdependent self-construal do not experience emotional or relationship costs when sacrificing for avoidance goals (Impett, Le, Asyabi-Eshghi, Day, & Kogan, 2013) or when suppressing negative emotions during sacrifice (Le & Impett, 2013). However, to date, no research has examined the role of interdependent self-construal in determining how willing people are to sacrifice and how they actually feel about their decision. While past research has shown that greater willingness to sacrifice is associated with higher relationship satisfaction and stability (Van Lange, Agnew, et al., 1997; Van Lange, Rusbult, et al., 1997), the present research sheds light on who is actually most likely to reap benefits from being willing to sacrifice in the face of high costs. Further, this research suggests that highly interdependent people may be more willing to make costly sacrifices in romantic relationships and feel more satisfied with making them because doing so maintains the relational harmony that they value so highly (Elliot et al., 2001).

### *Limitations and future directions*

These two studies have several limitations that give rise to important directions for future research. First, in order to ensure that this research is ecologically valid, we studied real sacrifices that people made for their partner in the past (Study 1) and daily over the course of 2 weeks (Study 2). As such, we focused on daily sacrifice, and the results may not be generalizable to larger, more life-altering sacrifices such as moving to a new city or giving up a valued career path for a partner. There might be a maximum level of personal costs that highly interdependent people are willing to incur before their willingness to sacrifice and satisfaction when doing so begin to decline, and future research is needed to determine the boundary conditions of these effects.

Second, both studies relied on correlational research methods. As such, we do not know whether having an interdependent self-construal causes people to be more willing to sacrifice and feel more satisfied with sacrifice in the face of high personal costs. Some researchers have been successful at priming or experimentally manipulating self-construal (for a review, see Oyserman & Lee, 2008). If we can get people to construe the self in more interdependent terms, we may be able to boost willingness to sacrifice and satisfaction with sacrifice to the ultimate benefit of relationships.

Third, in Study 2, we used an undergraduate student sample, and although the sample did include a reasonable age range (17–43 years), the majority of our participants were young adults. Indeed, this may limit the generalizability of our findings to older adults. We tried to address this limitation by testing our hypotheses in Study 1, which uses a sample with an age range that is more representative of the general population (age range: 18–70 years); however, it would still be useful to confirm these results in additional studies that combine daily experience sampling methods with wider age ranges.

Fourth, both studies included data from only one partner, preventing us from knowing how people feel when their romantic partner sacrifices in the face of high personal costs. We expect that the effects would extend to romantic partners, and it is possible that

romantic partners would feel even more satisfied with the sacrifices they receive if they perceive that their partner has authentically and enthusiastically incurred personal costs to meet their needs (Impett et al., 2012; Joel et al., 2013). Critically, a dyadic perspective could also provide more insight into why we failed to observe a significant interaction between interdependent self-construal and costs in predicting whether or not people actually chose to sacrifice in the daily diary study. Obtaining reports of daily sacrifice from both partners would allow us to test three possible explanations for this null effect. First, highly interdependent people may have been willing to make a sacrifice that was no longer necessary, for example, if their partner decided that they no longer wanted whatever benefit the person was willing to provide. Second, it is possible that highly interdependent people are paired with highly interdependent partners, and thus even though both partners may have been *willing* to sacrifice, only one partner needed to do so to resolve the conflict of interest in the relationship. Third, participants may have been underreporting instances in which they had an opportunity to sacrifice but ultimately chose not to do so, perhaps due to socially desirable responding.

This research also provides evidence for the unique predictive validity of the interdependence subscale of the self-construal scale (Singelis, 1994). In the present research, we show the predictive utility of the self-construal scale and suggest that it continues to have value to close relationships researchers. Interdependent self-construal is closely related to a number of other constructs in the relationship science literature, including relational interdependent self-construal (Cross et al. 2000) and relationship identification (Linardatos & Lydon, 2011). In the present research, we chose to focus on interdependent self-construal, because of past research that has documented a link between interdependent self-construal and authenticity (Impett et al., 2013; Le & Impett, 2013). Although we do not expect that our pattern of results would replicate if interdependent self-construal was replaced with either of these constructs, we think that there would be a great deal of value in closely examining these three constructs together and developing a more thorough understanding of both how they are similar and how they are different from one another.

## Conclusions

While existing research suggests that people should be less willing to make sacrifices that they find to be more as opposed to less personally costly, the current findings suggest that not everyone is equally sensitive to the personal costs of sacrifice. Two studies indicate that highly interdependent people are just as willing to sacrifice for a romantic partner and feel satisfied and authentic about their decision even when the costs of doing so are high.

## Appendix I

### *Instructions provided to participants in Study I*

Research shows that in romantic relationships, there are often times when partners want different things. When situations like this arise, it is common for one romantic partner to sacrifice what they would like for the benefit of the other. For example, you could walk the

dog in the morning so that your partner can sleep in, or decide not to go golfing so that you and your partner can spend more time together. However, there are also times when we decide NOT to make sacrifices for our romantic partners, for example, your partner could ask you to come on a long drive to keep him or her company, and you could decide that you would like to see your friends instead. We are interested in understanding how you make decisions to either make, or not make sacrifices like these for your own romantic partner.

Now, please take a moment and think back to the most recent time that you decided to make a sacrifice for your romantic partner. In as much detail as possible, please describe the situation.

## Appendix 2

### *Sacrifice information sheet provided to participants in Study 2*

We are interested in understanding how you make decisions about whether or not you will give up what you want—or *sacrifice*—for your romantic partner in situations in which you and your partner want different things.

A sacrifice is any time when you could have either (1) *given up something that you did want to do* (e.g., spend time with your friends) (2) *done something that you didn't particularly want to do* (e.g., hang out with your partner's friends) in order to benefit your romantic partner.

Since this is our central interest, each day for 14 consecutive days, we will ask you: "Did you have an *opportunity* to make a sacrifice for your romantic partner today?" When you read this question, think back carefully through your day, and try to recall any situations with your romantic partner when you *could have made* a sacrifice, even if you decided in the end not to do it.

Consider the following examples of opportunities for sacrifice:

Your partner asked you to spend the evening at the library helping them study for an exam rather than relaxing and watching your favourite tv show.

This would be an opportunity to make a sacrifice for your romantic partner because you might choose to give up something that you want (a night at home relaxing) in order to provide your partner with something they want (some help studying for an exam).

You sensing that your partner has had a bad day, and considering whether or not to make an extra stop to see them on the way home, even though it will make your commute longer, regardless of what you decide to do in this situation.

This would be an opportunity to sacrifice for your romantic partner because even though your partner did not *ask* you to make a sacrifice for them, you still have the opportunity to give up something that you want (e.g., a faster commute home) to provide something that they want (e.g., telling you about their day).

Importantly, it is not necessarily better or worse to decide to make a sacrifice for your romantic partner, so just do your best to answer the questions in this study as accurately as possible. If you have any questions about this study, please do not hesitate to contact us at [uoftrelationshipsstudy@gmail.com](mailto:uoftrelationshipsstudy@gmail.com).

Once again, thank you for your participation!

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## Note

1. We also measured interdependence using the Relational Interdependent Construal Scale (Cross, Bacon, & Morris, 2000). While interdependent self-construal was significantly correlated with relational interdependent self-construal in both studies ( $r = .52, p < .001$  in Study 1 and  $r = .44, p < .001$  in Study 2), our results do not replicate if we replace interdependent self-construal with relational interdependent self-construal, with one exception: In Study 1, relational interdependent self-construal did interact with costs of the sacrifice to predict willingness to sacrifice ( $b = .19, SE = .08, p = .029$ ).

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