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Sujin Lee, Wendi L. Adair, Elizabeth A. Mannix, Junha Kim

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The Relational Versus Collective "We" and Intergroup Allocation: The Role of Nested Group Categorization

Sujin Lee
Department of Management Science
Graduate School of Innovation and Technology Management
KAIST
Daejeon, Korea
Phone: 82-42-350-4339
Fax: 82-42-350-4340
sujinlee@kaist.ac.kr

Wendi L. Adair
Department of Psychology
University of Waterloo

Elizabeth A. Mannix
Johnson Graduate School of Management
Cornell University

Junha Kim
Department of Management Science
KAIST

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The Relational Versus Collective "We" and Intergroup Allocation: The Role of Nested Group Categorization

Abstract

Intergroup research has focused primarily, if not solely, on how an intergroup comparative context primes social categorization. The current research examines how individual differences, in terms of distinct forms of social self (the relational versus collective self), differentially drive social categorization and zero-sum resource allocation across groups nested within a superordinate group. Results show that the relational self exhibited more ingroup-biased allocations than the collective self; superordinate categorization mediated this relationship. Moreover, the relational self showed more ingroup-biased allocations under the condition of intergroup competition than cooperation; whereas the collective self showed equally unbiased allocations under the conditions of intergroup competition and cooperation. Our research suggests that competition worsens nested group relations for the relational self, but not for the collective self.

Keywords: relational self, collective self, social categorization, ingroup bias, identity

Multiple groups are typically nested within a superordinate group—for example,

social and cognitive divisions within a psychology department. When people focus on their own group rather than the superordinate, they perceive more of an "us-versus-them" categorization, and are motivated to promote the welfare of their individual group over that of the entire group (Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990; Wit & Kerr, 2002). This is known as ingroup bias, individuals' tendency to view their own group as more deserving of resources than the outgroup, thus benefiting the ingroup while sacrificing common good (Tajfel & Turner, 1986). Such ingroup-biased zero-sum allocation can hamper collaboration across nested groups (Allen, 1971; Katz & Tushman, 1981). Our paper focuses on such zero-sum resource allocations in which one group's gain corresponds to the other group's loss.

The competitive intergroup context has been known to prompt an "us-versus-them" intergroup categorization and generate ingroup bias (Fiske & Ruscher, 1993; Tajfel & Turner, 1986). In addition to situational factors, self-categorization theory explains that individual differences also influence group categorization, for example the personal self ("I") (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). However, the multiple levels of the self framework (Brewer & Gardner, 1996) claims that in addition to the personal self, there are two distinct forms of social self: the relational and the collective self. The collective self has been the focus of intergroup research, mostly as a consequence of categorization processes (Sedikides & Brewer, 2001). The relational self, with few exceptions, has remained disconnected from the intergroup literature, with consideration mostly within the domain of interpersonal relationships (Andersen & Chen, 2002; Chen, Boucher, & Tapias, 2006). There remains a lack of empirical research investigating how individual differences in terms of distinct forms of the social self could differentially drive group categorization and zero-sum resource allocation across nested groups. This gap has both theoretical and practical importance because the effects of the relational and collective self can explain individuals'

cognition and behavior in group settings (Brewer & Chen, 2007; Cooper & Thatcher, 2010). Our work uniquely examines *differential* effects of the relational versus collective self as *predictors* for the categorization of nested groups and ingroup-biased zero-sum allocations under a competitive or cooperative intergroup context.

Relational versus Collective Self and Nested Group Categorization

The relational self refers to the aspect of the self that is derived from close relationship circles, e.g., "I am a friend of Rachel" (Andersen & Chen, 2002; Brewer & Gardner, 1996). Relational bonds can be defined in a number of ways—sometimes not always based on close ties—for example a friend of a friend is one type of important, indirect relational tie (Yuki, Maddux, Brewer, & Takemura, 2005). In contrast, the collective self refers to the aspect of the self that is derived from membership to a specific group, e.g., "I am a member of the APA". The collective self is based not on close bonds between people but on knowledge that people share the same group membership (Brewer & Gardner, 1996; Tajfel & Turner, 1986). Collective selves define themselves as interchangeable exemplars of the group (Turner, Oakes, Haslam, & McGarty, 1994).

Although the relational self was initially proposed as a construct to understand interpersonal relationships, recent scholarship suggests it can be used along with the collective self to understand how individuals perceive their group memberships (Brewer & Chen, 2007; Cooper & Thatcher, 2010). For example, both relationals and collectives are motivated by the desire to reduce uncertainty about one's place in the social world by relying on their group membership (Cooper & Thatcher, 2010; Hogg & Terry, 2000). The relational self is relevant for group phenomena because relationals see the group as an extension of their role-relationships (Sluss & Ashforth, 2007); the relational self desires to experience similarity with a group (Mael & Ashforth, 2001).

