

Selfishness is Attributed to Men Who Help Young Women: Signaling Function of Male Altruism

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To investigate the function of altruism as a mating signal especially among males, the present study examined whether the motivation of a man who behaves altruistically toward a woman is more likely to be perceived as selfish by a third party. In Studies 1 ($N = 1584$) and 2 ($N = 1336$), participants read vignettes about one person helping a stranger, after which they rated the helpers' perceived selfish motivation. We manipulated the sex of the recipient and helper (Study 1) and the recipient's age (young vs. old; Study 2). In both studies, a man who helped a young woman was regarded as having a more selfish motivation than was an individual who helped the same sex. Conversely, although a woman who helped a man was viewed as more selfish than was a woman who helped another woman, the effect was smaller than when the helper was male (Study 1). Furthermore, a man who helped an old woman was not regarded as more selfish than was a man who helped another man (Study 2). These results support the notion that male altruism works as a courtship display.

Keywords

altruism, mate choice, sexual selection, generosity

Introduction

Altruistic behaviors work as costly signals conveying actors' attractive traits as partners (Zahavi, 1995). People who behave altruistically are likely to acquire future interaction partners (Barclay & Willer, 2007). Altruists obtain advantages through acquiring partners not just for general social interactions, but also for mate choice. For example, a recent study showed that altruists have higher mating success than do non-altruists (Arnocky, Piché, Albert, Ouellette, & Barclay, 2017). Many researchers have begun focusing on the signaling function of altruism in the context of sexual selection (e.g., Barclay, 2010; Farrelly, Lazarus, & Roberts, 2007; Iredale, Van Vugt, & Dunbar, 2008; Oda, Shibata, Kiyonari, Takeda, & Matsumoto-Oda, 2013; Phillips, Barnard, Ferguson, & Reader, 2008;

Raihani & Smith, 2015; Van Vugt & Iredale, 2013).

The function of generosity as a mating signal might differ between the sexes; specifically, males competitively "show off" their altruism to obtain mates more than do females, whereas females place greater importance on potential mates' generosity more than do males (e.g., Phillips et al., 2008). This difference might be due to sex differences in parental investment. In the vast majority of species, including humans, parental investment is higher for the female than for the male (Trivers, 1972), causing females to be more selective in mate choice and forcing males to compete with each other to increase their likelihood of being chosen. Additionally, because human infants require years of parental care, females are more likely to emphasize potential mates' altruistic traits, which reflect one's ability and willingness to engage in parental care (Phillips et al., 2008).

There is some empirical evidence for sexual asymmetry in human altruism. Some studies focused on sex differences in mate preference for generosity (e.g., Barclay, 2010; Oda et al., 2013; Phillips et al., 2008). For example, Phillips et al. (2008) developed the Mate Preference Towards Altruistic Traits Scale (MPAT) and compared scores between the sexes. They found that females had a higher preference for altruism than did males. Other studies have shown that males often behave generously in front of females. For example, Iredale et al. (2008) showed that males give more money to charity when observed by a female than by a male or nobody. Conversely, donations from females were the same, regardless of the observer. Similar results were found in the public goods game (Van Vugt & Iredale, 2013) and online fundraising services (Raihani & Smith, 2015).

While there is evidence for sexual asymmetry in the function of generosity as a mating signal, past studies were limited to studying either mate preference or altruistic displays. Thus, we examined the signaling function of altruistic behavior from a somewhat different perspective: namely, whether a third person's evaluation of altruistic behavior changes with the actors' and recipients' sexes. In Study 1, participants read vignettes about a person helping a stranger and evaluated actors' ulterior motive. The vignettes had four variations wherein helpers' and recipients' sex differed. Based on the notion that altruistic behavior functions as a courtship display, especially in males, we hypothesized that altruistic behavior from men to women will be regarded as more selfish than would the same behavior from one person to another of the same sex; conversely, altruistic behavior from women to men will not be seen as more selfish than will behavior from one person to another of the same sex. In Study 2, we manipulated recipients' age (young vs. old) to assess further whether sex differences are based on the mating function of altruism. We expected that male altruistic behaviors toward a young woman would be regarded as more selfish than would such behavior toward an old woman because

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the latter is less likely to work as a courtship display.

Study 1

Methods

(a) Participants and Design

We recruited 2080 participants through the Macromill online research system (Macromill, Inc. Tokyo, Japan). Participants' average age was 45.3 ($SD = 13.87$; 1040 males and 1040 females). They were randomly allocated to one condition in a 2 (helper sex) \times 2 (recipient sex) between-participants design. Participants also answered another questionnaire, although these results are not presented in this paper because the questionnaires were for a different purpose.

