

Running head: GENUINE GIVING OR SELFISH SACRIFICE?

Genuine Giving or Selfish Sacrifice?

The Role of Commitment and Cost Level upon Willingness to Sacrifice.

Chantal Whitehouse and Mark Van Vugt

University of Southampton

European Journal of Social Psychology, 33, 403-412

Details of author to check proofs:

Chantal Whitehouse

Department of Psychology, Southampton University, Highfield, Southampton, SO17

1BJ, United Kingdom.

Electronic mail may be sent to cw495@soton.ac.uk.

Telephone 023 80592917.

Abstract

This research uses interdependence theory to examine the link between commitment, costs, and willingness to sacrifice within interdependence dilemmas occurring in intimate relationships. Advancing prior work, which has demonstrated a positive association between relationship commitment and willingness to sacrifice, we investigated the moderating role of the cost of sacrifice in a scenario-based survey. Consistent with our hypotheses it was found that in high cost interdependence dilemmas, significantly greater levels of sacrifice were observed from individuals classified as high in commitment than from individuals classified as low in commitment. In contrast, in low cost dilemmas, significantly higher levels of sacrifice were demonstrated among individuals classified as low in commitment than among individuals classified as high in commitment.

Genuine Giving or Selfish Sacrifice?

The Role of Commitment and Cost Level upon Willingness to Sacrifice.

When we enter into a relationship with a significant other we choose to share a degree of our self and our life with them and in turn they share a degree of their life with us. Invariably there will be times of negative circumstance or occasions in which what is best for one individual will directly conflict with what is best for the other. Couples need to be able to negotiate these times successfully if their relationship together is to survive and grow. What motivates an individual's behaviour in an interdependence dilemma with their partner? In particular in what circumstances are they willing to sacrifice direct self-interest and exhibit pro-social behaviour for the good of their partner or their relationship? These questions are important, as this is the type of behaviour, which promotes the endurance of an intimate relationship.

Past research has identified relationship commitment as being a key factor in shaping motivation and behaviour in interdependence dilemmas (Van Lange, Agnew, Harinck, & Steemers, 1997; Van Lange, Rusbult, Drigotas, Arriaga, Witcher & Cox, 1997; Wieselquist, Rusbult, Foster & Agnew, 1999). These studies have suggested a positive, linear relationship between commitment and willingness to sacrifice. The present research uses interdependence theory (Kelley & Thibaut, 1978) to show that this is not the full story, that there are in fact circumstances in which low levels of commitment are associated with a greater likelihood of sacrifice. We propose that the cost level involved in an interdependence dilemma is an important factor, especially for individuals who are relatively low in commitment. For these individuals we propose that pro-relationship transformation of motivation, resulting in an increased willingness to sacrifice, will be more likely to occur when the cost level involved is low.

Interdependence Dilemmas

An interdependence dilemma within an intimate relationship can be defined as an occasion when partners' preferences do not match up. That is, what is good or best for one partner is in conflict with what is good or best for the other and for the relationship as a whole. In the social-psychological literature such situations are commonly referred to as social dilemmas as individuals are forced to choose between the option most beneficial to them and the option most beneficial to the dyad or the group involved (Komorita & Parks, 1994; Van Lange, Liebrand, Messick, & Wilke, 1992). For example, it may be in your career's interest to accept a job offer which involves regularly working away from home. Yet, you may decide to sacrifice your career by accepting a less attractive job offer closer to home as you do not want your relationship to suffer.

According to interdependence theory there are three parameters that exert control over an individual's outcomes in interdependence dilemmas, reflexive control (RC), fate control (FC) and behavioural control (BC) (Kelley & Thibaut, 1978). Reflexive control reflects the degree to which an individual can directly influence his or her own outcomes independent of their partner's behaviour. Fate control refers to the degree to which an individual's outcomes are directly dependent on their partner's behaviour. Finally, behavioural control refers to the degree to which the individual's outcomes are influenced by the combination of their own and their partner's actions.

In the present research we are particularly interested in the fate control-component of interdependence dilemmas as this determines how costly a particular behaviour is for the outcomes of one's partner. Hence, fate control represents the degree of sacrifice that an individual could potentially make for their partner or relationship. For example, the decision to accept the attractive job offer involves a

relatively high level of fate control, because this decision bears a strong influence on the relationship outcomes. Accordingly, rejecting the job offer involves a high degree of sacrifice. In contrast, an interdependence dilemma regarding whose favourite programme to watch on television involves minor costs and requires a relatively low level of sacrifice.

Transformation of Motivation and Sacrifice

So what is it that makes an individual sacrifice pursuing immediate self-interest in an interdependence dilemma and choose the interests of their partner or the relationship instead? A framework for understanding this process is provided by interdependence theory (Kelley & Thibaut, 1978). According to interdependence theory, in an interdependence dilemma our immediate self-centred preferences are labelled as the given matrix. For example, if Peter's friends invite him to the pub to watch the football on his partner Jane's birthday his given preferences may be to go and watch the match. However, a number of other broader considerations or motivations may shape initial behavioural preferences. Peter may decide it would be best to sacrifice the football because he wants Jane to be happy. The modified behavioural preferences are labelled the effective matrix, and the process of moving from the given matrix to the effective matrix is known as transformation of motivation.

Transformation of motivation can produce a variety of different outcomes (Rusbult & Van Lange, 1996). It may adjust the preferences of maximising one's own interests (MaxOwn) to maximising the partner's best interests (MaxOther) or maximising the best joint outcomes for self and partner (MaxJoint). Led by motivations such as revenge an individual may even sacrifice direct self interest in order to maximise the difference between their own outcomes and their partner's

interests (MaxRel). Transformation of motivation to a particular outcome (e.g. MaxOther) could be due to a variety of different motivations. For example Peter may sacrifice his given preferences for the football because he is motivated by making Jane happy. Alternatively, he could be motivated to change his given preferences by a fear of the repercussions of watching the match on her birthday, or a sense of obligation if she has made a similar sacrifice in the past. In all likelihood there may be a combination of these considerations responsible for Peter's change from given matrix preferences to effective matrix preferences.