Brewer and Chen (2007) argue that because relationals define their self-identity in terms of relationship connections, their group orientation is based on interdependence and reciprocity among group members; in contrast, collectives' group orientation is based more on depersonalized group membership, and most notably, differences from other groups. Based on this difference, we propose that in a nested group context, collectives should show more superordinate categorization than relationals. Collectives are more likely to focus on similarities among the superordinate group members than differences between nested groups, because the superordinate group allows for greater sharing of a symbolic category and sense of commonality among ingroup members. The depersonalization typical for collectives—defined as "a shift towards the perception of self as an interchangeable exemplar of some social category and away from the perception of self as a unique person" (Turner et al., 1987, p. 50)—is more likely to occur when a group is large (Brewer & Kramer, 1986). By contrast, the nested group structure is likely to allow relationals to focus on their membership in the nested group over the superordinate group. The smaller the group, the easier it is to form close, dyadic relationships (Brewer & Gardner, 1996). Because relationals care about interdependence and exchange among ingroup members (Brewer & Chen, 2007), a smaller, nested group allows more reciprocation among members than a superordinate group. Thus, in a nested group context, relationals should show less superordinate categorization than collectives.

Relational/Collective Self and Intergroup Allocation under Competition and Cooperation

The common ingroup identity model (Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993) posits that superordinate categorization is necessary to decrease ingroup bias between groups, because a common group identity enhances similarity perceptions and attraction across distinct nested groups. Thus, shifting categorization from distinct nested groups to one common superordinate group engenders favorable judgment of the other nested

groups. In contrast to a superordinate categorization, an ingroup-versus-outgroup categorization increases competitive orientation toward the outgroup and heightens concern for the individual's own group (Kramer & Brewer, 1984). Similarly, optimal distinctiveness theory (Brewer, 1991) claims that members of larger groups favor their groups less than members of smaller groups because large groups are insufficiently differentiated to form meaningful ingroups (Brewer, Manzi, & Shaw, 1993). We propose that if relationals are less likely than collectives to perceive superordinate categorization of nested groups and superordinate categorization is necessary to mitigate ingroup bias (Gaertner et al., 1993), then relationals should show more ingroup-biased zero-sum allocation across nested groups than collectives. Moreover, relationals' lower level of superordinate categorization should mediate this relationship.

One contextual factor that facilitates the perception of superordinate categorization is the level of competition or cooperation between groups (Gaertner et al., 1990). Individuals modify their perception of others from "us-versus-them" to a superordinate "we" under intergroup cooperation (Gaertner et al., 1990) and it reduces ingroup bias (Allport, 1954; Deutsch, 1973; Sherif, Harvey, White, Hood, & Sherif, 1954). Conversely, in the context of intergroup competition, individuals experience conflict, reveal negative attitudes and behavior toward outgroup members, and engage in "us-versus-them" categorization (Campbell, 1965). This prior research suggests that nested groups are more likely to perceive superordinate categorization in a cooperative context than a competitive one.

Our final predictions are about how the relational/collective self interacts with the cooperative/competitive context on ingroup-biased allocations. As noted, superordinate categorization is necessary to reduce ingroup bias (Gaertner et al., 1993) and relationals tend to perceive less superordinate categorization of nested groups. Thus, relationals should show greater ingroup-biased zero-sum allocations under the condition of intergroup competition

(which does not elicit superordinate categorization; Campbell, 1965) than cooperation (which does generate superordinate categorization; Gaertner et al., 1990; Lee, 2005). Relationals should show strong ingroup bias when nested groups compete, because neither the relational self nor the competitive context makes the superordinate categorization salient. By contrast, the collective self's higher level of superordinate categorization of nested groups should dampen the likelihood of ingroup bias even when there is competition between the nested groups. Thus, superordinate categorization generated by the collective self in nested group relations should decrease ingroup bias both under the conditions of competition and cooperation.

In sum, we hypothesize that when groups are nested within a superordinate group, relationals will show more ingroup-biased zero-sum allocations when an intergroup context is framed as competition than cooperation. This relationship will be mediated by a lower level of superordinate categorization.

Method

This study established causality by experimentally priming the state (not trait-based) level of relational/collective self among participants. To eliminate potential confounds of personalized attachment and intragroup cohesion beyond the relational/collective-self construct itself, we utilized ad hoc groups with unfamiliar participants, holding group status constant which is known to influence the social categorization process (Tajfel & Turner, 1986).

Participants. We recruited participants from an undergraduate subject pool at a northeastern U.S. university. A total of 73 students (55 females, mean age = 20.25 years) participated in our online survey for a chance to win $100. Gender is excluded in our analyses as it did not significantly affect any of the results.

Procedure. We employed a 2 (self: relational vs. collective) x 2 (intergroup context:

competition vs. cooperation) between-participants design. Participants responded to an email invitation to take part in an online survey on decision-making. Then participants were randomly directed to one of four web pages to complete the survey.

