

## THE EFFECTS OF RECIPROCITY, TYPE OF RELATIONSHIP, AND CULTURE ON RELATIONSHIP PROCESSES

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### ABSTRACT

*Equity theory suggests that perceiving equity leads to better relationship outcomes than perceiving inequity. However, cultural and relationship differences in tolerance for inequity have been found, suggesting that those from more individualistic cultures may have less tolerance for inequity with friends than those from more collectivistic cultures, with the latter group discriminating more clearly in their reactions to friends and strangers. In our first study, Kadazandusun (N=282) and Australian (N=255) participants evaluated their actual reciprocity in social support with a close friend. In our second study, 103 South East Asians and 128 Australians were randomly assigned to respond to a scenario presenting equity or inequity (underbenefit or overbenefit) with either a close friend or stranger. Study 1 found that participants from both cultures reported reduced desires for future interaction, positive feelings and closeness when they experienced under-benefit as compared to over-benefit or equity. In Study 2, participants from both cultures also reported reduced desires for future interaction, positive feelings and trust when there was inequity and reported a more negative reaction to a stranger than a close friend. These findings are consistent with equity theory and support its cross-cultural applicability.*

**Keywords:** reciprocity, equity, inequity, close relationships, culture, friendship.

### INTRODUCTION

The golden rule to treat others as you want to be treated is a central feature of human relationships. The requirement for reciprocity in close relationships is a key tenet of equity theory (Walster, Walster & Berscheid, 1978) which proposes that people will experience negative feelings when they are engaged in nonreciprocal relationships. According to equity theory, when individuals perceive that they are giving more than they receive (under-benefit), they experience feelings of resentment, unfairness and burden. In contrast, when individuals perceive that they are giving less than they receive (over-benefit), they experience feelings of guilt, indebtedness and shame (Walster et al., 1978). Individuals who perceive that they and their partners are

equitable in their relationship are less likely to experience such negative feelings.

Social scientists have long studied interpersonal reciprocity using both laboratory experiments and surveys of naturally occurring relationships

(see Kolm, 2008, for a review). For example, reciprocity in relationships has been studied using interviews with elderly widowed women focused on their friends and adult children (Rook, 1987); using surveys of university students about their best friends (Buunk & Prins, 1998; Mendelson & Kay, 2003); using surveys of both members of 7<sup>th</sup> and 8<sup>th</sup> grade adolescent friendships (Linden-Andersen, Markiewicz, & Doyle, 2009); using experimental methods to compare university students' responses to friends and strangers (Chen, Chen, & Portnoy, 2009; Xue & Silk, 2012) and using hypothetical scenarios to manipulate benefits offered by close and casual friends (Shen, Wan, & Wyer, 2011).

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Typically, research has found that participants are less disturbed by inequities with friends than with strangers (e.g., Walters, Mellor, Cox, Taylor & Tierney, 1977) with Befu (1966) reporting that, in rural Japan, if the donor and the recipient were close friends, the requirement for reciprocity was often forgotten. However, more recent studies have found that people may be more concerned about reciprocity with friends than with strangers. For instance, Xue and Silk (2012) found that even though participants could tolerate uneven distributions of resources with friends more than with strangers, they preferred to have balance in their relationships. Peters, Van den Bos, and Karremans (2008) also found that participants emphasized balance in their relationships; they felt uncomfortable and spent more time evaluating inequitable overbenefit with friends than with strangers.

Friends may or may not share likes and dislikes, but the requirement that one supports and sustains one's friends and receives support in return is a constant (Hartup & Stevens, 1999). However, this requirement is not always upheld in all friendships. The norm of reciprocity has been called universal and applicable to people in different cultures (Gouldner, 1960; Seaford, 1998). However, the importance of reciprocity might be different in different relationships and in different cultures (Gouldner, 1960). Past studies have found differences between people in collectivistic cultures and individualistic cultures in responding to equitable and inequitable levels of reciprocity with in-group and out-group members. For instance, Chen, Chen and Portnoy (2009) found that Chinese participants were more likely to accept an inequitable offer (representing under-benefit) when it came from their friends than from strangers. This situation did not exist among Americans who were unwilling to accept inequitable offers from both friends and strangers. Moreover, Shen, Wan and Wyer (2011) found that Hong Kong participants reported feeling more uncomfortable and less willing to receive and accept a gift (implying a need to reciprocate) from a casual acquaintance than from a close friend compared to Canadian participants who indiscriminately accepted gifts.

