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Individual Behavior and Group Membership: Comment

By MATTHIAS SUTTER*

The influence of group membership on individual behavior has attracted attention recently, because it questions economic theories that regard individual behavior as solely determined at the individual level. Largely inspired by George A. Akerlof's and Rachel E. Kranton's (2000) model on the effects of identity on economic outcomes, experimental economists have become increasingly interested in examining the effects of group identity on individual behavior. Gary Charness, Luca Rigotti, and Aldo Rustichini (2007, hereafter CRR) have found that salient group membership makes subjects more aggressive in coordination and prisoner's dilemma games. Saliency has been induced by letting other group members observe individual behavior or by using payoff commonality. The latter means that an individual's decision has consequences for the payoffs of other group members, even though the other members cannot influence the individual's decision. CRR argue that salient group membership lets individuals shift their decisions toward those that are more favorable for the group as a whole, meaning that individuals take into account the payoffs of other group members. CRR conclude as their paper's first, and foremost, lesson that "groups profoundly affect individual behavior in social situations" (1350).[1]

The main goal of this comment is to relate the effects of group membership on individual behavior to team decision making. I find in an investment experiment that individual decisions with salient group membership are indistinguishable in the aggregate from those made by unitary teams. This result bridges the gap between the emerging literature on group membership effects (e.g., Goette et al. 2006; CRR; Charness and Matthew O. Jackson 2009; Chen and Li 2009) and the literature on team decision making (e.g., David J. Cooper and John H. Kagel 2005; Charness, Edi Karni, and Dan Levin 2008) and provides further insights into the determinants of team decision making. A secondary aim of this paper is to show that the findings of CRR also apply to nonstrategic decisions (as has already been documented by Chen and Li 2009), even in situations where there is no outgroup at all. Whereas all former studies on group membership effects have considered a setting where an outgroup exists, this is the first study showing that it is the mere fact of being in a group that changes individual behavior, regardless of whether an outgroup exists. This finding makes the hitherto documented effects of group membership on

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[1] Their statement is supported by several other recent studies that typically examine individual behavior toward members of an ingroup or an outgroup. Lorenz Goette, David Huffman, and Stephan Meier (2006), for instance, report that officers of the Swiss Army are more cooperative in a prisoner's dilemma game toward members of their own platoon than those of other platoons. Yan Chen and Xin Li (2009)—who provide an excellent survey of the literature on group identity—show that the degree of other-regarding social preferences in an allocation task is stronger toward members of an ingroup than toward outgroup members. Ernst Fehr, Helen Bernhard, and Bettina Rockenbach (2008) study the behavior of three- to eight-year-old children in a simple allocation task and find that the differences in behavior toward ingroup or outgroup members develop in this life span.

individual behavior even more widely relevant, since they obviously do not depend on the existence of an outgroup.[2]

In contrast to individual decision making under group membership, team decision making requires several subjects to reach a joint decision, where there is typically no internal conflict in terms of payoffs among team members.[3] The literature on team decision making has captured a lot of interest in recent years, because many economic decisions are made by teams, such as families, company boards, management teams, committees, or central bank boards. Cooper and Kagel (2005) provide a thorough survey of the relevant literature, documenting that team decisions are typically closer to standard game theoretic predictions than individual decisions are. For example, teams send and accept smaller transfers in the ultimatum game (Gary Bornstein and Ilan Yaniv 1998), send or return smaller amounts in the trust game (James C. Cox 2002, Tamar Kugler et al. 2007), and are more selfish in dictator games (Wolfgang J. Luhan, Martin G. Kocher, and Sutter 2009).[4] Teams exit the centipede game at earlier stages (Bornstein, Kugler, and Anthony Ziegelmeyer 2004), and they outperform individuals in beauty-contest games because they converge more quickly to the equilibrium (Kocher and Sutter 2005). Concerning nonstrategic tasks, teams take more rational decisions in intellective tasks, such as the Wason selection task (Boris Maciejovsky and David V. Budescu 2007), they are more forward-looking in a noninteractive common-pool-resource game (Joris Gillet, Arthur Schram, and Joep Sonnemans 2009), and they achieve a higher payoff/risk ratio in a portfolio selection task (Rockenbach, Abdolkarim Sadrieh, and Barbara Mathauschek 2007). Charness, Karni, and Levin (2007) also show that teams violate the principles of Bayesian updating less often than individuals do. Summarizing the evidence, teams can be considered more "rational players" (Bornstein and Yaniv 1998) in a broad variety of strategic and nonstrategic tasks.