The Role of Relationship Commitment

Relationship commitment can be defined as the tendency to feel psychologically attached to a relationship and have a strong desire to maintain it (Rusbult, 1980, 1983). Following the logic of interdependence theory, Rusbult's investment model (1980, 1983) proposed that relationship commitment is contingent upon both relationship satisfaction (i.e. the relationship provides low costs, high rewards and exceeds their generalised expectations or comparison level [CL]) and the quality of alternatives the individual has (i.e. the gratification of an individual's needs by other sources [CL-Alt]). Furthermore, relationship investments (e.g. time, emotional effort, shared memories or possessions) must be added to the equation. The investment model predicts that as satisfaction level and investment size increase and alternatives decrease, an individual will become more dependent on their relationship and as a result will have increased commitment towards their relationship. The predicted relationship between these variables has been tested and demonstrated on numerous occasions (e.g., Rusbult, 1980; Rusbult, 1983; Rusbult, Johnson & Morrow, 1986; Rusbult, Martz, & Agnew, 1998).

However, commitment appears to be something more than the mere additive effects of satisfaction, investments, and alternative. It has been shown to account for unique variance in pro-relationship behaviour beyond that which is accounted for by satisfaction, investments and alternatives (Rusbult, 1983; Van Lange, Rusbult *et al.*, 1997). Commitment is qualitatively different from the structural state of dependence from which it is derived. Rather than a mere cost benefit analysis of the factors involved, commitment is a psychological construct, which brings about a different way of thinking and feeling about a relationship.

Past studies have demonstrated a positive association between commitment and pro-relationship transformation of motivation to sacrifice (Van Lange, Agnew *et al.*, 1997; Van Lange, Rusbult *et al.*, 1997; Wieselquist *et al.*, 1999). They suggest that this positive association is due to a number of motivations or considerations that are associated with commitment. Firstly highly committed individuals are more dependent on their partners and need their relationship more (as a result of high investments, high satisfaction and poor alternatives). Because of this, committed individuals should be more willing to sacrifice direct self-interest to sustain their relationship. Secondly, committed individuals develop a long-term orientation to reciprocal co-operation. When faced with the decision of whether or not to sacrifice, committed individuals more strongly consider the future of the relationship and the importance of developing patterns of reciprocal co-operation. Thirdly, commitment involves psychological attachment to a partner that fosters the belief of “what is good for my partner is good for me” (cf. Aron, Aron, & Smollan, 1992). Hence an individual may sacrifice to make their partner happy as this makes them happy. Finally commitment may include a collectivistic communal orientation (cf. Agnew, Van Lange, Rusbult, & Langston, 1998) in which an individual responds in an

unconditional manner to a situation that warrants sacrifice (i.e. sacrificing simply because that's what his/her partner needs).

Yet, previous studies have mainly focused on dilemmas that involve relatively high levels of cost to the individual (Van Lange, Agnew *et al.*, 1997; Van Lange, Rusbult *et al.*, 1997; Wieselquist *et al.*, 1999). One study has used dilemmas involving low cost activities or sacrifice (Van Lange, Rusbult *et al.*, 1997), however the use of statements such as, "imagine that it was necessary to engage in this activity to maintain and improve your relationship" suggested severe consequences of not sacrificing. These dilemmas could therefore be considered to be relatively high in terms of fate control.

While we do not doubt the motivations discussed in previous studies are associated with high levels of commitment and, in turn, promote sacrifice, this is not the whole story. Relationship literature suggests that sacrifice may also be enhanced by other motives, even those that are associated with low levels of commitment. For example, in early stages of a relationship, when commitment is likely to be lower, individuals may attempt to put themselves in a favourable light by co-operating more in matters of small cost (e.g. offering to wash up) than they may when the relationship is more secured by commitment (cf. impression management; Tetlock and Manstead, 1985). Murray & Holmes (1997) demonstrated that relationships were more likely to persist the stronger individuals' initial idealised views about their partner were. It could be of significant importance, therefore, for individuals to display overtly pro-social behaviour in the early stages of their relationship in order to influence these impressions. For individuals who are high in commitment, impression management may be considered less relevant for two reasons. Firstly they are more likely to have disclosed more actual information about themselves (investments) that would render

deception ineffective. Secondly as partners in high committed relationships are more dependent on their relationship than partners in low committed relationships, they are less likely to need to use impression management as a means of convincing their partner to persist with the relationship.

A second motive associated with low levels of commitment that may promote sacrifice is short-term reciprocity. Clark and Mills (1979) made a distinction between two types of relationship that they labelled, communal and exchange. A communal relationship is categorised by the giving of benefits in response to the other's needs without the expectation of receiving comparable benefit in return. In contrast an exchange relationship is based on the giving and receiving of benefits with the expectation of comparable repayments (e.g. such as the relationship between business associates). Relationships that are low in commitment may have more of the characteristics of an exchange relationship and less of the characteristics of a communal relationship than relationships that are high in commitment. If this is the case then low committed individuals will be motivated to sacrifice in order to receive comparable benefits in exchange. This type of short-term reciprocity differs from the long-term orientation to reciprocal co-operation developed by high committed individuals. It is self focused, concerned with what the self will get in exchange for its sacrificial behaviour. In contrast the patterns of reciprocity developed by high committed individuals are concerned with the benefit and development of the relationship. Rather than thinking, "I will benefit if I sacrifice", the thinking here is, "the relationship will benefit if we both make sacrifices".

A third motivation promoting pro-relationship behaviour among low committed individuals may be to achieve positive feelings associated with behaving in a pro-social manner or to alleviate the negative emotions associated with selfish

behavioural choices (cf. Batson, 1987). While it could be argued that this could also be a valid motivation for highly committed individuals, if they are already making sacrificial choices for other reasons (e.g. as a result of collectivistic communal orientation) they may be less likely to experience negative emotions such as guilt on the occasions when they choose not to sacrifice. As highly committed individuals are more focused on the well being of the dyad rather than the self, feeling good about themselves is more likely to be a secondary benefit of sacrificing rather than a primary motivation.

These motivations and considerations guiding low committed individuals' actions could all be considered more or less selfish. Yet, they may result in sacrificial behaviour for the benefit of the partner (MaxOther) or the relationship (MaxJoint) in much the same way as the sacrificial behaviour of high committed individuals.

