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Comparing group and individual decision-making in risky environments

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Abstract This dissertation completes salient group and individual experiments in two environments that differ as to whether or not an evaluative criterion exists to judge subject performance. The first environment is lottery-choice. No such criterion exists in a lottery-choice environment. Subjects base their decisions on their preference for risk. A lottery-choice experiment consists of a menu of paired lottery choices structured so that the crossover point to the high-risk lottery can be used to infer the degree of risk aversion. The results show a significant interaction exists between subject composition and lottery winning-percentage. Groups are more likely than individuals to choose the "safe" lottery in the lowest winning-percentages, but less likely to choose the "safe" lottery in the highest winning-percentages. This effect is also present in the sequenced experiment. Further, the sequenced experiment shows that group discussion results in a significant increase in the group's risk aversion from the average risk preference of its members. Finally, the sequenced experiment shows making a decision in the group phase has an immediate impact on subsequent individual decisions compared to the subject's initial decisions.

The second environment is resource allocation. A resource allocation experiment consists of subjects making repeated decisions of how to divide an endowment into two assets, one of which the payoff is unknown. An evaluative criterion to the resource allocation problem exists, as there is a specific allocation that maximizes payoffs. However, subjects must learn the solution through search. Experimental results show: 1) group performance in the resource allocation experiment is not significantly different than individuals; 2) the predictions from a local search model are more consistent with group decisions than the predictions from a global search model; and 3) group risk preferences elicited through a separate lottery-choice experiment are not indicative of their performance in the resource allocation experiment.

Keywords Experiments · Group Decision-Making

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