In two consecutive studies we examined the effects of levels of reciprocity (over-benefit, equity, under-benefit) on reactions to a relationship and also gauged the interactive effects of levels of reciprocity and culture on these relationship processes. In our second study, we added another variable, type of relationship (friend vs. stranger). In Study 1, each participant reported their actual level of reciprocity in social support in a relationship with a close friend over the previous six months. In Study 2, we randomly assigned participants to respond to one of the three levels of reciprocity manipulated in scenarios that focused on an interaction either with a close friend or a stranger. We used an experimental, between-subjects design in Study 2 to allow us to draw cause and effect conclusions about the effects of reciprocity on relationship processes. Across both studies, we predicted that equity would lead to more positive relationship responses than either type of inequity and that this effect might be stronger for people from individualistic cultures and when dealing with strangers rather than friends. In our study we involved participants from two different cultures i.e., Kadazandusuns and Australians. The reason we compared the two groups is because past studies have revealed that in Asian cultures which were represented by the Kadazandusun community, there is an emphasis on obligatory reciprocity (e.g., Ho, 1993), whereas in Western cultures, represented by Australians, there is a greater emphasis on voluntary reciprocity (Wierzbicka, 1997).

## STUDY 1

### METHOD

#### Participants

In Study 1 we recruited 537 university students: 173 males (32.2%) and 364 females (67.8%), with a mean age of 22.75 years ( $SD = 6.15$ ). Of these, 255 were Australian students and 282 were Kadazandusun students (from Sabah, Malaysia). In both cultural groups, the majority of the participants were female: Australian, 64.30%; Kadazandusun, 70.90%. There was no difference in the distribution of

gender across cultures,  $\chi^2(1, 537) = 2.68, p = .10$ . However, the two groups differed in age: Australians  $M = 23.62 (SD = 7.99)$ , Kadazandusuns  $M = 21.96 (SD = 3.60)$ ;  $t(345.57) = 3.04, p < .001, d = 0.69$ .

In our sample of 255 participants, 159 (62.40%) were Anglo-Australians and 96 (37.60%) were multi-cultural participants (only one of their parents was Australian born). The majority (94.50%) of these latter participants were born and raised in Australia; therefore we concluded that all participants were ingrained in the Australian culture although some came from multi-cultural families. In our sample of 282 Kadazandusuns, 228 (80.90%) were of pure Kadazandusun descent and the remaining 54 (19.10%) were mixed Kadazandusuns. Those who were mixed-Kadazandusuns had one of their parents from one of the other groups of Malaysian ethnicities (e.g., Chinese, Iban, or Malay). For the Kadazandusuns, all were Malaysian-born.

### Procedure

We started Study 1 once we received ethics approval from the University. Five strategies were used to recruit prospective participants: a web link (from an advertisement on the researcher's facebook page), the psychology department's volunteer participant registry, snowball sampling, advertisements in various university newspapers and flyers; and by approaching students individually around the university such as outside the library, in restaurants, colleges and lecture halls. Participants were asked to respond to a written questionnaire which included the following sections (in order): (a) participants' demographic and close friendship details; (b) reports of the social support they gave to and received from their close friend; and (c) outcome variables focused on friendship quality. All scales were back-translated following Brislin's (1970) method to ensure cultural equivalence.

### Materials

**Demographic and friendship details.** Nine items were included in the demographic section of the questionnaire, focusing on age, academic level, length of friendship and participants' and parents' cultural background

(i.e., ethnicity and nationality). We also requested each participant to choose one of their closest friends from the same university. They were given these instructions: "Please make sure that the person (your close friend) you have chosen is someone who is often around you and shares some of the same activities with you at university. If you have more than one close friend, please choose the one who is the closest to you. Only use your friend's given name". Each participant then referred to this close friend when responding to the subsequent questionnaires. The mean length of relationship with a close friend for Australians was  $M = 3.34$  years ( $SD = 3.58$ ) and for Kadazandusuns,  $M = 3.87$  years ( $SD = 3.81$ ); this difference was not statistically significant,  $t(535) = -1.66, p = .08, d = -0.27$ .

### Social Support Scale (Jou & Fukada, 2002).

This scale consists of two subscales with 18 items each, focused on giving social support and receiving social support. Participants were asked to respond in relation to the amount of social support that they had given to, and received from, their close friend during the previous semester (i.e., past six months). The 18 items in each subscale assessed emotional support (6 items), instrumental support (6 items), advice support (3 items) and companion support (3 items) using a 4-point Likert-type scale: 1 (not at all) to 4 (very much). The items in each subscale are parallel and the two 18 item subscales were summed to create total scores. In our study, the reliability for giving was  $\alpha = .92$  and for receiving was  $\alpha = .93$  for the Australians, whereas for the Kadazandusuns, giving was  $\alpha = .89$  and receiving was  $\alpha = .92$ . To create a reciprocity index, the receiving scores were subtracted from the giving scores; a score close to zero represented equity (-1 to 1), a positive score represented under-benefit (they gave more social support than they had received) (+2 and above) and a negative score represented over-benefit (-2 and above) (they received more social support than they had given) (Jou & Fukada, 2002).