Of course, an important question is why differences between team decisions and individual decisions occur. Opening the "black box" of team decision making, Cooper and Kagel (2005) have analyzed the content of team members' dialogues. In their experiment, teams play a limit pricing game against another team. In this signaling game, a market incumbent can signal his cost type to a potential entrant by choosing a particular output level. Teams are found to act more strategically than individuals by choosing higher output levels in order to signal that market entry is not profitable. The team dialogues reveal that one particular reason for this behavior is that teams often put themselves into the shoes of their competitors, meaning that they view the game from the competitor's perspective before making their own decisions. This perspective taking lets teams act more strategically and more competitively. Studying team behavior in experimental tournaments, Sutter and Christina Strassmair (2009) find in their analysis of team members' dialogues that members often refer to the payoffs of their colleagues to support a more competitive strategy. Members frequently raise the goal of beating the competitors in order to get more money for each team member. Sutter and Strassmair (2009) can show that team members

[2] One implication of my finding is that it potentially challenges some well-known and widely accepted theories in social psychology that rely on a distinction between ingroup and outgroup to explain individual behavior in groups (see, for example, the optimal distinctiveness model of Marilynn B. Brewer 1991, or the social identity theory of Henri Tajfel and John Turner 1979). Exploring this implication in more detail is beyond the scope of this comment, though.

[3] Team decision making is often referred to as "group decision making" in the literature. However, in order to separate more clearly between group membership in the spirit of CRR and team decisions, I will use the term "team" for situations in which several subjects have to agree on a joint decision, and the term "group membership" for situations in which individuals make decisions independently of others, but are somehow related to others, for example, by being observed by others or by the prevalence of payoff commonality.

[4] Since the seminal paper of Timothy N. Cason and Vai-Lam Mui (1997), some researchers have considered team behavior in the dictator game to be more generous than individual behavior. Cason and Mui (1997), however, report only that team choices are more other-regarding than individual choices for teams that made unequal individual choices.

increase their efforts in the tournament significantly if such a concern for the other members' payoffs is raised within a team. In sum, the evidence from team decision making experiments suggests that team decisions are strongly influenced by the intention to increase not only one's own payoff, but also the payoffs of the other team members.

This latter aspect of team decision making is remarkably similar to the findings of CRR, who have shown that salient group membership changes individual behavior in a direction that yields more favorable outcomes for the other group members. Given this similarity, it seems straightforward to ask whether salient group membership influences individuals in such a way that individual decisions become similar to—and possibly indistinguishable from—decisions taken by teams. Neither CRR nor the existing literature on team decision making has examined this question, even though answering it will provide a link between these two hitherto unrelated strands of literature.

I will examine the relation between team decision making and individual decisions under salient group membership by running a simple investment experiment. The experiment is based on one treatment of a paper by Uri Gneezy and Jan Potters (1997) in which they have investigated the effects of myopic loss aversion. My paper is not about myopic loss aversion, though.[5] Nevertheless, the design of Gneezy and Potters (1997) provides a very suitable framework to study the effects of group membership on individual decisions and compare them in a straightforward way to the outcome of team decisions. Since the experiment is nonstrategic, using this design also has the advantage that comparing individual decisions under group membership with team decisions cannot be confounded by any possible interaction effect of strategic interaction with individual or team decisions. Using a nonstrategic game also provides a robustness check of the results of CRR for a completely different decision task. The investment task used here does not even require the existence of an outgroup, which distinguishes this paper also from Chen and Li (2009).