Participants were first primed with the relational/collective self. They were presented with a scenario regarding an upcoming children's festival, which also set up the nested-group context. They were told that their task would be to allocate money across two groups nested within one organization. Using a minimal group procedure (Tajfel, Billig, Bundy, & Flament, 1971), we embedded our intergroup context (competition vs. cooperation) manipulation here. After providing participants with an example matrix, we presented four allocation matrices, one per screen, and participants were asked to choose one option out of thirteen choices per matrix. After allocating resources on all four matrices, participants responded to questionnaire items on superordinate categorization, intergroup context and some demographic measures.

Relational/collective self priming. Participants were randomly assigned either to a relational or collective self prime using an adapted version of the Twenty Statement Test (McPartland, Cumming, & Garretson, 1961). Participants respond to the question "Who are you?" by completing blank sentences. The relational-self-primed participants read the following: "Who are you? People often talk about themselves in terms of *their interpersonal relationships with their significant others, family members, or close friends. Please fill in the following 10 blank lines by describing who you are in terms of such interpersonal relationships."* The collective-self-primed participants read the following instruction: "Who are you? People often talk about themselves in terms of *their membership in groups, such as university, school, or work organization. Please fill in the following 10 blank lines by describing who you are in terms of such group memberships."* Following Brewer and Gardner (1996), we started each of the 10 blank sentences with "We" in both primes.

Superordinate categorization. Participants were then presented with the following nested-group scenario:

> Imagine that you are working part-time at the Tompkins County Children's Association. The mission of the Children's Association is to improve the lives of children by shaping policies and programs to meet their needs, and to keep the well-being of children at the top of the public agenda. The association has announced plans to organize a children's festival to increase awareness and support for its programs. You are assigned to work on this project. Please imagine that this is a representation of you, your project team (Team A) and another team (Team B) working on a different project at the Children's Association.

Participants were then presented with a picture of the two teams nested within the organization (see Figure 1; adapted from Wit & Kerr, 2002). Participants indicated (1) how much they thought the picture showed one common group and (2) how much they thought the picture showed two separate groups, using a 7-point scale (1 = *not at all;* 7 = *very much*) (Gaertner et al., 1990). The two items were highly correlated (r = -.90, p < .001); thus we reverse-coded the second measure and created an average score of superordinate-categorization.

Intergroup context manipulation. We embedded our intergroup context manipulations in the allocation scenario. The intergroup competition (cooperation) context was manipulated by the title "Inter-Team Competition (Cooperation)." Participants randomly assigned to the intergroup competition (cooperation) condition were provided the following instructions:

> It is very important to know that this task involves competing (cooperating) between your team and the other team. Your team and the other team compete (cooperate) on the development of the children's festival program. In this competition (cooperation), Team A and Team B compete (cooperate) on the quality of the program development.

In manipulation checks administered after the allocation task, participants rated the extent to which they felt Team A and Team B were competing or cooperating (Gaertner et al., 1990), using a 7-point scale (1 = *not at all*; 7 = *very much*).

Intergroup allocation. Participants were always told that they were representatives of Team A, but were asked to make several resource allocation choices across Team A and Team B. Participants read the following instruction:

> Today you and other members from Team A are meeting with members from Team B to discuss resource allocation that will affect both your team (Team A), the other team (Team B), and the Tompkins County Children's Association as a whole. This next set of questions asks you to make choices regarding resource allocations. Each choice determines an allocation of points to members of your team (Team A) and an allocation of points to members of Team B. Imagine that points represent thousands of dollars in a budget available to your team and the other team for program development. Your job is to indicate for each of the following allocation matrices the option you prefer most.

We adapted Tajfel et al.'s (1971) matrices, which have been widely used in studies on intergroup allocation—for our study we used only the zero-sum, intergroup matrices. There are two different types of zero-sum allocation matrices in Tajfel et al. (1971); each reveals different allocation-strategies underlying ingroup bias (Figure 2). On the MD/MIP (vs. MJP) matrix, participants can Maximize the Difference between two nested groups' resources (MD) in a way to Maximize their Ingroup Points (MIP), but they sacrifice Maximizing Joint Points (MJP). Dissimilarly, on the MD (vs. MIP/MJP) matrix, participants can maximize the groups' difference (MD) simply for the purpose of "beating" the other group; ingroup bias on this allocation forgoes their own ingroup (MIP) and joint points (MJP). Figure 2 shows that for Team A, Choice 1 on the MD/MIP matrix maximizes the difference between Team A and

Team B while maximizing Team A's gain but sacrificing common good; whereas Choice 1 on the MD matrix maximizes the groups' difference but relinquishes both Team A's gain and the common good.

