

Social Value Orientations on Resource Allocation: The Moderation Analysis of Relationship Closeness and Competitive Situation

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Since resources are limited, resource allocation is a major issue in psychology. The decision-making process underlying resource allocation is complicated and influenced by numerous factors. Social value orientation is a continuous construct for representing the preference for resource allocation. The triple-dominance measure of social value orientation is a frequently used instrument for predicting real-life behavior. Social value orientation has been treated as a stable psychological attribute across various situations. However, it's easily affected and involves the process of resource allocation considering the closeness between oneself and others. In the present study, the closeness between oneself and others was manipulated across the experiments to systematically investigate how closeness affects the process of resource allocation. The results demonstrated that the allocated resources varied with different degrees of closeness, and individuals with different social value orientations showed different patterns of resource allocation.

Keywords: *closeness, competitive situation, resource allocation, social value orientation*

Extended Abstract

Because resources are limited, resource allocation is a major topic in psychology. The decision-making process underlying resource allocation is complicated and influenced by numerous factors. A construct used to elucidate this process is social value orientation, which represents preferences for resource allocation on a continuum. In particular, the triple dominance measure of social value orientation is frequently used to predict real-life behavior (Van Lange, 1999; Van Lange et al., 1997). Based on the use of a decomposed game, this integrative model suggests that there are three orientations: prosocial, individualistic, and competitive. Individuals with a prosocial orientation tend to maximize joint outcomes or minimize absolute differences in outcomes for the self and others; individuals with an individualistic orientation tend to enhance outcomes for the self; while individuals with a competitive orientation tend to maximize the difference in outcomes for the self and others.

A wealth of social value orientation research has demonstrated that differences in behavioral and psychological traits are related to different social value orientations. However, these studies have assumed that the orientation of an individual's social value is consistent across contexts. They have not considered how the process of resource allocation may vary with the closeness between oneself and others. Therefore, we manipulated the closeness between oneself and others in the experiments of this study to systematically investigate how closeness affects the process of resource allocation.

The purpose of Experiment 1 was to investigate whether the proportions of people with different social value orientations change with the closeness between oneself and others. One hundred and nineteen individuals participated in Experiment 1 for either course credit or a monetary reward (NT\$150). All of the participants had normal or corrected-to-normal vision and were naïve

regarding the purpose of the experiment. After excluding the participants whose data were missing for any closeness condition, we obtained a final sample of 103 participants for analysis (81 females; mean age = 20.25, $SD = 2.26$). In the experiment, we first asked the participants to complete the original version of the triple dominance measure task (van Lange et al., 1997). The participants were classified if they made six or more choices that were consistent with a prosocial, individualistic, or competitive orientation. We identified 53 participants with a prosocial (51.5%), 43 with an individualist (41.7%), and seven with a competitive (6.8%) orientation. The participants were then instructed to imagine five concentric circles, map themselves onto the central circle, and place people who they knew into the remaining circles. A closer placement to the center represented more intimacy between the self and the individual being placed. From the center outwards, four closeness conditions were established as follows: high intimacy, moderate intimacy, low intimacy, and stranger. For example, these conditions could describe the participant's closeness with their best friend, a particular friendly acquaintance, a distant acquaintance, and a stranger, respectively. The participants were then instructed to complete four more triple dominance measure tasks, in which they successively thought of people of different closeness levels as the other when making their choices. The results showed that the proportions of the three social value orientations were not equal under the different closeness conditions. In the strange and low intimacy conditions [strange condition: $\chi^2(2, N = 103) = 34.10, p < .001$; low intimacy condition: $\chi^2(2, N = 103) = 17.26, p < .001$], the proportions of participants with a prosocial orientation and individualistic orientation was higher than that with a competitive orientation ($ps < .001$), whereas there was no difference between the proportion of participants with a prosocial and individualist orientation. In the moderate and high intimacy conditions [moderate intimacy condition: $\chi^2(1, N = 103) = 33.80, p < .001$; high intimacy condition: $\chi^2(1, N = 103) = 76.90, p < .001$], no participants were classified as having a competitive orientation, but there was a difference between the proportions of participants with prosocial and individualist orientations. Our results thus captured the distinctive influence of closeness on resource

allocation for different social value orientations.