My experimental results yield an affirmative answer to the question posed above. Individual decisions under salient group membership and decisions made by teams are largely similar. One implication of this finding is that team decision making and individual decision making under salient group membership can be considered substitutes. This insight promotes a better understanding of the characteristics and determinants of team decision making, as it documents that decision making in teams changes individual behavior in the same way as individual decisions are influenced when payoff commonality applies. Although previous analyses of team dialogues in Cooper and Kagel (2005) or Sutter and Strassmair (2009) have shown that team behavior is influenced by team members referring to joint payoffs, it has remained an open question whether payoff commonality *itself*—when subjects do *not* become members of a team—changes individual behavior or whether the mere fact of being member of a team adds something "extra" to the differences in individual and team behavior. My results suggest that payoff commonality itself yields the difference. Finally, since I also find a profound effect of salient group membership on individual decisions in a nonstrategic task without any outgroup, the results of CRR are obviously applicable beyond the domain of strategic games or tasks where an outgroup is involved.

The rest of the paper is organized as follows. Section I describes the basic experimental design. Section II presents the experimental treatments and results and is divided into three subsections.

[5] In a nutshell, myopic loss aversion assumes that people are myopic in evaluating outcomes over time, and are more sensitive to losses than to gains. In the context of financial decision making, myopic loss aversion implies that subjects invest less in risky assets the more frequently their returns are evaluated and the more often subjects can change their investment decision (see Gneezy, Arie Kapteyn, and Potters 2003; or Michael S. Haigh and John A. List 2005, for more details and for evidence that myopic loss aversion affects also professional traders and experimental markets). In Sutter (2007), I have shown that team decision making is also prone to myopic loss aversion. The two experimental treatments presented in Section IIA use data from the SHORT-condition in Sutter (2007). All other treatments presented in this paper are novel.

Subsection A examines whether individuals and teams make different decisions in the experimental task. Subsection B tests the effects of salient group membership on individual decisions and compares them to those of team decision making. Subsection C then addresses the question whether team membership (i.e., not only group membership) also has an impact on individual decisions. Section III concludes the paper by summarizing the main findings and discussing their implications.

I. Basic Experimental Design

All treatments reported below rely on the basic design of Gneezy and Potters (1997). Subjects receive an endowment of 100 euro-cents (i.e., €1) in each out of nine rounds. Then they have to choose in each round how much to invest in a lottery with the following properties. With a probability of 1/3 the lottery returns two and a half times the invested amount X in addition to the initial endowment, yielding a round payoff of $100 + 2.5X$ euro-cents. With a probability of 2/3 the invested amount is lost, yielding $100 - X$ euro-cents as payoff. Such a lottery yields the highest expected value (of 116.67 euro-cents) in case of a maximum investment of $X = 100$ euro-cents. Subjects are informed at the end of each round about the lottery's outcome, the resulting payoff in this round, and the accumulated payoffs up to the present round. Note that the maximum investment in each round is 100. That means that an endowment not invested in previous rounds cannot be carried over to be invested in later rounds.

Experimental sessions were run with z-Tree (Urs Fischbacher 2007)[6] and conducted at the Max Planck Institute of Economics in Jena. Sessions lasted on average 40 minutes. A total of 358 students from the University of Jena participated in the experiment (using the software ORSEE by Ben Greiner (2004) for recruitment). No subject was allowed to participate in more than one session and all subjects were randomly assigned to any of the treatments described in the following section. Participants earned on average €12.2 (including a show-up fee of €2).