**Measures of the outcome variables.** The four outcomes that measure relationship quality (i.e., positive feelings, desire for future interaction, helping intentions and friendship closeness) are explained in detail in the following subsection.

**McGill Friendship Questionnaire-Respondent's Affection (MFQ-RA; Mendelson & Kay, 2003).** The MFQ-RA measures each respondent's positive feelings for their close friend and satisfaction with the friendship. The 16 items were all positive statements about feelings for a specific friend. Sample items include "I am happy with my friendship with A" and "I am satisfied with my friendship with A". The participants indicated their degree of agreement using a 9-point scale: -4 (*very much disagree*) to 4 (*very much agree*). The mean for the 16 items was used as an overall assessment of the friendship. In our study, the reliability for Australians and Kadazandusuns was  $\alpha = .96$  and  $\alpha = .93$ , respectively.

**Desire for Future Interaction Scale (adapted from Chen et al., 2009).** Four items were adapted from Chen et al.'s (2009) scale to measure desire for future interaction with a close friend. Sample items include "I am willing to keep a strong relationship with my close friend in the future" and "I would be willing to introduce my close friend to my other friends". The participants indicated their degree of agreement using a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The reliability for this scale for the Australians and Kadazandusuns was  $\alpha = .92$  and  $\alpha = .81$ , respectively.

**Helping Intentions Scale.** The Helping Intentions Scale consisted of 26 kinds of helping behaviours that could be offered to a close friend. We designed this scale ourselves after reviewing and adapting measures from past studies (e.g., by Impett, Gable, & Peplau, 2005 and Van Lange et al., 1997) that focused on helping behaviour in close relationships. We included items focused on helping in an academic setting, appropriate for our university student participants, such as "Share the latest university information with your close friend which he/she does not know yet" and "Help your friend to get some important information in the library or online which he/she really needs" as well as non-academic items such as "Accompany your friend for a walk" and "Take care of your close friend's plants or pet when he/she is away for a few weeks".

Participants used a seven-point Likert scale to indicated their willingness to perform these various types of helping with their chosen close friend, responding from 1 (*not at all willing to help*) to 7 (*extremely willing to help*). Responses to the 26 items were averaged and a high score indicated greater intentions to help their close friend. The reliability of the scale was high in both the Australian and Kadazandusun samples, at  $\alpha = .93$  and  $\alpha = .89$ , respectively.

**Friendship Closeness Scale (Chen et al., 2009).** This scale measures friendship closeness using three items: "How often do you talk to your close friend?", "How familiar are you with your close friend?" and "How close are you to your close friend?" The response scale ranged from 1 (*not at all*) to 7 (*very often/very much/very close*). Items were averaged to create a scale score with high scores indicating greater closeness. The reliability for the Australians and Kadazandusuns was  $\alpha = .86$  and  $\alpha = .81$ , respectively.

## RESULTS

The independent variables in Study 1 were perceived level of reciprocity in social support (underbenefit, equity, or overbenefit) and culture (Australia vs. Kadazandusun). The dependent variables were the four relationship quality factors. We examined the main and the interactive effects of perceived level of reciprocity and culture on relationship factors by using two-way ANOVAs. We predicted that there would be an interaction between reciprocity and culture on relationship processes, showing that Kadazandusun participants are less affected by inequity (either overbenefit or underbenefit) with close friends as compared to Australian participants who would report more negative outcomes for inequity as compared to equity with their friends.

### The Effects of Reciprocity and Culture on Relationship Quality

We used SPSS program version 19 to run four 3 X 2 ANOVAs to examine the effects of the three levels of reciprocity and two cultures on each of the relationship quality variables. All

dependent variables were significantly correlated (ranging from  $r = .60$  to  $.77$  for Australians and from  $r = .38$  to  $.66$  for Kadazandusuns).

**Positive feelings.** We found a significant main effect of level of reciprocity on positive feelings toward the friend (as assessed by the MFQ-RA),  $F(2,531) = 19.23$ ,  $p < .01$ ,  $\eta^2_p = .07$ . A follow-up Student-Newman-Keuls test revealed that the significant differences were between the under-benefited  $M = 2.67$  ( $SD = 1.10$ ) and equitable  $M = 3.23$  ( $SD = .90$ ) conditions, and between the under-benefited and over-benefited  $M = 3.22$  ( $SD = .74$ ) conditions, ( $p < .05$ ). There was no significant difference in positive feelings between participants who reported over-benefit and equity. We also found a significant main effect of culture on positive feelings towards the close friend, with Kadazandusuns ( $M = 3.15$ ,  $SD = .85$ ) reporting slightly more positive feelings towards their chosen close friend than Australians ( $M = 2.91$ ,  $SD = 1.09$ ),  $F(1,531) = 4.74$ ,  $p = .03$ ,  $\eta^2_p = .01$ . We did not find a significant interaction between culture and level of reciprocity on positive feelings towards a close friend,  $F(2,531) = 0.63$ ,  $p = .53$ ,  $\eta^2_p = .00$ .