(b) Procedure

Participants read one of four short vignettes about a young person, named Kazuo (male) or Naoko (female), who helped a young stranger trying to find something he/she had lost (for detail, see Supplementary Materials). The vignette was the same across the conditions, except for the sex of the helper and recipient. After reading the vignettes, participants evaluated helpers' selfish motivation (2 items: "want to be seen as a good person" and "want to obtain repayment"). It was rated on a 7-point scale (1 = not at all, 7 = extremely). They also evaluated the helper's altruistic motivation and traits (see Supplementary Materials). Additionally, they were asked to report the recipient's sex (1 = man, 2 = woman, 3 = uncertain) as a manipulation check.

Results and Discussion

Four hundred ninety-six of the 2080 participants did not correctly indicate the recipient's sex. Thus, these participants were excluded from the following analyses. The final sample comprised 1584 Japanese individuals aged 20–70 years ($M = 45.1$, $SD = 13.70$; 736 males and 848 females).

The two selfish motivation items ($r = .63$) were averaged to obtain the dependent variable. We conducted a 2 (helper sex) \times 2 (recipient sex) two-way analysis of variance (ANOVA) on selfish motivation (Figure 1). We

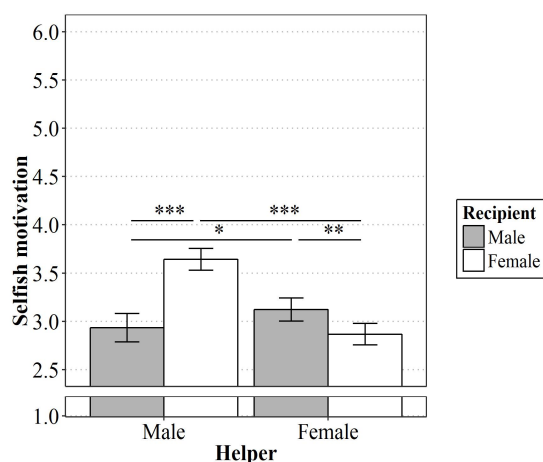


Figure 1. Mean ratings (95% CIs) of selfish motivation across each condition in Study 1. Simple main effects at * $p < .05$, ** $p < .01$, *** $p < .001$.

found significant main effects of helper sex, $F(1, 1580) = 22.15$, $p < .001$, $\eta_p^2 = .014$, and recipient sex, $F(1, 1580) = 13.22$, $p < .001$, $\eta_p^2 = .008$, and a significant interaction effect, $F(1, 1580) = 59.70$, $p < .001$, $\eta_p^2 = .036$. A man who helped a woman was evaluated as more selfish than was someone who helped a member of the same sex ($F_s = 61.36, 88.62$, $ps < .001$, $\eta_p^2_s = .037, .053$). A woman who helped a man was also viewed as more selfish than was a person who helped the same sex ($F_s = 4.04, 8.82$, $ps = .045, .003$, $\eta_p^2_s = .003, .006$).

We also conducted a two-way ANOVA on ratings of helpers' altruistic traits and motivation, which yielded mostly consistent results to those for selfish motivation. However, the effect size of the interaction was much smaller than that of selfish motivation ($\eta_p^2_s = .003, .004$; for details, see Supplementary Materials).

Study 1 found that a man who helped a woman was seen as more selfish than was a person who helped a member of the same sex. Although a woman who helped a man was also seen as more selfish than was a person who helped the same sex, the effect size was greater for male helpers. Thus, we consider that males were viewed as more selfish than were females when they helped the opposite sex.

Although we demonstrated sexual asymmetry in third-person evaluations of altruistic behavior, it remains unclear whether these results were due to the function of altruistic behavior as a mating signal. Thus, we further investigated this by focusing on male helpers and manipulating recipients' sex and age. Male altruism directed at an old woman (vs. a young woman) is perhaps less likely to be interpreted as a courtship display. Therefore, a man who helps an elderly woman might not be regarded as more selfish.

Study 2

Methods

(a) Participants and Design

We recruited 2080 participants through the Macromill online research system (Macromill, Inc. Tokyo, Japan). Participants' average age was 44.5 ($SD = 14.09$; 1040 males and 1040 females). They were randomly allocated to one condition of a 2 (recipient age: young vs. old) \times 2 (recipient sex) between-participants design. None of the participants took part in Study 1.