II. Experimental Treatments and Results

A. *Individual versus Team Decisions*

Treatments.—The treatment variable considered first is the type of decision maker being either an individual (treatment INDIVIDUALS; $N = 64$ subjects) or a team of three subjects who can communicate and discuss their decisions (treatment TEAMS; $N = 84$ subjects, yielding 28 teams). Teams are randomly assigned at the beginning of the experiment. Each team is seated in a room of its own and stays together for the whole experiment. The experimental instructions are identical in both treatments, with two exceptions.[7] First, teams have to agree on a joint decision that is binding for all team members. Second, *each* of the three team members gets paid the full amount earned by the team over the nine rounds. The latter procedure holds the per capita payoffs and marginal incentives constant across both treatments.

[6] In order to check whether the determination of the lottery's outcome via computer influenced behavior, I also ran some control sessions with paper and pen where the lottery's outcome was determined by drawings from an urn. There was never any significant difference between computerized sessions and those with paper and pen (given a particular treatment), allowing the pooling of data.

[7] All experimental instructions are available as additional material on the *AER* Web site (available at http://www.aeaweb.org/articles.php?doi=10.1257/aer.99.5.2247).

Results.—Figure 1 shows the average investments in single rounds. Starting from the very first period, there is a clear difference between both treatments. Overall average investments are 39.4 in INDIVIDUALS, and 55.7 in TEAMS ($p < 0.05$; $N = 92$; Mann-Whitney U-test[8]). Average earnings are €12.0 in INDIVIDUALS, respectively €12.6 in TEAMS.[9] I summarize as a first finding:

RESULT 1: *Teams invest significantly higher amounts than individuals do.*

Result 1 can be further qualified by checking whether the higher investments of teams are due to fewer individuals investing anything (meaning that it could be caused by a larger fraction of individuals shying away from positive investments) or whether those individuals with positive amounts also invest less than teams. It turns out that both explanations are valid. About 17.5 percent of individual choices are zero investments ($X = 0$), compared to 4.4 percent of team choices ($p < 0.05$; χ^2 test). However, those individuals who invest positive amounts also invest less than teams. If we consider only the positive investments, we find individuals investing 47.8, but teams 58.2 on average ($p < 0.1$; Mann-Whitney U-test).

B. *Individual Behavior and Group Membership: Payoff Commonality and Exchange of Messages*

This subsection introduces two treatments that investigate individual behavior under group membership. Both treatments share the characteristic that decisions are taken by individuals, but individuals are members of groups. Saliency of group membership is induced in two steps. First, I use payoff commonality.[10] This means that individual decisions have payoff consequences for the other group members, even though any individual is free to choose according to own preferences. Second, I add the opportunity of sending nonbinding messages to other group members. Both factors—payoff commonality and the exchange of messages—are of obvious importance in team decision making, where team members typically have the same payoffs from a given decision and where team members can communicate with each other by exchanging messages. If both factors influenced individual decisions under group membership such that they were no longer different from team decisions, this would establish a firm link between team decision making and individual behavior under group membership, and it would support the notion that both types of decision making can be considered substitutes.

Treatments.—In treatment PAY-COMM ($N = 54$ subjects), groups of three subjects are formed. Subjects get labels as member 1, member 2, or member 3. Decisions are made subsequently and independently, with each member being responsible for three rounds,[11] i.e., member 1 decides in rounds 1–3. The other two members are informed about the decisions and the outcome of the lottery after each round, and they earn the same amount as member 1. Member

[8] All tests reported in this paper are two-sided. When teams are considered, the team decision of three subjects is treated as one independent observation.

[9] Note that the relative ranking of earnings corresponds to the relative levels of investment here, but that earnings are not significantly different. The latter is due to a high variance in earnings because they depend heavily on the outcomes of the lottery in each round and on whether high investments coincide with positive lottery outcomes.

[10] CRR show that payoff commonality makes group membership salient. They also report that observation and feedback can make group membership salient. For the purpose of this paper—comparing individual behavior under group membership to team decisions—payoff commonality is most appropriate to induce saliency.