**Desire for future interaction.** We found a main effect of level of reciprocity on desire for future interaction  $F(2,531) = 8.58$ ,  $p < .01$ ,  $\eta^2_p = .03$ , such that those reporting over-benefit ( $M = 6.44$ ,  $SD = .70$ ) and those reporting equity ( $M = 6.58$ ,  $SD = .74$ ) indicated more desire than those reporting under-benefit ( $M = 6.23$ ,  $SD = .90$ ). A Student-Newman-Keuls test confirmed these significant differences at  $p < .05$ . There was also a significant main effect of culture on desire for future interaction towards a close friend,  $F(1,531) = 4.60$ ,  $p = .03$ ,  $\eta^2_p = .01$ . Kadazandusuns ( $M = 6.50$ ,  $SD = .67$ ) reported slightly more desire for future interaction with their chosen close friend than Australians ( $M = 6.34$ ,  $SD = .92$ ). We did not find a significant interaction between culture and level of reciprocity on desire for future interaction,  $F(2,531) = 0.66$ ,  $p = .52$ ,  $\eta^2_p = .00$ .

**Helping intentions.** We found a significant main effect of level of reciprocity on helping intentions,  $F(2,531) = 6.30$ ,  $p < .01$ ,  $\eta^2_p = .02$ . Those reporting over-benefit ( $M = 5.86$ ,  $SD = .73$ ) and those reporting under-benefit ( $M =$

$5.74$ ,  $SD = .79$ ) both reported lower helping intentions than those reporting equity ( $M = 5.99$ ,  $SD = .79$ ). These differences were confirmed by a Student-Newman-Keuls test,  $p < .05$ . There was no significant difference between cultures on helping intentions  $F(1,531) = 1.49$ ,  $p = .22$ ,  $\eta^2_p = .00$  and no significant interaction between culture and level of reciprocity,  $F(2,531) = 0.77$ ,  $p = .46$ ,  $\eta^2_p = .00$ .

**Friendship closeness.** We found a significant main effect of level of reciprocity on friendship closeness,  $F(2,531) = 8.53$ ,  $p < .01$ ,  $\eta^2_p = .03$ . Those reporting over-benefit ( $M = 5.97$ ,  $SD = .98$ ) and those reporting equity ( $M = 6.05$ ,  $SD = 1.09$ ) felt closer to their friend than those reporting under-benefit ( $M = 5.53$ ,  $SD = 1.24$ ). These differences were confirmed by a Student-Newman-Keuls test,  $p < .05$ . There was also a significant main effect of culture on friendship closeness,  $F(1,531) = 41.17$ ,  $p < .001$ ,  $\eta^2_p = .07$ . Kadazandusuns  $M = 6.15$  ( $SD = .89$ ) reported more closeness with their chosen friend than Australians, ( $M = 5.51$ ,  $SD = 1.28$ ). There was no significant interaction between culture and level of reciprocity on friendship closeness  $F(2,531) = 1.36$ ,  $p = .26$ ,  $\eta^2_p = .005$ .

## DISCUSSION

The findings in Study 1 were in line with past research that reported decreased relationship satisfaction when for participants who experienced inequitable reciprocity (e.g., Buunk & Prins, 1998; Chen et al., 2009; Linden-Andersen et al., 2009; Mendelson & Kay, 2003; Rook, 1987; Xue & Silk, 2012). However, our results revealed that both Kadazandusuns and Australians felt more negatively about their friendships (i.e., less desire for future interaction, less positive feelings and less relationship closeness) only when they were under-benefited and not when they were over-benefited or, of course, equitable. For helping intentions alone, equity theory predictions that both types of inequity would result in discomfort (e.g., Walster et al., 1978) were confirmed, with those reporting over-benefit as well as underbenefit less willing to offer help to their friend as compared to those in equitable relationships.

Perhaps surprisingly, we found no differences across culture, save for a couple of small main effects suggesting that Kadazandusuns may have chosen closer friends. This highlights the correlational nature of our first study, in which participants' choice of friend was not randomly assigned and there is no way of knowing whether underbenefit leads to perceptions of less closeness or conversely whether underbenefit is a potential by-product of less close relationships. Although we were confident that both groups of participants received and followed equivalent instructions guiding them to choose a close friend, the constraint of having to choose a friend from the same university may have affected these groups differently, if one or the other group had closer friends (on average) from outside of the university context.