(b) Procedure

All procedures were the same as in Study 1, save for the manipulations—namely, we manipulated recipient's age and kept helper's sex constant (i.e., as male). Participants read one of four short vignettes wherein a young man helped a man (or woman) who was young (or old). After reading the vignettes, participants completed the same measure as in Study 1. Additionally, they were asked to indicate recipient's sex and age (1 = man of approximately the same age as the helper, 2 = woman of approximately the same age as the helper, 3 = old man, 4 = old woman, 5 = unknown) as a manipulation check.

Results and Discussion

Seven hundred forty-four of the 2080 participants incorrectly answered the manipulation check question;

thus, they were excluded from the following analyses. The final sample comprised 1336 Japanese, aged 20–69 years ($M = 44.0$, $SD = 14.11$; 646 males and 690 females).

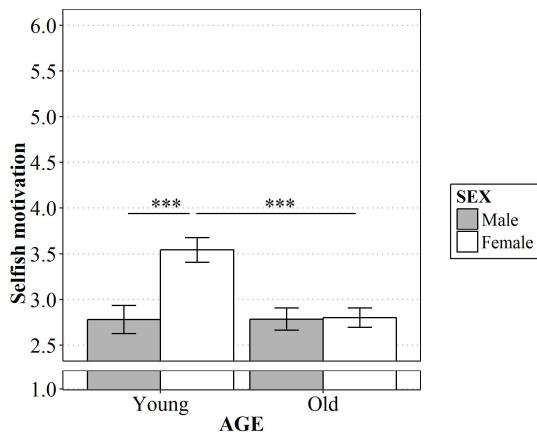


Figure 2. Mean ratings (95% CIs) of selfish motivation across each condition in Study 2. Simple main effects at $***p < .001$.

The two selfish motivation items ($r = .58$) were averaged to obtain the dependent variable, as in Study 1. A 2 (recipient age) \times 2 (recipient sex) two-way ANOVA was run on selfish motivation (see Figure 2). We found significant main effects of recipient sex, $F(1, 1332) = 34.09$, $p < .001$, $\eta^2_p = .025$, and recipient age, $F(1, 1332) = 30.63$, $p < .001$, $\eta^2_p = .023$, as well as an interaction effect, $F(1, 1332) = 31.34$, $p < .001$, $\eta^2_p = .023$. A man who helped a young woman was viewed as more selfish than was a man who helped a young man ($F(1, 1332) = 55.20$, $p < .001$, $\eta^2_p = .040$) or an old woman ($F(1, 1332) = 76.51$, $p < .001$, $\eta^2_p = .054$). However, a man who helped an old woman was not viewed as more selfish than was a man who helped an old man, $F(1, 1332) = 0.04$, $p = .850$, $\eta^2_p < .001$.

We also conducted a two-way ANOVA on altruistic traits and motivation. The results were mostly consistent with the selfish motivation results, though the effect size of the interaction was much smaller than that of selfish motivation (η^2_p s = .005, .001; for details, see Supplementary Materials).

In summary, we observed that a man who helped a young woman was viewed as more selfish than was a man who helped a young man, whereas a man who helped an elderly woman was not viewed as more selfish than was a man who helped an elderly man. These results mainly support the idea that differences in evaluations are based on the function of altruistic behavior as a mating signal.

General Discussion

In Studies 1 ($N = 1584$) and 2 ($N = 1336$), we investigated whether evaluations of altruistic behavior differed according to actors' and recipients' sex. The results indicated that a man who helped a young woman was consistently viewed as more selfish than was a man who helped another man or an old woman. This suggests that male generosity functions as a mating signal.

Previous studies revealed that generosity's function as a mating signal differs by sex; females place greater emphasis on the generosity of potential mates than do

males, while males display their altruism more often than do females (e.g., Iredale et al., 2008; Phillips et al., 2008). Similarly, we found that there was sexual asymmetry in third-person evaluations of altruistic behavior. Although a woman who helped a man was viewed as more selfish than was a woman who helped another woman, this effect was relatively weaker compared to when a man helped a woman (see Figure 1). These results support the hypothesis that generosity's function as a mating signal differs between the sexes.

This study has two limitations. First, we used only a single vignette, which might have limited the generalizability of our findings. In the future, we should examine evaluations of altruistic behavior under different situations. Second, although we found a clear interaction effect in both studies, the effect size was small. It is probably because the manipulation was rather minor. In both studies, we used simple vignettes and manipulated only a few words related to the sex or age of helpers/recipients. Therefore, participants likely found it difficult to imagine the situation vividly, leading to a small effect. Future studies should examine this effect in a more realistic situation.

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Supplementary Material

Electronic supplementary material is available online.

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