We tested our hypotheses with two versions of each matrix, presented in random order. We asked participants to award points to members of their team and members of the other team—they did not award points to themselves (Tajfel et al., 1971). Following previous research using these matrices (e.g., Hertel & Kerr, 2001), we subtracted points awarded to outgroup members from points awarded to ingroup members and used each participant's average degree of this difference on the two MD/MIP (vs. MJP) matrices (r = .72, p < .001) and the two MD (vs. MIP/MJP) matrices (r = .92, p < .001), respectively. These two difference-scores indicate distinct measures of ingroup-biased allocation.

Results

Manipulation Checks

We checked the effectiveness of our relational/collective self priming. Following previous research (Gabriel & Gardner, 1999; Gardner, Gabriel, & Lee, 1999), we checked our relational/collective self priming with blind, trained coders' ratings of participants' self descriptions for relational (ICC = .92) and collective (ICC = .89) descriptors. We conducted a 2 (self) x 2 (intergroup context) x 2 (self manipulation checks) repeated-measures ANOVA with the manipulation checks as a within-participant factor. Planned contrasts using two-tailed tests showed that relational-self-primed participants generated more relational descriptions (M = .85, SD = .13) than collective-self-primed participants (M = .11, SD = .13), $t(69) = 17.21$, $p < .01$, $d = 5.69$. Conversely, collective-self-primed participants generated more collective descriptions (M = .78, SD = .16) than relational-self-primed participants (M = .12, SD = .12), $t(69) = 15.35$, $p < .01$, $d = 4.67$. Thus, our relational/collective self priming was successful.

We conducted a 2 (self) x 2 (intergroup context) x 2 (intergroup context manipulation checks) repeated-measures ANOVA with the manipulation checks as a within-participant factor. Demonstrating effectiveness of our intergroup context manipulation, planned contrasts using two-tailed tests showed that "intergroup cooperation" participants reported a greater perception of cooperation between Team A and Team B when allocating points (M = 5.69, SD = 1.37) than "intergroup competition" participants (M = 4.36, SD = 1.89), $t(69) = 2.32$, $p < .05$, $d = .81$. In contrast, "intergroup competition" participants reported a greater perception of inter-team competition (M = 4.45, SD = 2.12) than those in the cooperation condition (M = 2.93, SD = 2.03), $t(69) = 2.65$, $p < .01$, $d = .73$.

Superordinate Categorization

We predicted that individuals primed with a collective self would perceive more superordinate categorization of nested groups than those primed with a relational self. A 2 (self) x 2 (intergroup context) ANOVA showed a significant main effect of the self, $F(1, 69) = 7.66$, $p < .01$, $\eta_p^2 = .10$: Confirming our prediction, collective-self-primed participants reported greater superordinate categorization of nested groups (M = 5.21, SD = 1.68) than relational-self-primed counterparts (M = 4.06, SD = 1.93). Moreover, the main effect of intergroup context was also significant, $F(1, 69) = 11.43$, $p = .001$, $\eta_p^2 = .14$: Participants in the intergroup cooperation condition reported greater superordinate categorization (M = 5.40, SD = 1.74) than those in the competition condition (M = 3.99, SD = 1.85), replicating literature linking intergroup cooperation with superordinate categorization (Gaertner et al., 1990; Lee, 2005). The 2-way interaction was non-significant, $F < 1$.

We ran separate analyses for the one-common-group and two-separate-groups categorization measures. Those primed with a relational self were less likely to perceive one common group (M = 4.24, SD = 2.07) than those primed with a collective self (M = 5.19, SD = 1.72), $F(1, 69) = 4.36$, $p = .04$, $\eta_p^2 = .06$. In contrast, relationals were more likely to

perceive two separate groups (M = 4.14, SD = 2.02) than those primed with a collective self (M = 3.03, SD = 1.91), $F(1, 69) = 7.06$, $p = .01$, $\eta_p^2 = .09$. Thus, our findings cannot be ascribed to either the one-common-group or two-separate-groups categorization measure alone.

Intergroup Allocation in Zero-Sum Task

We predicted that participants primed with a relational self would show more ingroup-biased zero-sum allocations than those primed with a collective self; moreover, relationals would show more ingroup bias under the condition of intergroup competition than cooperation. We ran a 2 (self) x 2 (intergroup context) ANOVA on the MD/MIP (vs. MJP) allocation matrix. Consistent with our prediction, the main effect of the self was significant, $F(1, 69) = 8.01$, $p < .01$, $\eta_p^2 = .10$: The relational-self-primed participants showed more ingroup-biased allocations, benefiting their nested group while sacrificing common good (M = 3.61, SD = 8.03) than the collective-self-primed counterparts (M = -1.26, SD = 5.27), who chose instead to benefit common good while sacrificing their nested group. The main effect of intergroup context was also significant for this matrix, $F(1, 69) = 6.12$, $p < .02$, $\eta_p^2 = .08$: Participants under the condition of intergroup competition reported more ingroup-biased allocations (M = 3.20, SD = 7.86) than those under the condition of intergroup cooperation (M = -.98, SD = 5.77), who chose to benefit the common good while sacrificing their nested group.