To overcome these problems with internal validity, we chose to replicate and extend our test of these hypotheses related to reciprocity and culture using an experimental method in which participants from different cultures were randomly assigned to read scenarios that manipulated both level of reciprocity and type of relationship (friend or stranger).

## STUDY 2

Past research (Buchan, Croson & Dawes., 2002; Chen et al., 2009; Renard et al., 1997; Shen et al., 2011) suggests that more negative reactions to inequity with strangers as compared to friends, may be more prominent among those from collectivistic cultures (such as those found in South East Asia) than among those from individualistic cultures (for example, Australia). That is, Australians may react more negatively to inequity (at least underbenefit) from both friends and strangers whereas South East Asians may more clearly differentiate between friends and strangers. We were unable to test this possibility in our first study.

In Study 2, our aim was to examine the effects of level of reciprocity by randomly assigning participants to imagine a situation in which they are underbenefited, equitable, or overbenefited in relation to a friend or a stranger. That is, they were randomly assigned to read a scenario that was

manipulated as part of a 3 (level of reciprocity) by 2 (type of relationship) design. In this second study, we also expanded our dependent variables to include emotional reactions that make more sense in the context of a single social interaction (such as positive and negative affect). We also included a measure of trust in the relationship partner, which has been shown to differ cross-culturally with regard to ingroup and outgroup members (e.g., Buchan et al., 2002; Yamagishi & Yamagishi, 1994). In addition, we deleted those factors that seemed specific to actual friends (positive feelings toward friend, closeness) and which might be difficult to respond to in the experimental study.

We predicted that South East Asian participants would report more negative affect, and less trust when they imagined inequitable reciprocity rather than equitable reciprocity and this effect would be larger with a stranger than with a close friend. Conversely, we predicted that Australian participants would report more negative affect, and less trust when they imagined inequitable reciprocity rather than equitable reciprocity but that they would not discriminate between a stranger and a close friend. Given the results of our first study, we suspect that negative reactions to underbenefit may drive our level of reciprocity effects although it is possible that overbenefit with a stranger will be perceived similarly negatively by participants from both cultural groups.

## METHOD

### Participants

In Study 2, we recruited students from our university in Australia who were either domestic students or international students. Our Australian sample included 117 Australian participants as well as 11 European and New Zealander international students who were included in the "Australian" group, given their more individualistic cultural background (N = 128). Our South East Asian sample included students from Malaysia (35), Vietnam (29), Indonesia (17), Thailand (10), Singapore (8), and a number of other countries represented by one participant each (for a total N = 103). All participants' parents held the same citizenship as them. The Australian

group contained 86 (67.20%) women and 42 (32.80%) men, whereas the South East Asian group contained 80 (77.70%) women and 23 (23.30%) men  $\chi^2(1,231) = 3.10, p = .08$ . The mean age for Australians was 23.46 ( $SD=8.50$ ) and for the South East Asians,  $M = 28.78$  ( $SD=7.05$ ),  $t(229) = 5.09, p < .001, d = 0.68$ .

### Procedure

We used the same procedure as in Study 1 to recruit participants. The participants in Study 2 were also a convenience sample. Again, participants completed a pen-and-paper survey with the order of questions the same as the order of the materials section that now follows. Participants were randomly assigned to read one scenario (described below) that operationalized one of the cells from the 3 (level of reciprocity) by 2 (type of relationship) design.

### Materials

**Demographic questionnaire.** The researcher first informed each participant to answer the demographic questionnaires which measure their age, gender, place of birth, nationality and parents' citizenship.

**Reciprocity Scenarios.** We manipulated the three levels of reciprocity by creating scenarios that described a situation in our university setting that involved the exchange of money with a close friend or a stranger. Type of relationship was manipulated merely by substituting the words 'a close friend' for 'a stranger' to create two parallel sets of three scenarios. So that readers can understand clearly how underbenefit, equity, and overbenefit were operationalized we describe each of the three scenarios in more detail now.

**Overbenefit.** In this scenario, the participant went to the cafeteria to buy lunch but forgot to bring his/her money. The participant only realized this when he or she was already in front of the counter. A nearby close friend/stranger offers to lend the participant some money to pay for lunch. In return the participant say thanks and promises to pay it back. However, after several months, the participant realizes that he or she has not paid the money back yet and soon discovers that

he/she cannot pay it back because the close friend/stranger has gone to study overseas.

**Equity.** In this scenario, both parties (i.e. participant and the friend/stranger) were involved in mutual giving and receiving of money for lunch. As in the overbenefit scenario, when the participant forgot his or her money for lunch, the friend or stranger lent him or her the money. However, in this scenario, the participant paid the friend/stranger back the next day. To control for possible effects of being in the giving or receiving position only, this scenario also involved a second later encounter where the friend/stranger forgot their money and the participant had the chance to lend money and have it returned soon after.