Cost Level – Getting the Right Setting for Sacrifice

In what situations can we expect low committed individuals to demonstrate sacrificial behaviour as a result of these motivations? An interdependence dilemma can be viewed as a cost benefit analysis process to determine whether or not transformation of motivation will occur. When the cost level is high the costs for a low committed individual to sacrifice will out-way the benefits. For example, imagine an individual who was in a relationship that was relatively low in terms of commitment, who needed a loan of £500 to cover their rent. It would be unwise for their partner to sacrifice this money on their behalf if merely for the sake of making a favorable impression. This would be a high sacrifice to them for little reward, and if the relationship is low in commitment there is a greater likelihood of it ending (Rusbult, 1983), which would result in a complete loss of this investment.

Therefore, in terms of cost benefit analysis, the best situations for low

committed individuals to realise their “selfish” motivations would be interdependence dilemmas where there is relatively little cost to them. We would therefore expect to see high rates of sacrifice among low committed individuals when the cost level is low, and low levels of sacrifice when the cost level is high.

High committed individuals would be much more prepared to face the high levels of sacrifice involved in a high cost interdependence dilemma because they are motivated more by the dyad and less by the self than low committed individuals. For example in the situation regarding the £500 rent loan, if they are primarily motivated by their partner’s happiness, not sacrificing would mean they have to see their partner suffer. We would therefore expect to see more sacrifice from high committed individuals than low committed individuals in high cost interdependence dilemmas.

This is not to say that the same high commitment motives could not also shape transformation of motivation in low cost dilemmas, however, in these dilemmas we would expect the rates of sacrifice demonstrated by low committed individuals to be higher. This is because the advantages for low committed individuals sacrificing in low cost dilemmas are greater due to the fact these dilemmas produce the only real viable opportunities for sacrifice in terms of successful cost benefit analysis. High committed individuals on the other hand, being motivated by the dyad, may demonstrate a tendency to sacrifice more when “it really matters.”

Research Design and Hypotheses

The present research was intended to test the relationship between commitment and willingness to sacrifice in interdependence dilemmas that varied in terms of costs and sacrifice involved. We conducted a scenario-based survey in which the interdependence dilemmas were represented by hypothetical scenarios which participants were asked to respond to. Half of the scenarios were constructed to

represent dilemmas involving high costs and half to represent dilemmas involving low costs. Because we felt that, given the opportunity, relationship research should ideally be conducted with a sample involved in relatively stable relationships, we decided not to use an undergraduate student sample for this study.

We hypothesised that in the high cost dilemmas there would be higher levels of sacrifice from individuals classified as high in commitment than from individuals classified as low in commitment (Hypothesis 1). Conversely, in interdependence dilemmas involving low levels of cost we predicted higher levels of sacrifice from individuals classified as low in commitment than from individuals classified as high in commitment (Hypothesis 2).

Method

Participants and Design

Participants were 110 individuals (77 women, 33 men) who were 24.41 years old on average ($SD = 2.54$). Most were postgraduate students in Britain (85.5% PhD students, 14.5% in various forms of employment), and the majority were British (78.1% British, 21.9% from 12 other nationalities). Participants' relationship length ranged from one month to seven years (average relationship length was approximately two years). They participated in a questionnaire-based study using hypothetical situations that examined the effect of both level of commitment (high vs. low; between participant variable) and cost level of the interdependence dilemma (high vs. low; within participant variable) upon individuals' levels of sacrifice.

Procedure

Participant recruitment. An email advertising the study and the requirements for participation was sent to university mailing lists for Postgraduate and Masters students in various universities across England. As an incentive to taking part the

advert said that all participants would be entered into a raffle with a first prize of £50 to be won (and three runners up prizes of £10 each). Individuals who were interested replied to receive additional information about the study and volunteer. They were then mailed a questionnaire, which they completed at their convenience and returned in the stamped addressed envelope provided.

The criteria for participation into the study, which were specified in the email, were as follows. First participants needed to be currently in an exclusive, heterosexual romantic relationship and aged between 22 and 32. This particular ten year range was chosen in order to exclude undergraduate students as we were concerned that at this time of their lives their relationships may be more likely than the general population to be either casual or long distance. Second individuals were not allowed to take part if they were either married or cohabiting. It was felt that cohabitation and marriage may bring about a qualitatively different level of interdependence and so it was best to control for this fact by focusing only on non-cohabiting dating couples. Also many of the hypothetical scenarios used in the questionnaire would have a different meaning to couples that were sharing finances or accommodation. Finally, individuals had to be seeing their partner at least once a week (on average) in order to be included in the study. We wanted to avoid long distance relationships, as there was a concern that sacrifice levels and motivations for sacrifice might differ for individuals who saw their partners infrequently.

Of the 177 questionnaires sent out 116 were returned (a response rate of 66%). Of the 116 that were returned four participants' data were not included because they did not meet the requirements for participation in this research (i.e. currently in a heterosexual, non-cohabiting relationship, see above). Two participants failed to respond to a significant amount of questions within their questionnaires. Their data

were therefore also removed from the overall data set, leaving a total of 110 participants.

Creating and piloting interdependence scenarios. Originally, thirty-five scenarios representing interdependence dilemmas were generated based on a number of unstructured interviews with several people currently in romantic relationships. Of these, 20 scenarios aimed to represent dilemmas in which the cost involved was relatively low, while the remaining 15 aimed to represent dilemmas in which the cost involved was relatively high. Scenarios contained events that could occur at any time in a relationship, so that it would be possible for all participants to imagine their current relationship facing this particular dilemma. The preliminary list of scenarios covered many different types of sacrifice, for example, giving money to partner, sacrificing a friendship, or seeing your partner's choice of film at the cinema over your own.

The 35 scenarios were tested on their suitability for use in the main study via a pilot questionnaire administered to twenty individuals. Following each scenario three questions were asked in the pilot questionnaire. The first question checked the level of costs that the scenarios were perceived to involve, "What degree of sacrifice do you feel this scenario represents?" Respondents were required to rate their answers on a nine point Likert scale (1 = extremely low and 9 = extremely high). The second question checked that the scenario was not biased to one choice, "What level of dilemma/conflict is involved - are the choices/consequences equally balanced making it a difficult decision or is the question phrased in a way that strongly biases a particular choice (if so which one)" (1 = "extremely biased to one decision" and 9 = "extremely well balanced"). Finally we asked whether people had any comments on the scenario.