In Experiment 2, we modified the triple dominance measure used in Experiment 1 to provide stronger evidence for the effect of closeness on social value orientation. First, the participants completed the original version of the triple dominance measure task, as in Experiment 1. They then completed more of these tasks but under the four closeness conditions and with a different mode of task completion, which consisted of a continuous distribution of points to themselves and others instead of making individual choices for each item. The participants were instructed to allocate points to themselves and others in the following stages. First, in the resource allocation stage, the participants were given 820 points to freely allocate to themselves or others. Then, in the resource deprivation stage, they were given 820 negative points that they could choose to not use at all, or to allocate partially to themselves, others, or both. Three indices were obtained from the participants' point allocations in the two stages: the resource allocation index (the positive points allocated to others in the resource allocation stage), the resource deprivation index (the negative points allocated to others in the resource deprivation stage), and the total index (the overall points of others obtained after both stages). Of the 132 participants, 113 provided data that were complete and were therefore included in our analysis (84 females; mean age = 30.07, $SD = 10.12$). The participants were classified if they made six or more choices that were consistent with a prosocial, individualistic, or competitive orientation. In this experiment, 64 participants were classified as having a prosocial (56.6%), 40 an individualist (35.4%), and nine a competitive (8.0%) orientation from the original version of the triple dominance measure task. A 3 (social value orientation: prosocial, individualistic, and competitive) \times 4 (closeness condition: high intimacy, moderate intimacy, low intimacy, and stranger) mixed-measures analysis of variance (ANOVA) was then conducted to compare the total indices. The most interesting result was the significant interaction between the two factors, $F(6, 330) = 3.12, p = .005, \eta_p^2 = .054$. For the prosocial and individualist participants [prosocial: $F(3, 330) = 42.70, p < .001, \eta_p^2 = .280$; individualist: $F(3, 330) = 60.67, p$

$< .001$, $\eta_p^2 = .355$], the total indices were higher in the high intimacy condition than in the moderate intimacy condition, and higher in the moderate intimacy condition than in the low intimacy and stranger conditions ($p < .01$). For the competitive group [$F(3, 330) = 16.94$, $p < .001$, $\eta_p^2 = .133$], the total indices were higher in the high intimacy and moderate intimacy conditions than in the stranger condition ($p < .01$). The same analysis was conducted with the resource allocation index as the dependent variable, and similar results were obtained. These results suggested that closeness moderated the relationship between social value orientation and resource allocation. Specifically, the prosocial and individualist participants were more sensitive to closeness than the competitive participants. In the resource deprivation index analysis, the interaction between social value orientation and the closeness condition did not reach significance [$F(6, 330) = 1.54$, $p = .165$, $\eta_p^2 = .027$]. This result suggested that the participants tended to deprive others of resources in lower intimacy conditions regardless of their social value orientation.

A previous study showed that prosocial individuals displayed stronger ingroup love but not more or less outgroup hate (de Dreu, 2010). To extend this line of research, we manipulated the relation between the self and others in Experiment 3 by pairing the participants with an ingroup or outgroup partner. The participants were required to distribute limited resources between themselves and others whose viewpoints were identical (same-to-self condition) or opposite (opposite-to-self condition) to their own. The participants first completed the original version of the triple dominance measure task, as in Experiment 1. They then completed the continuous point allocation version of the task under the two viewpoint conditions. Of the 138 participants, 114 provided data that were complete and therefore included in our analysis (84 females; mean age = 29.98, $SD = 9.02$). In our analysis of the responses in the original version of the task, the participants were classified if they made

six or more choices that were consistent with a prosocial, individualistic, or competitive orientation. In this experiment, we identified 65 participants with a prosocial (50.7%), 40 with an individualist (35.1%), and nine with a competitive (7.9%) orientation. A 3 (social value orientation: prosocial, individualistic, and competitive) \times 2 (viewpoint condition: same-to-self, opposite-to-self) mixed-measures ANOVA was then conducted to compare the total indices. The most interesting result was the significant interaction between the two factors, $F(2, 111) = 6.56$, $p = .002$, $\eta_p^2 = .106$. In the opposite-to-self condition, the prosocial participants allocated more resources to others than the individualist and competitive participants, whereas in the same-to-self condition, there was no difference between the resource allocation of the three orientation groups [opposite-to-self condition: $F(2, 222) = 22.72$, $p < .001$, $\eta_p^2 = .170$; same-to-self condition: $F(2, 222) = 2.32$, $p = .100$, $\eta_p^2 = .020$]. The same analysis was conducted with the resource allocation index as the dependent variable, and similar results were obtained. Meanwhile, in the resource deprivation index analysis, the interaction between social value orientation and the closeness condition reached significance [$F(2, 111) = 4.69$, $p = .011$, $\eta_p^2 = .078$]. In the opposite-to-self condition, the prosocial participants deprived others of fewer resources than the individualist and competitive participants, whereas in the same-to-self condition, there was no difference between the resource deprivation of the three orientation groups [opposite-to-self condition: $F(2, 222) = 9.39$, $p < .001$, $\eta_p^2 = .078$; same-to-self condition: $F(2, 222) < 0.001$, $p > .99$, $\eta_p^2 < .001$]. These results suggested that social value orientation moderated resource deprivation. Overall, the results of the three experiments in this study demonstrated that the extent of resource allocation varied with the degree of closeness between the self and others, and that individuals with different social value orientations chose different patterns of resource allocation.