**Underbenefit.** In this scenario, the close friend or stranger forgot to bring their money for lunch and the participant lent him/her some money. The close friend/stranger promises to pay it back. However, this doesn't happen. On another day, the participant sees the friend/stranger but he or she just says hi and goes away without paying back the money.

Once participants had read, understood and imagined the scenarios, they answered the following questionnaires which measured their reactions.

**International Positive and Negative Affect Schedule Short Form (I-PANAS-SF; Thompson, 2007).** We used the PANAS scale to measure affective reactions, asking participants to indicate how would feel if they experienced the reciprocity scenario). The PANAS scale contains two subscales: negative affect (NA) and positive affect (PA). Positive affect includes feeling alert, inspired, determined, attentive and active, while negative affect includes feeling upset, hostile, ashamed, nervous and afraid. Each subscale consisted of 10 items to which participants responded using a 5-point scale to indicate how likely they would feel the emotion in question if they found themselves in the scenario's situation, ranging from 1 (never) to 5 (always). In our study, the PA reliability for Australians was  $\alpha = .82$  and NA was  $\alpha = .69$ , whereas for South East Asians, PA was  $\alpha = .83$  and NA was  $\alpha = .72$ .

**Desire for future interaction (Chen et al., 2009).** We used the same four items scale described in Study 1. In this study, the scale reliability for Australians was  $\alpha = .90$  whereas for South East Asians, it was  $\alpha = .86$ .

**Trust (adapted from Molm, Collet & Schaefer, 2007; Yamagishi, 1988).** This scale consisted of 10 items to measure the level of trust that participants felt toward the person in the scenario. The 10 items in this scale were adapted from the Trust scales by Yamagishi (1988) and Molm et al. (2007). Participants responded using 7 point scales with different poles depending on the question. For example, items included: ‘How would you describe your approach towards the person in the scenario in the future’ had a 1(relatively cautious) to 7(relatively trusting) scale, and ‘How likely is it that the person in the scenario would treat you well in the future?’ had a 1(not at all likely) to 7(extremely likely) scale. Nevertheless, this trust scale held together well; reliability for Australians was  $\alpha = .92$  whereas for South East Asians, PA was  $\alpha = .90$ .

**Manipulation check.** A single item manipulation check was included at the end of our research questionnaire (after the scenario) to assess whether participants perceived the levels of reciprocity we manipulated within the scenarios accurately. Participants were asked simply to choose from one of three options: 1) I received more than I gave; 2) I received as much as I gave (It is about equal); 3) I received less than gave.

## RESULTS

The independent variables in Study 2 were the three manipulated levels of reciprocity and two types of relationships and the dependent variables were the four relationships factors (i.e., desire for future interaction, negative affect, positive affect, and trust). We predicted a three-way interaction between level of reciprocity, type of relationship and culture on participants’ reactions. We tested our hypotheses using three-way analyses of variance.

### Manipulation Check

To our surprise, when we examined responses to our manipulation check in the original sample of 318 participants, we found that 87 (27.36%) out of these participants answered the manipulation wrong<sup>1</sup>. We made the tough decision to delete these participants from the study. All details described in the method section above refer to the 231 remaining participants.

### Hypothesis Tests

We conducted 3 (level of reciprocity) X 2 (type of relationship) X 2 (culture) ANOVAs on each of our four dependent measures. Although trust and desire for future interaction were correlated for both Australians ( $r = .79$ ) and South East Asians ( $r = .72$ ), these measures were unrelated to positive and negative affect for the South East Asians ( $r$ 's < +/- .13) and only negative affect and desire for future interactions were correlated for the Australians ( $r = -.19$ ). Interestingly, positive and negative affect were positively correlated for both Australians ( $r = .29$ ) and South East Asians ( $r = .33$ ), perhaps an indicator of their shared assessment of emotional expressiveness.

**Negative affect.** Our ANOVA found three significant main effects and no interactions. First, there was a significant main effect of level of reciprocity,  $F(2,219) = 17.55, p < .01, \eta^2_p = .14$ , with participants in the overbenefit condition ( $M = 2.50, SD = 0.78$ ) reporting more negative affect than participants in the equity ( $M = 1.82, SD = 0.76$ ) and underbenefit ( $M = 1.97, SD = 0.64$ ) conditions, which did not differ according to a subsequent Student Newman Keuls range test ( $p < .01$ ). Second, there was a significant main effect of type of relationship,  $F(1, 219) = 6.09, p = .01, \eta^2_p = .03$ , such that participants reported more negative affect after reading about interactions with strangers ( $M = 2.21, SD = 0.81$ ) than with friends ( $M = 1.95, SD = 0.74$ ). Finally, there was a main effect of culture,  $F(1, 219) = 7.79, p < .01, \eta^2_p = .03$ , such that South East Asians reported more negative affect ( $M = 2.24, SD = 0.87$ ) than Australians ( $M = 1.95, SD = 0.68$ ). All nonsignificant interactions had  $F < 2.00$ .