As a result of the pilot study we modified several of the scenarios following comments and suggestions and discarded 12 altogether. Seven scenarios were discarded because the cost involved was not clearly high or low (scenarios with a mean sacrifice rating between four and six were discarded). One scenario was discarded because it was considered too biased towards one response, and one was discarded as a result of too much variance in level of sacrifice ratings. Finally we discarded two scenarios because they were potentially problematic (one, which would be problematic for someone without a car, concerned participants' views on cars as a form of transport and the other was a scenario which everyone would compromise on).

After this process there were 24 scenarios remaining, 12 involving a low level of cost and 12 involving a high level of cost (the mean score rating cost for the low cost dilemmas was 3.22, $SD = 0.69$, and for the high cost dilemmas was 7.35, $SD = 0.99$). These scenarios are shown in full in the Appendix .

Main Study

Questionnaire. Each questionnaire pack that was sent out consisted of a Relationship Questionnaire, a prepaid envelope to return the completed questionnaire, and a consent form. The consent form explained that their information would be kept confidential and their responses remain anonymous, and gave them the experimenter's contact details in case they had any further questions or concerns. The questionnaire itself had two main parts. Part one asked questions to gather information about the participant and their current relationship, while part two consisted of the 24 interdependence dilemmas (12 high; 12 low) and questions regarding each.¹

Instructions to participants. The first page of the questionnaire gave the participant a brief description of what the questionnaire consisted of and how they were to fill it in. They were told to answer all the questions as honestly as possible and assured that there were no “right” or “wrong” answers. Participants were asked to complete the questions independently without discussing the questions with anyone, especially not their partner. Furthermore they were told that if their partner had already taken part in the study they were not to complete a questionnaire themselves.

Dependent Measures

Demographics and current relationship status. Questions were asked to ascertain participants’ age, gender, nationality, sexual orientation, occupation, and religion. They were also asked, for purposes of control, how long they had been together with their current partner, whether it was an exclusive relationship, and whether they were engaged, married, cohabiting, or had children together.

Measures of commitment and level of interdependence. Level of commitment was measured using five items that have been used in previous work on commitment (Drigotas, Rusbult and Verette, 1999; Rusbult, 1983; Rusbult, Verette, Whitney, Slovik, and Lipkus, 1991) e.g. “To what extent are you attached to your partner?”, “To what extent are you committed to your relationship?” (1 = not at all, 9 = extremely, $\alpha = .85$). We then developed a single measure of commitment by averaging the responses on the commitment items.

Also included were items measuring the investment model variables that lead to commitment (Rusbult *et al.*, 1998). Five items measured satisfaction (e.g. “My relationship is close to ideal”, “Our relationship makes me very happy”, 1= do not agree at all, 9 = agree completely; $\alpha = .81$) and five items measured quality of alternatives (e.g. “The people other than my partner with whom I might become

involved are very appealing”, “My needs for intimacy, companionship, etc, could easily be fulfilled in an alternative relationship”, 1= do not agree at all, 9 = agree completely; $\alpha = .79$). Investment size was also measured with five items (e.g. “ I feel very involved in our relationship – like I have put a great deal into it”, “I have put a great deal into our relationship that I would lose if the relationship were to end”, 1= do not agree at all, 9 = agree completely; $\alpha = .78$). We developed a single measure of each construct by averaging the items designed to tap each variable.²

Commitment scores in the sample ranged from 3.00 to 9.00 with a mean score of 7.77 (SD = 1.28). For the purpose of analysis two approximately equal groups were created based on a median split of the commitment data.³ On the basis of this 53 individuals (48.2%) were classified as low committed, and 57 individuals (51.8%) were classified as high committed.⁴

Measure of costs and sacrifice within the scenarios. Before being presented with the scenarios participants were given instructions informing them that they would be faced with hypothetical scenarios involving varying degrees of sacrifice. They were told that in each case they should imagine themselves in the situation with their current partner and imagine how they would feel and behave in that situation.

There were a total of 24 scenarios, 12 that involved low costs and 12 that involved high costs (see Appendix). An example of a low and a high cost scenario are as follows:

Low cost: You’ve purchased a new book that you’ve been looking forward to reading. Before you can get started your partner reads the first chapter and asks to borrow it. Your partner is a particularly slow reader and will definitely not be returning it inside a month. How likely would you be to lend him/her the book before you’ve read it?

High Cost: Your partner is in a serious accident and after coming out of hospital will need daily practical care for at least six months. You could give up your job/studies to take care of him/her. How likely would you be to give up your job/studies to take care of him/her?

The presentation order of the 24 scenarios was randomly generated and this presentation order was kept constant for all the participants. Following the presentation of a scenario the participant was asked, “How big is the potential sacrifice for you in this situation?” This was rated on a nine point Likert scale (1 = extremely small, 9 = extremely large).

Willingness to sacrifice in the scenario was then measured in two ways. Firstly by asking participants to rate on a nine point scale how likely they would be to sacrifice in the particular dilemma (1 = extremely unlikely, 9 = extremely likely). Secondly they were asked to make a forced choice, whether they would sacrifice or not.

Results

Manipulation Checks and Descriptive Statistics

Before grouping the 12 low cost scenarios together and the 12 high cost scenarios together, levels of willingness to sacrifice were examined in the individual scenarios to check for floor and ceiling effects.⁵ Scenario seven (which was concerned with spending the full amount of money available on a gift for one’s partner rather than spending some on oneself), and scenario 16 (which involved getting up early in the morning to take one’s partner to the airport) both produced excessive rates of sacrifice (96.4% in both cases) and so were removed from further analyses. The ten remaining low cost scenarios were grouped together to produce one variable

representing low cost dilemmas. In the same way the 12 high cost scenarios were grouped together to produce one variable representing high cost dilemmas.

As a manipulation check for cost level, following each scenario participants were asked the question, “How big is the potential sacrifice to you in this situation?” (1= extremely small, 9= extremely large). A repeated measures ANOVA was conducted to check that the low cost scenarios had been given significantly lower cost ratings than the high cost scenarios.⁶ Furthermore, a 2 (commitment) x 2 (cost) ANOVA was conducted to ensure there was no significant difference between how the low and high commitment groups rated the costs involved within the low and high cost scenarios.