Although the self x intergroup context interaction was not significant, $F < 1$, planned comparisons showed that as predicted, the relational-self-primed participants showed more ingroup-biased allocations benefiting their nested group while sacrificing common good under the condition of intergroup competition (M = 5.88, SD = 8.75) than cooperation (M = .26, SD = 5.52), $F(1, 69) = 7.07$, $p = .01$, $\eta_p^2 = .09$. In contrast, the collective-self-primed participants reported equally unbiased allocations under the condition of intergroup

competition (M = -.32, SD = 4.76) and cooperation (M = -2.75, SD = 5.89), $F < 1$. Additionally, under the condition of intergroup competition, relationals showed more ingroup-biased allocations favoring their nested group while forgoing common good than collectives, $F(1, 69) = 9.19$, $p < .01$, $\eta_p^2 = .12$; however, under the condition of intergroup cooperation, there was no difference between relationals' and collectives' levels of ingroup bias ($p > .20$; see Figure 3).

Next, we ran a 2 (self) x 2 (intergroup context) ANOVA on the MD (vs. MIP/MJP) allocation matrix. Neither the main effects of the self and intergroup context nor the 2-way interaction was significant (ps > .20). None of the planned comparisons reached significance (ps > .30). Relationals did not show more ingroup bias in a nested group context for the sake of maximizing the difference between groups' gains. Thus, "beating" other nested groups while sacrificing their nested group's gain and common good was not the relational self's allocation strategy.

Tests of Mediation

We tested superordinate categorization as a mediator following Baron and Kenny (1986). We previously reported a significant main effect of the self on superordinate categorization and ingroup-biased allocations on the MD/MIP (vs. MJP) matrix. And superordinate categorization predicted the ingroup-biased zero-sum allocations, b = -.67, t = -7.54, $p < .001$. When the self and superordinate categorization were simultaneously entered into a regression to predict ingroup-biased allocations (Model 2 in Table 1), the self became non-significant ($p > .10$), while superordinate categorization remained significant, b = -.59, t = -6.00, $p < .001$ (Sobel $z = 2.45$, $p < .02$). Additionally, when superordinate categorization was entered, the significant main effect of intergroup context became non-significant ($p >$ .50). Separate mediation analyses for the one-common-group and two-separate-groups categorization measures showed similar results.

We further predicted that the interaction of relational self and intergroup competition should be mediated by superordinate categorization. Because the omnibus test of the self x intergroup context 2-way interaction was non-significant, and we expected the mediation to occur only in the condition of relational self combined with competition, we ran the mediation tests separately within the relational self condition (to compare the effect of competition vs. cooperation) and the competition condition (to compare the effect of relational vs. collective self) (e.g., Spencer, Zanna, & Fong, 2005). Analyses within the relational self condition showed that intergroup context predicted superordinate categorization, $b = .38$, $t = 2.58$, $p < .02$; superordinate categorization predicted ingroup-biased allocations on the MD/MIP (vs. MJP) matrix, $b = -.71$, $t = -6.30$, $p < .001$; when intergroup context and superordinate categorization were added to the model predicting the MD/MIP (vs. MJP) allocation, intergroup context became non-significant, $t < 1$, while superordinate categorization remained significant, $b = -.67$, $t = -5.51$, $p < .001$ (Sobel $z = -2.36$, $p < .02$). Furthermore, analyses within the competition condition showed that the self predicted superordinate categorization, $b = -.33$, $t = -2.23$, $p = .03$; superordinate categorization predicted ingroup-biased allocations on the MD/MIP (vs. MJP) matrix, $b = -.69$, $t = -6.18$, $p < .001$; when the self and superordinate categorization were added to the model predicting the ingroup-biased allocations, the self became non-significant ($p > .10$), while superordinate categorization stayed significant, $b = -.63$, $t = -5.43$, $p < .001$ (Sobel $z = 2.11$, $p < .04$). These results confirm our hypothesis that the greatest ingroup bias, occurring under conditions of the relational self combined with intergroup competition, was mediated by the lower level of superordinate categorization in that condition.

Discussion

This paper advances the role of the relational versus collective self in social categorization and zero-sum resource allocation across nested groups. We find that (1) when

unfamiliar, equal-status groups are nested within a superordinate group, the collective self perceives more superordinate categorization than the relational self, and thus shows less ingroup bias in zero-sum resource allocation; (2) the greatest ingroup bias occurs when the relational self is combined with intergroup competition, because superordinate categorization is lacking; (3) to mitigate ingroup-biased decisions in nested group relations, the collective self or intergroup cooperation is needed to facilitate superordinate categorization. Our findings contribute to theories of self-categorization, intergroup relations, and self-construal.