**Positive affect.** Again, our ANOVA found three significant main effects and no significant interactions. First, there was a



significant main effect of level of reciprocity,  $F(2,219) = 4.04$ ,  $p = .02$ ,  $\eta^2_p = .04$ , with participants in the equity condition ( $M = 2.84$ ,  $SD = 1.04$ ) reporting more positive affect than participants in either the overbenefit condition ( $M = 2.55$ ,  $SD = 0.87$ ) or the underbenefit condition ( $M = 2.42$ ,  $SD = 0.78$ ), which did not differ according to the subsequent Student Newman Keuls test. Second, there was a significant main effect of type of relationship,  $F(1, 219) = 10.06$ ,  $p < .01$ ,  $\eta^2_p = .04$ , such that participants reported more positive affect with strangers ( $M = 2.80$ ,  $SD = 0.96$ ) than with friends ( $M = 2.42$ ,  $SD = 0.98$ ). Finally, there was a main effect of culture,  $F(1, 219) = 4.93$ ,  $p = .02$ ,  $\eta^2_p = .03$ , such that South East Asians reported more positive affect ( $M = 2.79$ ,  $SD = 1.01$ ) than Australians ( $M = 2.47$ ,  $SD = 0.94$ ). All nonsignificant interactions had F values  $< 2.00$ .

**Desire for future interaction.** Our ANOVA uncovered two main effects and no significant interactions. First, there was a significant main effect of level of reciprocity,  $F(2,219) = 58.29$ ,  $p < .001$ ,  $\eta^2_p = .35$ , with participants in all three conditions differing significantly from each other in their desires for future interaction (according to the S-N-K follow-up test) in this order: equity ( $M = 5.81$ ,  $SD = 1.24$ ), overbenefit ( $M = 5.39$ ,  $SD = 0.99$ ), and underbenefit ( $M = 3.94$ ,  $SD = 1.57$ ). Second, there was a significant main effect of type of relationship,  $F(1, 219) = 73.58$ ,  $p < .001$ ,  $\eta^2_p = .25$ , such that participants reported more desire for a future interaction with friends ( $M = 5.75$ ,  $SD = 1.20$ ) than with strangers ( $M = 4.40$ ,  $SD = 1.50$ ). There was no significant effect of culture,  $F(1, 219) = 0.58$ ,  $p = .45$ ,  $\eta^2_p = .00$ . All nonsignificant interactions had F values  $< 3.20$ .

**Trust.** Our ANOVA found three significant main effects and no significant interactions. First, there was a significant main effect of level of reciprocity,  $F(2,219) = 96.64$ ,  $p < .001$ ,  $\eta^2_p = .47$ , with participants in all three conditions differing significantly from each other in their levels of trust of the scenario partner (according to the S-N-K follow-up test) in this order: equity ( $M = 5.36$ ,  $SD = 0.90$ ), overbenefit ( $M = 4.84$ ,  $SD = 0.73$ ), and underbenefit ( $M = 3.45$ ,  $SD = 1.06$ ). Second, there was a significant main effect of type of relationship,  $F(1, 219) = 18.71$ ,  $p < .001$ ,  $\eta^2_p =$

$.08$ , such that participants reported more trust with friends ( $M = 4.87$ ,  $SD = 1.16$ ) than with strangers ( $M = 4.29$ ,  $SD = 1.21$ ). Finally, there was a main effect of culture,  $F(1, 219) = 5.42$ ,  $p = .02$ ,  $\eta^2_p = .02$ , such that Australians reported more trust ( $M = 4.66$ ,  $SD = 1.31$ ) than South East Asians ( $M = 4.48$ ,  $SD = 1.09$ ). All nonsignificant interactions had F values  $< 2.60$ .

## DISCUSSION

With Study 2, we sought to replicate our findings from Study 1 using the experimental method to randomly assign participants from Australia or South East Asia to think about a situation in which they found themselves overbenefited, equitable, or underbenefited in their relationship with a friend or a stranger. Similarly to Study 1, we found that participants felt more negatively about their relationship with another person when their interaction resulted in inequity, particularly underbenefit. However, this main effect was not qualified by either the type of relationship or the culture of origin of the participants. Instead, these latter variables also produced main effects suggesting that people trust and desire future interactions with friends rather than strangers (despite having stronger affective responses to their dealings with strangers) and that Asians generally reported more affect and less trust than Australians. Thus, our hypothesis that type of relationship would make a difference in the responses of South East Asians but not Australians to inequity was not confirmed. Instead, we once again confirmed the potentially universal applicability of the norm of reciprocity (Gouldner, 1960) and its implications for personal relationships as outlined by equity theory (Walster et al., 1978).