The dependent variable was the cost rating (on a scale of 1 to 9), the within subjects factor was dilemma type with two levels (low and high cost), and the between subjects variable was commitment classification with two levels (low and high). The analysis showed that the high cost dilemmas received significantly higher cost ratings ($M = 6.66$, $SD = 0.13$) than the low cost dilemmas ($M = 3.51$, $SD = 0.13$), $F(1, 108) = 379.61$, $p < .001$. The analysis also confirmed that there was no significant main effect of commitment on cost rating, $F(1, 108) < 1$, (low commitment group, $M = 5.08$, $SD = 0.14$; high commitment group, $M = 5.09$, $SD = 0.14$) or any interaction effect between commitment level and dilemma type, $F(1, 108) < 1$.

Main Analyses

It was hypothesised that there would be more sacrifice from high committed individuals than low committed individuals in the high cost dilemmas (Hypothesis 1). Furthermore, there would be more sacrifice from the low committed individuals than from the high committed individuals in the low cost dilemmas (Hypothesis 2).

Two measures of sacrifice were taken. The first asked participants how likely they were to sacrifice and was recorded on a nine point Likert scale (1 = extremely unlikely, 9 = extremely likely). These scores were then averaged across cost conditions so each participant had an average score for likelihood of sacrifice in low cost dilemmas and an average score for high cost dilemmas (scores were still based on the nine point Likert scale). The second measure of sacrifice was a forced choice measure in which participants had to choose whether to sacrifice or not. This binomial choice for each scenario was converted into a percentage across cost conditions (i.e. each participant had a percentage score reflecting their sacrifice in low cost dilemmas and a percentage score representing their sacrifice in high cost dilemmas).

These two measures of sacrifice were very highly correlated to one another in both the low cost dilemmas, $r(110) = .80, p < .01$, and the high cost dilemmas, $r(110) = .85, p < .01$. As the forced choice measure was an actual measure of sacrifice rather than an intention to sacrifice it was considered the best measure to test the hypotheses. Therefore the data derived from the forced choice measure were used in subsequent analyses.

A repeated measures ANOVA was conducted to test the effect of commitment upon sacrifice levels in low and high cost conditions. The dependent variable was the percentage of sacrifice (across the low or high cost dilemmas), the within subjects factor was cost level (low and high), and the between subjects variable was commitment classification (low and high).⁷

The analysis showed a significant effect of cost level on the percentage of sacrifice occurring, $F(1, 108) = 114.45, p < .001$. A significantly higher percentage of sacrifice choices occurred in the low cost dilemmas ($M = .72, SD = 0.16$) than in the high cost dilemmas ($M = .51, SD = 0.17$). There was no significant effect of

commitment classification upon overall percentage sacrifice, $F(1, 108) = 1.53$, $p > .05$ (low committed participants; $M = .60$, $SD = 0.18$; high committed participants; $M = .63$, $SD = 0.18$). However there was, as predicted, a significant interaction effect between commitment and cost level upon sacrifice, $F(1, 108) = 22.74$, $p < .01$, which supported our prediction.

A one way ANOVA was conducted to see between which conditions this significant difference occurred. As predicted by Hypothesis 1 there was significantly more sacrifice from individuals classified as high in commitment ($M = .57$, $SD = 0.15$) than from individuals classified as low in commitment ($M = .44$, $SD = 0.20$) in the high cost dilemmas, $F(1, 109) = 14.37$, $p < .01$. Furthermore there was significantly more sacrifice from individuals classified as low in commitment ($M = .75$, $SD = 0.16$) than from individuals classified as high in commitment ($M = .69$, $SD = 0.17$) in low cost dilemmas, $F(1, 109) = 3.99$, $p < .05$, thus providing support for Hypothesis 2. See Figure 1 for an illustration of these significant effects.

Further Analyses

We conducted two-way contingency analyses on each dilemma to determine which particular scenarios were responsible for the effects of commitment upon sacrifice levels in the different cost level conditions.⁸ The two variables were commitment level (low and high) and sacrifice (yes or no). Commitment level and sacrifice were significantly associated for two of the low cost dilemmas, and for six of the high cost dilemmas. Table 1 shows the results for these significant scenarios along with the percentage of low and high committed individuals sacrificing in these dilemmas. For all these dilemmas the significant difference in sacrifice between low and high committed individuals was in the direction we predicted, that is, in the low cost dilemmas there was a higher percentage of low committed individuals sacrificing

than high committed individuals, and in the high cost dilemmas the percentage of high committed individuals sacrificing was higher than the percentage of low committed individuals.⁹ For example, in the low cost dilemma regarding giving your partner your last Rolo, 92 percent of low committed individuals were prepared to make the sacrifice compared to a lesser 68 percent of high committed individuals. However in the high cost dilemma of giving up work to take care of your partner following a serious accident, only 40 percent of low committed individuals were willing to sacrifice compared to 68 percent of high committed individuals.

Discussion

Findings from this study revealed good support for our predictions regarding the interaction between commitment, cost level, and willingness to sacrifice. In the high cost interdependence dilemmas significantly greater levels of sacrifice were observed from individuals classified as high in commitment than from individuals classified as low in commitment. In contrast, in low cost dilemmas we found significantly higher levels of sacrifice among individuals classified as low in commitment than among individuals classified as high in commitment. The low and high cost dilemmas were not rated differently in terms of the cost levels involved by the low and high committed groups. This means we can conclude that the differences in willingness to sacrifice were not due to different perceptions in the sacrifice involved.

The Interdependence Dilemmas

When comparing the interdependence dilemmas, significant differences were found between low and high committed individuals on some of the scenarios but not others. Why may this be? In terms of the high cost dilemmas, significant differences in levels of sacrifice were found in half of the scenarios. It is difficult to identify a

possible, common reason for the six scenarios not producing significant results. An observation regarding two of these non-significant dilemmas is that they involved sacrifice of another relationship as opposed to making material sacrifices or sacrificing time and effort. The one dilemma involved sacrificing a much-loved pet, and the other a best friend. We can therefore conclude that there may be a greater difference in willingness to sacrifice between low and high committed individuals when the cost involved is material rather than when it is emotional.