[11] The feature of members making decisions for three rounds only is motivated by letting each member be responsible for one-third of the decisions that real teams of three subjects make in TEAMS.

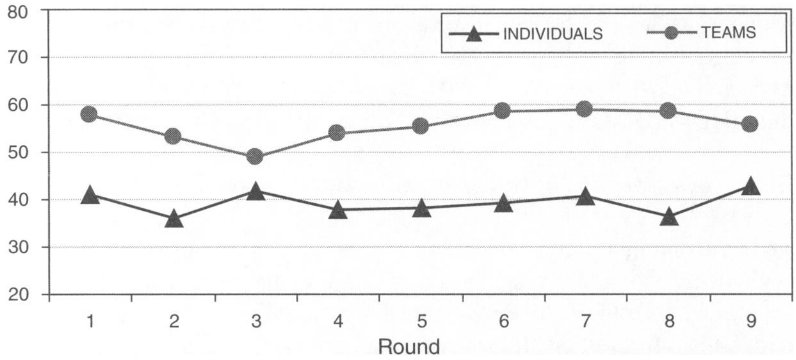

FIGURE 1. INVESTMENTS IN INDIVIDUALS AND TEAMS

2 decides for rounds 4–6, and member 3 for rounds 7–9, with the same information and payoff conditions as in rounds 1–3. Other than the payoff commonality, there is no interaction between the linked members, and members remain anonymous. The whole procedure is common knowledge to all members before member 1 starts making decisions.

Treatment MESSAGE ($N = 72$ subjects) is identical to PAY-COMM, but adds the opportunity of sending nonbinding messages. Members can write on a sheet of paper suggestions for investments or any other message to their predecessors (i.e., members deciding earlier) or their successors (i.e., members deciding later). Thus, member 1 receives two separate sheets of paper with messages from member 2, respectively member 3, before member 1 can make decisions for rounds 1–3. After round 3, members 1 and 3 can send messages to member 2 who can then decide for rounds 4–6. Finally, member 3 gets messages from members 1 and 2 before making decisions in rounds 7–9. Information conditions concerning the lottery's outcome are as in PAY-COMM, i.e., all linked members get to know the outcome as soon as a given round is over. Note that anonymity is preserved in treatment MESSAGE by forbidding subjects to send messages that might reveal their identity. In case a subject had violated this rule, he or she would not receive any payment. Yet, all subjects adhered to preserving anonymity.

Results.—Figure 2 shows the average investments in PAY-COMM and MESSAGE, where individuals make decisions as members of groups. Figure 2 also includes the investments in INDIVIDUALS as a benchmark, where individuals are isolated decision makers. It turns out that salient group membership through payoff commonality (PAY-COMM) induces higher investments than in INDIVIDUALS, though the difference needs three rounds to evolve clearly (overall investments are 50.3 in PAY-COMM versus 39.4 in INDIVIDUALS; $p < 0.05$; $N = 82$; Mann-Whitney U-test). Adding the opportunity of sending messages increases investment levels even further (with 61.4 in MESSAGE versus 50.3 in PAY-COMM; $p < 0.1$; $N = 42$). Earnings are €12.4 in PAY-COMM, respectively €12.3 in MESSAGE. It is important to stress that investment levels both in PAY-COMM and in MESSAGE are not significantly different from those in TEAMS (with 55.7 on average; $p > 0.3$ in any comparison). Hence, salient group membership and team decision making can be considered substitutes in their influence on individual behavior. This leads to:

RESULT 2: *Individual behavior is also strongly affected by salient group membership in a non-strategic task (without any outgroup). If group membership entails two factors that are important in team decision making—payoff commonality and the exchange of messages—individual decisions are, in the aggregate, no longer different from team decisions.*