Our work extends self-categorization theory by demonstrating the collective and relational selves differentially affect the categorization of nested groups. Self-categorization views maintain that intergroup comparative contexts prompt individuals to define themselves in terms of their ingroup membership (Turner et al., 1987). To date, self-categorization research has not addressed individual differences such as distinct forms of the social self that could differentially drive the categorization process. Our research shifts the causal direction, showing how distinct types of "we"-oriented self influence categorization processes, adding new insights to existing self-categorization research that has focused on how categorization influences the "we" (group identification).

Our work extends intergroup research by incorporating the relational self into models linking the self to ingroup bias. Although relational and collective selves are theorized to influence group relations differently (Andersen & Chen, 2002; Brewer & Chen, 2007), intergroup research has focused primarily on the collective self. Because the relational self identifies most with close relationships, it may appear to promote cooperative relationships even with an outgroup member in dyadic interaction (Brickson, 2000). However, our data suggest that intergroup cues may override relationals' interpersonal focus, at least when an ingroup and an outgroup member are unfamiliar. Moreover, our data show that when

allocating resources, relationals prioritize benefiting their nested group over favoring common good or groups' difference.

This paper also adds to self-construal theory. Our findings highlight that people with a salient relational "we"-oriented self tend to make ingroup-versus-outgroup categorization of nested groups; whereas when the collective "we"-oriented self is salient they appear to be open to accepting another nested-group as part of their ingroup. When it comes to nested group relations, interdependents show restricted as well as expanded ingroup boundaries, depending on the distinct type of interdependence activated. Distinct types of interdependence seem to generate differential allocation strategies. In a nested group context, relationals appear to behave more like those primed with an ingroup-loyalty norm, allocating in favor of ingroup over joint gain; whereas collectives behave more like those primed with an equality norm, allocating in an unbiased manner (Hertel & Kerr, 2001).

While we held a host of motivational factors constant, including group status and self-enhancement, motivational factors may moderate our findings. We focused on a cognitive explanation, yet categorization involves both cognitive and motivational factors. For example, members of high-status groups may display higher levels of ingroup bias than constituents of low-status groups, as the social categorization process is also guided by an individual's self-enhancement motivation (Turner et al., 1987). When group status differentials are involved, self-enhancement motivation may orient collectives, similar to relationals, toward less superordinate categorization in favor of a higher-status nested group.

Relatedly, future research may explore the mechanism for non-zero-sum allocations in which favoring ingroup over outgroup does not conflict with benefiting common good. Our preliminary data on the MD/MIP/MJP covarying matrix in Tajfel et al. (1971) revealed that relationals maximized more ingroup and joint gain through ingroup bias under the condition of intergroup competition than cooperation; whereas collectives showed equal

levels of less biased allocations under the condition of competition and cooperation. These patterns replicate Tajfel et al. (1971) whose participants showed similar behavior on those different types of allocation. However, the superordinate categorization did not mediate this relationship on the non-zero-sum allocation. Future work may elucidate the mechanism for the relational versus collective self's allocation behavior in a complex situation of favoring ingroup over outgroup while benefiting common good.

To specify the contingencies of our model, we focused on narrowly defined conditions of an initial encounter with unfamiliar groups nested within a superordinate category. To the extent that the categorization effect weakens over time (Chatman & Flynn, 2001; Harrison, Price, & Bell, 1998) and the interdependent self influences the subjective perception of time (Lee, Lee, & Kern, 2011), future research should investigate how relationals and collectives change their categorization over time. Relationals may show more superordinate categorization and less ingroup-bias over time, as they get to know outgroup members. Also, to the extent that intergroup dynamics are more competitive than inter-individual dynamics (Insko, Schopler, Hoyle, Dardis, & Graetz, 1990), relationals and collectives may behave differently when inter-individual cues are salient and intergroup cues are hidden. Future work examining the effect of the relational/collective self on existing groups or new groups over time and/or fully crossing the self and inter-individual versus intergroup context would expand our model and the currently scant literature on the differential effects of the relational versus collective self on intergroup relations.

References

Allen, T. J. (1971). *Managing the flow of technology: Technology transfer and the dissemination of technological information within the R&D organization*. MIT Press: Cambridge, MA.

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley: MA.

Andersen, S. M., & Chen, S. (2002). The relational self: An interpersonal social-cognitive theory. *Psychological Review, 109*, 619-645.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin, 17*, 475-482.

Brewer, M. B., & Chen, Y. (2007). Where (who) are collectives in collectivism? Toward conceptual clarification of individualism and collectivism. *Psychological Review, 114*, 133-151.

Brewer, M. B., & Gardner, W. (1996). Who is this "we"? Levels of collective identity and self representations. *Journal of Personality and Social Psychology, 71*, 83-93.

Brewer, M. B., & Kramer, R. M. (1986). Choice behavior in social dilemmas: Effects of social identity, group size, and decision framing. *Journal of Personality and Social Psychology, 50*, 543-549.

Brewer, M. B., Manzi, J. M., & Shaw, J. S. (1993). In-group identification as a function of depersonalization, distinctiveness, and status. *Psychological Science, 4*, 88-92.