In the low cost dilemmas, there are two scenarios that produced significant sacrifice differences between low and high committed individuals. These were regarding film preference at the cinema, and giving your partner your last Rolo. Participants overall, rated these two scenarios as being the lowest in terms of the cost level involved. Thus, it appears that low committed individuals only sacrifice more when the cost involved is extremely small. This fits in well with the idea of impression management shaping the behaviour of low committed individuals. As these scenarios involve romantic gestures, they may have regarded it as important to show themselves in the best possible way. In contrast, high committed individuals may have considered these issues too trivial to warrant sacrifice, perhaps believing these gestures would have little impact on the relationship well-being.

Limitations and Directions for Future Work

Before drawing some final conclusions, it is important to comment upon some of limitations of this research. One important limitation of this research centres on the problems related to the use of the scenario paradigm. This methodology requires individuals to report how they would behave if faced with a given situation. We cannot therefore guarantee that what individuals think they would do in a hypothetical situation, or what they choose to report they would do, completely corresponds with

what their actual behaviour would be. Prior research, however, has demonstrated an association between self-reported sacrifice and partner reports of the person's sacrifice as well as with a behavioural measure of sacrifice (Van Lange, Agnew *et al.*, 1997). We therefore feel confident in the use of the paradigm as a preliminary research strategy onto which further studies can be built. It would be valuable for future studies to attempt replication of the current work both in the field, where actual cases of sacrifice between couples could be assessed.

A second limitation of the research regards assessment of the motivations underlying sacrificial behaviour of low committed individuals. Although suggestions have been made in this study as to the possible motivations promoting pro-social transformation of motivation in low committed individuals, these hypotheses need to be scientifically investigated. It would be of considerable interest to be able to demonstrate what "selfish" motives underlie what appears to be selfless behaviour. One possibility is to test the hypothesis that low committed individuals are motivated by making a favourable impression on their partner. This could be done by comparing their sacrificial behaviour in various interdependence dilemmas whilst varying whether the sacrificial act is seen or unseen by their partner. If making a favourable impression on a partner were indeed a primary motivation for sacrifice, we would expect to see significantly higher levels demonstrated by low committed individuals when the sacrificial act is overt to the partner than when it is covert.

A final limitation concerned the sample that was used. The sample exhibited limited variance in terms of commitment level, scoring highly, in general, on their ratings of commitment. This variance could have been increased by using a more varied sample in terms of age, and also by including married and cohabiting individuals. However, for the purposes of control (and for reasons relating to

relevancy of the scenarios) it was considered prudent to restrict the sample to heterosexual individuals, aged between 22 and 32, who were not married or cohabiting. Although these specifications were necessary for this research it is of obvious importance, and interest, to extend the work to more varied samples.

We do, however, consider it a strength of the research that a non-undergraduate sample was used. Unlike many other relationship studies (e.g. Clark, & Dubash, 1998; Simpson, Ickes, & Grich, 1999; Sprecher, 1998) we wanted to avoid a relatively young sample of people that may have higher numbers of relatively new or long distant relationships compared with the general population.

Conclusion

The findings of this study demonstrate that the relationship between commitment and willingness to sacrifice is not straightforward as has been suggested by previous literature (Van Lange *et al.*, 1997). This research has extended previous work by demonstrating that although commitment is associated with high levels of sacrifice in dilemmas involving a high level of cost, in low cost dilemmas commitment is negatively associated with willingness to sacrifice. This study has demonstrated that in order to predict the likelihood of sacrifice in a given situation, one must consider the level of costs involved in a dilemma as well as the individual's level of commitment.

References

- Agnew CR., Van Lange PAM, Rusbult CE, Langston CA. 1998. Cognitive interdependence: Commitment and the mental representation of close relationships. *Journal of Personality and Social Psychology* **74**: 939-954.
- Aron A, Aron EN, Smollan D. 1992. Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology* **63**: 596-612.
- Batson CD. 1987. Prosocial motivation: is it ever truly altruistic? In *Advances in Experimental Social Psychology, Volume 20*, Berkowitz L (ed). Academic Press: San Diego, CA; 65-122.
- Clark MS, Dubash P. 1998. Interest in another's consideration of one's needs in communal and exchange relationships. *Journal of Experimental and Social Psychology* **34**: 246-264.
- Clark MS, Mills J. 1979. Interpersonal attraction in exchange and communal relationships. *Journal of Personality and Social Psychology* **37**: 12-24.
- Drigotas SM, Rusbult, CE, Verette J. 1999. Level of commitment, mutuality of commitment, and couple well being. *Personal Relationships* **6**: 389-409.
- Kelley HH, Thibaut JW. 1978. *Interpersonal Relations: A Theory of Interdependence*. Wiley: New York.
- Komorita S, Parks CD. 1994. *Social Dilemmas*. IA Brown and Benchmark: Dubuque.
- Oskamp S. 1971. Effects of programmed strategies on cooperation in the prisoner's dilemma and other mixed-motive games. *Conflict Resolution* **15**: 225-259.
- Rusbult CE. 1980. Commitment and satisfaction in romantic associations: a test of the investment model. *Journal of Experimental Social Psychology* **16**: 172-

186.

Rusbult CE. 1983. A longitudinal test of the investment model: the development (and deterioration) of satisfaction and commitment in heterosexual involvements. *Journal of Personality and Social Psychology* **45**: 101-117.

Rusbult CE, Van Lange PAM. 1996. Interdependence Processes. In *Social Psychology: Handbook of Basic Principles*, Higgins ET, & Kruglanski AW (eds). The Guilford Press: New York; 564–596.

Rusbult CE, Johnson DJ, Morrow GD. 1986. Predicting satisfaction and commitment in adult romantic involvements: an assessment of the generalizability of the investment model. *Social Psychology Quarterly* **49**: 81-89.

Rusbult CE, Martz JM, Agnew CR. 1998. The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships* **5**: 357-391.

Rusbult CE, Verette J, Whitney GA, Slovik LF, Lipkus I. 1991. Accommodation processes in close relationships: Theory and preliminary empirical evidence. *Journal of Personality and Social Psychology* **60**: 53-78.