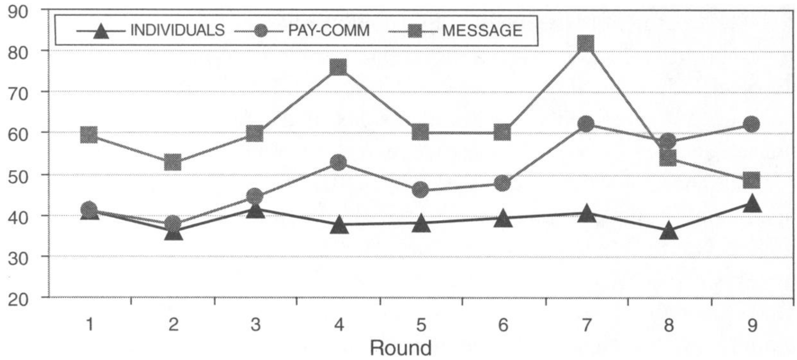

FIGURE 2. INVESTMENTS IN INDIVIDUALS, PAY-COMM, AND MESSAGE

Treatment MESSAGE offers an opportunity to classify the type of messages sent back and forth and how they affect investment levels. The coding has been done independently by two research assistants who later jointly clarified diverging assessments. The three most frequently occurring messages are the following. Message M1 proposes to make high investments, because the expected payoff for all group members is maximized with the maximum investment of 100. This message can be found on 30 percent of the sheets used for sending messages. Receivers of message M1 seem to respond to it, since the average investment level of a receiver is significantly positively correlated with message M1 ($r = 0.23$; $p < 0.05$, Pearson correlation). Message M2 suggests investing little, because the probability of losing in a single round is double that of winning in the lottery. This message is included in 18 percent of sheets, but it is not significantly correlated with actual investment levels chosen by the recipients of these messages ($r = -0.08$; $p = 0.50$). Message M3 recommends high investments, because the group can reasonably expect to win on average in three out of nine rounds. It is used on 15 percent of sheets, but has no significant correlation with investment levels either ($r = 0.09$; $p = 0.47$). All other types of messages are rare. Some sheets also contain only a suggested investment level, without providing any reasoning for it. In sum, the most frequently used messages try to give information on what to do and to influence the recipient in the sender's favorite direction, and appeal to joint payoffs in the group.[12]

C. *The Influence of Team Decision Making on Individual Decisions*

The previous subsection has shown that group membership has an effect on individual decisions. Now I investigate whether the experience of team decision making (contrary to mere group membership where decisions are still taken independently from other subjects) can also affect individual behavior. If this is to be found and the effects are similar to those reported in the previous subsection, this would corroborate the finding that both group membership—where individual decisions are taken independently from other subjects—and team decision making—which requires a joint decision of several team members—have largely similar effects on individual behavior.

[12] Of course, it would be very interesting to compare the messages used in MESSAGE with the content of communication in treatment TEAMS. Unfortunately, the communication in TEAMS has not been recorded (since teams sat in separate rooms). It seems clear, though, that messages M1 and M3 target the issue of how to maximize expected earnings from the experiment. This is also what has been found in an analysis of the video-protocols of team communication in a signaling game (Sutter 2009), providing indirect support for the conjecture that in the experiment reported here the messages used in MESSAGE were probably similar to the arguments exchanged in TEAMS.

Treatment.—The treatment MIXED ($N = 84$ subjects) intends to examine how the experience of team decision making affects individual decision making. In rounds 1–3, each subject decides independently of all other members. Payoff commonality does not apply in these rounds, and group members are not informed about the decisions of the other members. For rounds 4–6, however, three subjects are linked together to form a team. They are then connected via an electronic chat in which they can exchange any messages (that do not reveal their identity) in order to reach a team decision. Team decisions are valid only if all team members enter the same decision on their computer. Naturally, this means that in rounds 4–6 all group members earn the same amount of money since they make a team decision. Participants are not informed at the beginning of the experiment about the need to make team decisions in rounds 4–6, but this is revealed only after round 3.[13] After round 6, it is announced that a final phase of individual decision making in rounds 7–9 (identical to rounds 1–3) completes the session. This final phase is important to examine the effects of team decision making on subsequent individual decisions.