Brickson, S. (2000). The impact of identity orientation on individual and organizational outcomes in demographically diverse settings. *Academy of Management Review, 25*, 82-101.

Campbell, D. T. (1965). Ethnocentric and other altruistic motives. In D. Levine (Ed.), *Nebraska symposium on motivation* (pp. 283-311). University of Nebraska Press: Lincoln.

Chatman, J. A., & Flynn, F. J. (2001). The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Academy of Management Journal, 44,* 956-974.

Chen, S., Boucher H. C., & Tapias, M. P. (2006). The relational self revealed: Integrative conceptualization and implications for interpersonal life. *Psychological Bulletin, 132*, 151-179.

Cooper, D., & Thatcher, S. M. B. (2010). Identification in organizations: The role of self-concept orientations and identification motives. *Academy of Management Review, 35*, 516-538.

Deutsch, M. (1973). *The resolution of conflict: Constructive and destructive processes*. Yale University Press: New Haven, CT.

Dovidio, J. F., Gaertner, S. L., Isen, A. M., & Lowrance, R. (1995). Group representations and intergroup bias: Positive affect, similarity, and group size. *Personality and Social Psychology Bulletin, 21*, 856-865.

Fiske, S. T., & Ruscher, J. B. (1993). Negative interdependence and prejudice; whence the affect? In D. M. Mackie & D. L. Hamilton (Eds.), *Affect, cognition, and stereotyping: Interactive processes in group perception* (pp. 239-269). New York: Academic Press.

Gabriel, S., & Gardner, W. L. (1999). Are there "his" or "hers" types of interdependence? The implications of gender differences in collective versus relational interdependence for affect, behavior, and cognition. *Journal of Personality and Social Psychology, 77*, 642-655.

Gaertner, S. L., Dovidio, J. F., Anastasio, P. A., Bachman, B. A., & Rust, M. C. (1993). The common ingroup identity model: Recategorization and the reduction of intergroup bias. In W. Stroebe & M. Hewstone (Eds.), *European Review of Social Psychology, 4,* 1-26.

Gaertner, S. L., Mann, J. A., Dovidio, J. F., Murrell, A. J., & Pomare, M. (1990). How does cooperation reduce intergroup bias? *Journal of Personality and Social Psychology, 59,* 692-704.

Gardner, W. L., Gabriel, S., & Lee, A. Y. (1999). "I" value freedom but "we" value relationships: Self-construal priming mirrors cultural differences in judgment. *Psychological Science, 10,* 321-326.

Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and time effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal, 41,* 96-107.

Heatherton, T. F., & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology, 60,* 895-910.

Hertel, G., & Kerr, N. L. (2001). Priming in-group favoritism: The impact of normative scripts in the minimal group paradigm. *Journal of Experimental Social Psychology, 37,* 316-324.

Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review, 25,* 121-140.

Insko, C. A., Schopler, J., Hoyle, R. H., Dardis, G. J., & Graetz, K. A. (1990). Individual-group discontinuity as a function of fear and greed. *Journal of Personality and Social Psychology, 58,* 68-79.

Katz, R., & Tushman, M. (1981). An investigation into the managerial roles and career paths of gatekeepers and project supervisors in a major R&D facility. *R&D Management,*

11, 103-110.

Kramer, R. M., & Brewer, M. B. (1984). Effects of group identity on resource use in a simulated commons dilemma. *Journal of Personality and Social Psychology, 46,* 1044-1057.

Lee, S. (2005). Judgment of ingroups and outgroups in intra- and intercultural negotiation: The role of interdependent self-construal in judgment timing. *Group Decision and Negotiation, 14,* 43-62.

Lee, S., Lee, A. Y., & Kern, M. C. (2011). Viewing time through the lens of the self: The fit effect of self-construal and temporal distance on task perception. *European Journal of Social Psychology, 41,* 191-200.

Mael, F. A., & Ashforth, B. E. (2001). Identification in work, war, sports, and religion: Contrasting the benefits and risks. *Journal of Theory of Social Behavior, 31,* 197-222.

McFarland, C., & Ross, M. (1982). Impact of causal attributions on affective reactions to success and failure. *Journal of Personality and Social Psychology, 43,* 937-946.

McPartland, T. S., Cumming, J. H., & Garreston, W. (1961). Self-conception and ward behavior in two psychiatric hospitals. *Sociometry, 21,* 111-124.

Sedikides, C., & Brewer, M. B. (2001). *Individual self, relational self, collective self.* PA: Psychology Press, Philadelphia.

Sherif, M., Harvey, O. J., White, B., Hood, W., & Sherif, C. (1954). *Intergroup conflict and cooperation: The Robbers cave experiment*. University of Oklahoma Book Exchange: Norman, OK.