Simpson JA, Ickes W, Grich J. 1999. When accuracy hurts. Reactions of anxious-ambivalent dating partners to a relationship-threatening situation. *Journal of Personality and Social Psychology* **76**: 754-769.

Specher S. 1998. The effect of exchange orientation on close relationships. *Social Psychology Quarterly* **61**: 220-231.

Tetlock PE, Manstead ASR. 1985. Impression management versus intrapsychic explanations in social psychology: A useful dichotomy? *Psychological Review* **92**: 59-77.

Van Lange PAM, Agnew CR, Harinck F, Steemers GM. 1997. From game

theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology* **73**: 1330-1344.

Van Lange PAM, Liebrand WBG, Messick DM, Wilke HAM. 1992.

Introduction and literature review. In *Social dilemmas: theoretical issues and research findings*, Liebrand WBG, Messick DM, Wilke HAM (eds). Peragon Press: Oxford, England; 3-28.

Van Lange PAM, Rusbult CE, Drigotas SM, Arriaga XB, Witcher BS, Cox CL. 1997. Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology* **72**; 1373-1395.

Von Neumann J, Morgenstern O. 1944. *Theory of Games and Economic Behaviour*. Princeton University Press: Princeton, NJ.

Wieselquist J, Rusbult CE, Foster CA, Agnew CR. 1999. Commitment, Pro-Relationship Behaviour, and Trust in Close Relationships. *Journal of Personality and Social Psychology* **77**; 942-966.

Appendix

I. Low Cost Dilemmas

Cinema. You and your partner arrive at the cinema and your partner says that he/she would like to watch the comedy film that has just come out. You however would rather watch a different film that has also just come out.

House Clean. Your partner is spending the day helping his/her friend to clear out and clean a house. It's a big job and so he/she has asked if you could help out as well. You do have the day free but it's a lovely sunny day and there are other things you'd rather do such as go out with your friends.

Works Party. Your partner has invited you to a party at his/her workplace, saying that he/she would really like it if you came. You won't know any one else at the party and as you're feeling particularly tired you'd much rather spend the evening at home watching TV.

Birthday Present. It's your partner's birthday next week and you go out to buy him/her a present. While you are out shopping you see something you would like to buy for yourself as well. The amount of money you have available leaves you with two choices. You can buy your partner a small gift and have enough money left to buy the thing for yourself as well or you can spend all the money on getting a nicer gift for your partner.

Indian Vs. Italian Restaurant. Your partner phones you up and suggests you both go out to eat that evening. He/she tells you to pick a place and agrees to meet you there later. You know your partner's favourite food is Indian while you prefer Italian.

Lending Book. You've purchased a new book that you've been looking forward to reading. Before you can get started your partner reads the first chapter and

asks to borrow it. Your partner is a particularly slow reader and will definitely not be returning it inside a month.

Detour. You and your partner are visiting friends who live quite far away. The journey takes you past one of your partner's favourite shop/museum/art gallery/computer fair, and he/she wants to stop a while. You know that this will probably take an hour and you'll end up sitting in the car for much of it feeling bored.

Lift to Airport. Your partner needs a lift to the airport at 5.00 a.m. in the morning. He/she says he/she is happy to catch a taxi but it will be expensive and you know that he/she would rather be taken by you.

Last Rolo. It's your last Rolo. You both want to eat it.

After-shave/Perfume. You ask your partner what he/she thinks of your new expensive after-shave/perfume. When pushed for an honest answer he/she tells you that he/she dislikes it.

Lend CD. Your partner asks if he/she can borrow the new CD that you've recently bought to take on holiday with him/her for the week. As you've only recently bought it you really wanted to listen to it some more yourself.

Car Journey. Your partner has to go on a very long car journey to pick something up for a friend of his/hers. He/she asks how you'd feel about coming along to keep them company. This would mean getting up early on Saturday and missing a morning out with your friends which you'd been thinking of having.

II. High Cost Dilemmas

Award Ceremony. Your partner has just found out that he/she is to receive an important award. The date of the award ceremony clashes with your pre-booked holiday abroad with your friends. It's really important to your partner that you share this event with him/her but you are also really looking forward to your holiday.

Serious Accident. Your partner is in a serious accident and after coming out of hospital will need daily practical care for at least six months. You could give up your job/studies to take care of him/her.

Better Job Offer. You have two job offers. One offer is notably better than the other in your opinion and this is the one you'd like to go for. However this job involves regularly working away from home for up to three weeks at a time. You would be happy with this but your partner is very unhappy at this prospect and wants you to take the other less attractive job.

Pet Allergy. Imagine you have a dog or a cat to which you are very attached and have had for a number of years. Your partner however is strongly allergic to your pet and it brings him/her out in a rash and makes his/her eyes water. If you are to spend time with your partner at your place the pet will have to be permanently removed and the room cleaned to remove all traces.

Money for Funeral. Your partner finds out that a relative of theirs from Australia has died. He/she really wants to go to the funeral but can't afford the flight. You have £800 saved for a holiday for yourself, which you were planning to take later this year.

Sacrificing Best Friend. Your partner and your best friend can't stand one another. You've tried to sort things out between them but the problem can't be

resolved. Being with your partner will mean sacrificing your closest friendship to a large extent.

Kidney Donation. Your partner needs a kidney transplant and by chance you are a suitable match. You can live healthily with only one kidney but the operation you would have to undergo will be unpleasant and there is a six-month recovery period. If you chose not to offer your kidney they have to look for other potential donors.

Move Home. Your partner's job forces him/her to move to another city. Your partner asks you to move with him/her. It would be possible to transfer your job/course of study to this city, and finding appropriate accommodation is not an issue but you would be leaving behind your friends and the place you think of as home.

Computer. Your parents have recently bought you a computer for your birthday. You do have access to computers at your place of work/ study but enjoy the convenience of having this new computer at home. Your partner needs a good computer for their work and their own computer is no longer sufficient for the work they need to do. They can't afford a new computer and don't have easy access to a suitable one.

Washing Machine. Your partner moves into a new house and is trying to furnish it on a very tight budget. One of the things he/she needs but can't really afford is a washing machine. You have a washing machine in your house and as there is also a launderette in the street where you live you could use this and give the machine to your partner.