Results.—Figure 3 compares the investments in MIXED to the benchmark of INDIVIDUALS. The dotted lines in MIXED indicate the transitions from individual to team decision making (after round 3) and from team to individual decision making (after round 6). As one would have expected from the results in Section IIA, investments increase from rounds 1–3 to rounds 4–6 (45.3 versus 53.9 on average; $p = 0.08$; $N = 28$; Wilcoxon signed-ranks test)[14]. Individual investments in rounds 7–9 are not significantly lower than the investments of teams in rounds 4–6, though ($p > 0.6$; $N = 28$; Wilcoxon signed-ranks test), but they are higher than the individual investments in rounds 1–3 (50.7 versus 45.3 on average; $p = 0.08$; $N = 84$; overall average earnings are €11.9). The development of investment levels suggests that the experience of team decision making has an impact on individual behavior as well. It also seems noteworthy that the average investments in rounds 7–9 in MIXED are remarkably close to the overall average investments in PAY-COMM (50.3), which indicates that the effects of group membership and those of experiencing team decision making are very similar. These findings are summarized in:

RESULT 3: *Subjects increase their investments when they switch from individual to team decision making, but they do not decrease investments significantly when switching back. Hence, the experience of team decision making also affects individual behavior.*

Examining the content of communication between team members in rounds 4–6 reveals that the same messages that have been used most frequently in MESSAGE have been exchanged in MIXED. In 32 percent of teams, message M1, which proposes high investments in order to maximize the expected payoff, is exchanged. It is strongly correlated with the average investment ($r = 0.62$; $p < 0.01$, Pearson correlation). Message M2—proposing small investments due to the high probability of losing—is voiced in 21 percent of teams, but has no significant effect

[13] This approach was taken to avoid that individual decisions in rounds 1–3 might be influenced by the prospect of deciding in a team later on. Note that participants in MIXED are informed in the initial instructions (before round 1 starts) that the way in which decisions have to be made might change in the course of the experiment. Hence, there is no deception of subjects involved here.

[14] I use a conservative measure for testing here, because I match the investments of a team in rounds 4–6 with the average investments of the three members in rounds 1–3. Hence, each team of three members constitutes one independent unit of observation. Using a random effects panel regression (with clustering on the individual decision maker) as a less conservative test of team effects yields an estimated coefficient of 6.45 ($p < 0.05$) for the dummy of team decision making in rounds 4–6.

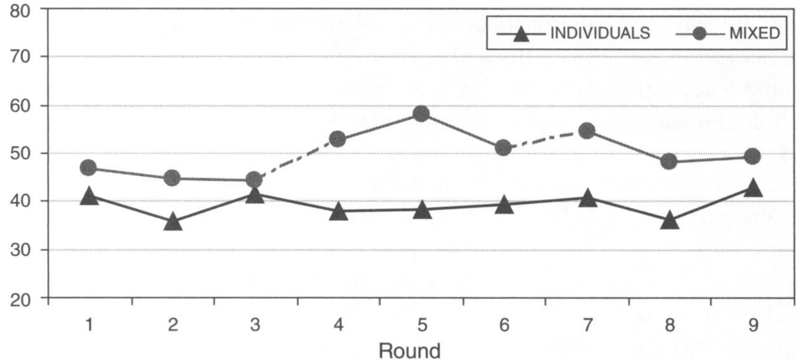

FIGURE 3. INVESTMENTS IN INDIVIDUALS AND MIXED

on the investment levels. Neither has message M3, which advocates positive investments due to an expected number of three wins and which is found in 11 percent of teams.