Sluss, D. M., & Ashforth, B. E. (2007). Relational identity and identification: Defining ourselves through work relationship. *Academy of Management Review, 32,* 9-32.

Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal chain: Why

experiments are often more effective than meditational analyses in examining psychological processes. *Journal of Personality and Social Psychology, 89,* 845-851.

Tajfel, H., Billig, M. G., Bundy, R. F., & Flament, C. (1971). Social categorization and intergroup behavior. *European Journal of Social Psychology, 1,* 149-177.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7-24). Nelson-Hall: Chicago.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory.* Basil Blackwell: Oxford.

Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin, 20,* 454-463.

Wit, A. P., & Kerr, N. L. (2002). "Me versus just us versus us all" categorization and cooperation in nested social dilemmas. *Journal of Personality and Social Psychology, 83,* 616-637.

Yuki, M., Maddux, W. W., Brewer, M. B., & Takemura, K. (2005). Cross-cultural differences in relationship- and group-based trust. *Personality and Social Psychology Bulletin, 31,* 48-62.

ENDNOTE

1. Greater ingroup bias occurs under threats to self-esteem (Tajfel & Turner, 1986). Self-esteem was the mechanism underlying the biased allocation in Tajfel et al.'s (1971) experiment on which our current procedure is based. Thus, an alternative explanation is that the different levels of self-esteem induced by our relational versus collective self priming might explain our observed effect. Participants responded to measures of state self-esteem (McFarland & Ross, 1982) ($\alpha = .86$), which are more sensitive to experimental priming than trait-level self-esteem measures (Heatherton & Polivy, 1991). A 2 (self) x 2 (intergroup context) ANOVA showed that neither the main effects nor the interaction was significant for self-esteem, ruling out the alternative explanation. Another alternative explanation is that the context of the scenario was positive (i.e., preparing for a festival) and may thus have elicited positive affect—which previous research has found to enhance superordinate categorization (Dovidio, Gaertner, Isen, & Lowrance, 1995). We measured positive affect after participants made their allocation choices. Neither the main effects nor the interaction was significant for positive affect. Thus, our findings cannot be attributed to different levels of positive affect associated with the relational versus collective self.

Table 1

Mediation of Ingroup-Biased Zero-Sum Allocation by Superordinate Categorization

Variable	Model 1	Model 2
Self	.31**	.14
Intergroup context	-.27*	-.06
Self x Intergroup context	-.11	-.09
Superordinate categorization		-.59**
F(df)	5.80 (3, 69)**	15.56 (4, 68)**
Adj. R^2	.17	.45
F change	---	36.01**

Note. Self (-1 = Collective, 1 = Relational)

Note. Intergroup context (-1 = Competition, 1 = Cooperation)

** $p < .01$

* $p < .05$

FIGURE 1

Group Representations

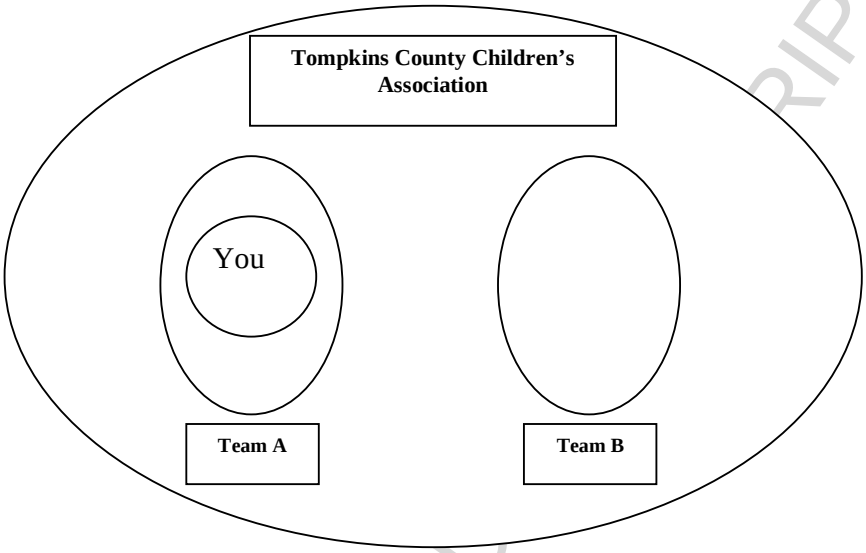

FIGURE 2

Examples of Zero-Sum Intergroup Matrices (unit: $1,000)

MD/MIP (vs. MJP) Matrix	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Team A	19	18	17	16	15	14	13	12	11	10	9	8	7
Team B	1	3	5	7	9	11	13	15	17	19	21	23	25

MD (vs. MIP/MJP) Matrix	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
Team A	11	12	13	14	15	16	17	18	19	20	21	22	23
Team B	5	7	9	11	13	15	17	19	21	23	25	27	29

FIGURE 3

Ingroup Bias on MD/MIP (vs. MJP) Allocation Matrix