Dream Prize. You win first prize in a competition. The prize is something you've always dreamed of doing (e.g. hot air balloon flight, scuba diving somewhere really exotic, etc.). There is a cash alternative to your dream prize but you would

definitely rather fulfil your dream. Your partner really wants to go on holiday with his/her friends but can't afford to do so. If you took the cash alternative you could give some of it to your partner so they could go on holiday.

Support Partner's Talent. Your partner has a talent (e.g. music, sport, art etc.) which they have always longed to do professionally. Their talent has finally been spotted and they have been invited on an exclusive 3-month course that may help fulfil this dream. However neither of you have any spare money so the only way this training course can be afforded is for you to take over your partner's part time evening job (as they won't be able to continue it) and put all the money earned towards their course. This would involve you working an extra two hours every evening for the next three months.

Author Note

Chantal Whitehouse and Mark Van Vugt, Department of Psychology,
Southampton University.

This research is based on part of the doctoral dissertation of Chantal Whitehouse which is funded by the Economic and Social Research Council (R00429934502). We thank Robert Powell for his help in the construction of the dilemma scenarios used.

Correspondence concerning this article should be addressed to Chantal Whitehouse, Department of Psychology, Southampton University, Highfield, Southampton, SO17 1BJ, United Kingdom. Electronic mail may be sent to cw495@soton.ac.uk.

Footnotes

¹ The questionnaire also included other questions and measures such as attachment style, social value orientation and assessment of motivations that are not of relevance to this report and are therefore not discussed here.

² The investment model predicts that commitment should be high to the degree that satisfaction is high, alternatives are poor and investment size is great. Commitment was indeed positively related to satisfaction, $r(110) = .68$, $p < .01$, and investment size, $r(110) = .31$, $p < .01$, and negatively related to quality of alternatives, $r(110) = -.37$, $p < .01$. Because of these correlations and the internal consistency of the scale we concluded that the commitment scale was a reliable and valid measure to test our hypotheses.

³ With a median commitment score of 8.2 the research sample as a whole scored highly in their commitment ratings. Therefore the group classified as “low in commitment” ($N = 53$) may contain individuals who could still be considered highly committed despite being comparatively lower in commitment than the “high committed” group ($N = 57$). Individuals may have been more willing to take part in the research if they considered themselves to be in a successful relationship (which may be judged in terms of satisfaction and commitment), thus resulting in the high reported levels of commitment.

⁴ In order to check that commitment was not merely reflecting relationship length a bivariate correlation was conducted. This showed that the two variables were not significantly correlated, $r(110) = .14$, $p > .05$ and therefore commitment can be considered a variable distinct from length of relationship. Neither was there any significant correlation between commitment and age of individual, $r(110) = .05$, $p > .$

05, or any significant difference between commitment scores of men ($M = 7.54$, $SD = 1.38$) and women ($M = 7.87$, $SD = 1.23$), $F(1, 109) = 1.55$, $p > .05$.

⁵Missing values for a particular scenario were replaced with the participant's average sacrifice score for low or high cost dilemmas (depending on whether the missing value occurred in a low or high cost dilemma). No participant had omissions on more than two dilemmas.

⁶Average cost level ratings were calculated for the participants who had rated at least eight out of the ten low cost interdependence dilemmas and at least ten out of the 12 high cost dilemmas. On this basis average ratings were calculated for all cases.

⁷A repeated measures ANOVA was conducted to examine whether there was any effect of gender upon sacrifice levels. The dependent variable was the percentage of sacrifice (across the low or high conflict scenarios), the within subjects factor was cost level involved (low or high), and the between subjects variable was commitment classification with two levels (low or high) and gender with two levels (male or female). The analysis showed a significant effect of gender on the percentage of sacrifice occurring, $F(1, 106) = 9.08$, $p < .05$. Males co-operated significantly more ($M = .67$, $SD = .02$) than females ($M = .59$, $SD = .02$). As there were no significant interaction effects between gender and cost level, $F(1, 106) = 2.19$, $p > .05$, or between gender and commitment, $F(1, 106) < 1$ this variable was excluded from further analyses.

⁸Where values were missing for a low cost level dilemma they were replaced with a value based on how that participant had behaved on other low cost dilemmas (i.e. if their average percentage sacrifice score was less than 50% then a two was inserted to represent a no sacrifice choice. If their percentage score was greater than

50% a one was inserted representing a choice to sacrifice). Sixteen values were replaced in this way out of a total of 2420 entries.

⁹Analysis was also run on the three investment model variables; investments, satisfaction, and alternatives to examine their effect upon sacrifice levels in low and high cost level conditions. As with the commitment variable, participants' scores for satisfaction, investments, and alternatives were classified as low or high based on a median split of the total sample's scores. The analysis showed a significant interaction between only satisfaction and cost level, $F(1, 102) = 6.32, p < .05$. In line with the results for commitment, individuals who were classified as high in satisfaction ($M = .57, SD = .17$) demonstrated more sacrifice than those classified as low in satisfaction ($M = .46, SD = .18$) when in a high cost level dilemma, $F(1, 109) = 11.39, p < .01$. However there was no significant difference in sacrifice between low ($M = .72, SD = .17$) and high ($M = .71, SD = .17$) committed individuals in the low cost level dilemmas, $F(1, 109) < 1$.

Table

Table 1

Crosstabs Results Comparing Percentage of Low Committed (LC) and High Committed (HC) Individuals Sacrificing in Low and High Cost Level Dilemmas.

Scenario	Cost Level	N	Chi square	p-value	% Sacrifice	
					LC	HC
Cinema	Low	110	4.03	.05	.92	.79
Last Rolo	Low	110	9.91	.001	.92	.68
Award Ceremony	High	110	7.06	.01	.49	.74
Serious Accident	High	110	9.19	.002	.40	.68
Better Job Offer	High	110	3.16	.03	.17	.32
Money for Funeral	High	110	6.31	.01	.68	.88
Kidney Donation	High	110	4.40	.04	.79	.93
Move Home	High	110	4.41	.04	.72	.88

Note. LC = low committed individuals; HC = high committed individuals.

Figure Caption

Figure 1. Percentage of sacrifice choices made by low and high committed individuals in low and high cost level conditions.

Chantal Whitehouse

Figure 1.