## CONCLUSION

As a package, our two studies can be seen to possess complementary strengths and weaknesses; that is, the strengths of Study 2 compensate for the weaknesses of Study 1 and vice versa. So, our examination of real friendships and a detailed analysis of the social support exchanged between friends in Study 1 gives us confidence about the external validity

of our findings, whereas our experimental manipulation of the levels of reciprocity in scenarios involving the exchange of money in Study 2 allows us greater internal validity and the ability to draw cause and effect conclusions. The fact that both of these studies supported the broad tenets of equity theory (e.g., Walster et al., 1978) suggesting that inequity is experienced negatively and equity is experienced more positively also reassure us about the validity of our results. The large size of our samples in both studies also suggests to us that concerns about inequity in relationships are likely to be universal and not necessarily qualified by the nature of the relationship (although more research is needed to confirm this last point). Indeed, we did not find any statistically significant interactions, despite good experimental power to do so.

Not only does our research confirm past findings but we have also extended our understanding of the negative impacts of inequity in a number of ways. First, we have more clearly demonstrated that the two forms of inequity are not equally unpleasant – participants reacted more negatively to underbenefit than to overbenefit. After all, those who are overbenefited may have the advantage of profiting from the inequity at least. Moreover, those who imagined being over-benefited in Study 2 reported a mix of positive (i.e., more desire for future interaction and more trust) and negative (i.e., more negative affect) reactions as opposed to those who imagined being under-benefited, who reported primarily negative outcomes, suggesting that overbenefit may be associated with a more ambivalence toward maintaining a relationship than underbenefit. That said, we did find that both types of inequity were associated with lower intentions to help a friend in Study 1 and with lower positive affect in Study 2, as compared to conditions of equity. As well, overbenefit was associated with more negative affect than underbenefit in Study 2.

Second, we extended the range of dependent variables to which equity theory predictions may be applied, with a particular focus on desires to interact again -- which may be higher when one is overbenefited rather than underbenefited, perhaps indicating a need to

repay and return to equity (see also Shen et al., 2011). We also examined the related dimension of interpersonal trust in Study 2, finding that both types of inequity (but particularly underbenefit) may undermine trust, which, as Wieselquist, Rusbult, Foster, and Agnew (1999) have shown, can begin a process which ultimately leads to relationship dissatisfaction and possibly dissolution.

However, our studies do have some limitations. We are aware that country of origin is not necessarily a good representation of a participant's individualistic, relational, or collectivistic self-construal or orientation (e.g., Cross, Bacon, & Morris, 2000). However, we do feel confident that our participants represented cultures that have been shown to differ in these ways, although our use of Asian students studying in Australia in Study 2 may mean that we tapped into a more independent or individualistic subset of the larger cultural group. Our decision to drop a disproportionate number of these Asian students due to mistakes in understanding or remembering the manipulation of reciprocity in Study 2 may also limit the generalizability of our conclusions from that study. Other caveats that are typical of social psychological research more widely (use of self-report measures, imagined scenarios, cross-sectional correlations) also apply.

Naturally, we now hope that other research will seek to replicate our key finding of more ambivalent reactions to over-benefit rather than underbenefit to ensure that this is consistent in different populations and cultures and not simply limited to reactions to over-benefit in the specific scenario used in Study 2, which focused on an exchange of money. We suspect that a similar effect would have been discovered if we had also measured negative reactions explicitly in Study 1, where participants reflected on social support given and received with a real friend. A person who receives more benefits from others may feel happy, but at the same time, they may also feel sad or guilty because it may seem unfair for the giver. For instance, Gleason et al. (2008) found that participants who received more support from their partner felt positive feelings that increased their relationship closeness but they also felt negative moods such as anger, depression and anxiety.

To conclude, our studies found strong support for participants' preferences for equity in both their close personal relationships and in their social encounters with strangers. These findings held across samples from Australia and from South East Asia. Nevertheless, we suspect that there are numerous moderators, not assessed by us, that may yet qualify our main effects under specific conditions (for example, type of exchange, type of relationship beyond friend vs. stranger), including individual differences in self-construal (Cross et al., 2000), equity sensitivity (Renard et al., 1997) or reciprocation wariness (Eisenberger, Cotterell, & Marvel, 1987). We look forward to continuing research in this area that has significant implications for the maintenance of personal relationships.

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