III. Conclusion

In this comment I have used a nonstrategic investment task to explore further the effects of salient group membership on individual behavior. CRR have shown that group membership changes individual behavior, making it more competitive in coordination games and prisoner's dilemma games. This paper adds to their findings in three important ways.

The first lesson from this paper is that the effects of salient group membership on individual behavior prevail also in a nonstrategic task that has no outgroup. Consequently, for the effects of group membership to show up requires neither strategic interaction between different groups nor the existence of an outgroup. Group membership in itself is important, regardless of whether other groups exist or not. This lesson implies that the findings of CRR or Chen and Li (2009) are robust to variations in the type of tasks and the institutional structure. A recent paper by Charness, Karni, and Levin (2008) provides further evidence for the effects of group membership on individual behavior, also in a context without an outgroup. They have found that subjects make fewer errors in probability judgments, i.e., they are less prone to the conjunction fallacy when they can consult with others before making a decision.

The second, and more important, lesson from this paper is that team decision making has the same effects as salient group membership on individual decisions. This result is by no means trivial, because team decision making requires deliberation, compromise, and consensus among team members, whereas salient group membership leaves the decision-making power unconditionally with a single individual. Individual behavior under group membership does not require compromise or any other form of coordination with other group members. Hence, although both forms of decision making—in teams as well as individually with group membership—have distinctly different institutional structures, they yield decisions that are largely the same in the aggregate. An important qualification to this statement is to acknowledge the—in my view most interesting—finding of CRR that group membership has to be salient to affect individual behavior. Payoff commonality obviously satisfies this condition. In the strategic games of CRR and in my nonstrategic task payoff commonality has shifted individual decisions in a direction that is more favorable for the group as a whole, meaning that individuals wish to take actions that are expected to be good not only for themselves, but also for the other group members.[15,16] The same goal of achieving higher payoffs is also often invoked in the dialogues of team members (see Cooper and Kagel 2005, or Sutter 2009, for evidence from signaling games, for instance). Hence, payoff commonality seems to be one driving force for individual behavior in groups, but also for team decision making. The second lesson therefore links two hitherto unrelated strands of literature, i.e., group membership effects and team decision making.

A third lesson from this paper is that the experience of team decision making also affects individual behavior. After having made decisions in a team, individual decisions are much closer to the previously taken team decisions than to the decisions that the same individuals have taken as individuals. This finding can be considered a robustness check for the second lesson. Therefore, the bottom line of this paper is that both salient group membership—where individual decisions are taken independently from other subjects—and team decision making—which requires a joint decision of several subjects—have largely the same effects on individual behavior.

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[15] If this wish determined individual behavior under salient group membership, then investing the full amount in order to maximize the expected payoff not only for oneself, but also for the linked members, should be more frequent in PAY-COMM and MESSAGE than in INDIVIDUALS. In fact, this is what I find, since the relative frequency of investing the full endowment ($X = 100$) is significantly higher both in PAY-COMM (18.5 percent) and in MESSAGE (36.6 percent) than in INDIVIDUALS (12.5 percent; $p < 0.05$ in both comparisons; χ^2 tests).

[16] Maximizing expected payoffs requires higher investments—and thus more exposure to risk—in my experiment. Charness and Jackson (2009) find in a Stag Hunt game (which is a two-player coordination game) that individuals make less risky decisions when payoff commonality applies. Though this might seem conflicting evidence at first sight, both findings are compatible when considering the expected payoffs in the Stag Hunt game under the assumption that the opponent player chooses randomly. Taking the safe option "Hare" yields a sure payoff of 8 in the experiment of Charness and Jackson (2009), irrespective of the other's choice. However, the risky option "Stag" has an expected payoff of 5 only (getting either 9 if the other player also chooses "Stag," or 1 if "Hare" is chosen by the other player). Thus, the results of Charness and Jackson (2009) can be interpreted as subjects maximizing the expected payoff in the face of strategic uncertainty about the other player's behavior.

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