

***Effects of Group Identity on Trust and Transformations
of Motivation***

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Table of contents

Introduction	3
Literature Review	3
Hypotheses and Experimental Testing.....	5
Main Suggestions	5
Comparing two stimulation mechanisms	6
Experimental set up	7
Anticipated results	7
Conclusion	9

Introduction

It has been only several years since group identity phenomenon appeared in the economic literature. Ever since there has been many fruitful studies about its effects on economic variables and group performance in various games. It was stated that group identity is a valid mechanism of improving cooperation and solving prisoner's dilemma. Still, the mechanisms lying behind the effects of group identity remain uncertain. This is partially because they have been mostly studied only in social psychology, where strict money-paid economic experiments are rarely used and the research topics are generally quite different from those interesting to the economists. That is where our project is aimed to fill the emptiness. We want to establish a connection between group identity phenomenon and cooperation expectation, through which the actual ingroup cooperation might increase. Also we plan to measure the difference between expected and real cooperation and the emotions felt after observing the real cooperation; these parameters will be compared in two treatments. Moreover, we want to see how an introduction of a new game mechanism aimed to improve cooperation (but able to destroy social ties) would affect the resulting cooperation and the parameters mentioned above. If a decrease in both social ties and cooperation would be observed after an introduction of such mechanism – this will prove our hypothesis about how group identity effects cooperation. Lastly, we would compare two mechanism of improving cooperation: social (group identity) and economic (formal monetary control mechanism). It has been still unclear if one of those mechanisms is stronger and why.

Literature Review

During the last years, economists explored group identity as a significant factor affecting many aspects of group behavior. The first work by Akerlof and Kranton (2000) has formally introduced this socio-psychological phenomenon to economics after many years of it being neglected in economic literature. Ever since an emerging number of papers have been written exploring the effects of group identity on different aspects of human decision-making. A highly-cited work by Chen and Li (2009) shows that inducing group identity may effect social preferences: participants were more likely to reward an ingroup member for good behavior (prosocial), less likely to punish an ingroup member for misbehavior (antisocial) and were more altruistic towards them. Moreover, it was shown that participants are much more likely to choose welfare-maximizing actions when matched with an ingroup member. Brent and Simpson (2006) provided evidence that induced group identity affects cooperation in social dilemmas. They claim that it happens because actors become more motivated to maximize ingroup outcomes and minimize ingroup inequalities. Social identity is said to reduce participants' greed towards free-riding group members, but it does not affect actors' "fear component" (the motivation to avoid being 'suckered'). Another paper by McLeish and Oxoby (2007) shows that group identity and identity threat do in fact affect participants' behavior in social dilemmas. They define two forms of identity threat: inter-group identity threat (motivated through out-group opinions) and intra-group identity threat (made salient through the violation of tacit in-group behavioral norms) and show that both types have a significant effect on behavior. Other results suggest that individuals cooperate more with members of their in-group; in-group cooperation is strengthened by

relatively lower outgroup opinion and weakened by relatively higher out-group opinion. Another result is that individuals engage in costly punishment more often with in-group members in response to behaviors which violate tacit in-group norms of cooperation.

Social psychology literature, though, has a longer history of studying group identity effects on human behavior. Some of these results may be very useful for economists as well. Generally, the same idea is supported: group identity is a reliable mechanism to improve cooperation and prosocial behavior. This may happen because group members begin to value the public good itself more or trust each other more while deciding to cooperate or not (De Cremer, Van Vugt, 1999). The first explanation suggests that the distinction between personal and collective interests is blurred, which means that individuals begin to put more value on group welfare versus their personal self-interest. Nevertheless, as the authors show, this transformation of motivation occurs only if individuals were of the self-interested type and not of the prosocial type in the first place. The second explanation implies that both types (prosocials and proselves) may cooperate more in a more identified group as their trust that the other group members will cooperate may increase. Only this hypothesis can explain any increase in proselves' cooperation after inducing group identity. Still, De Cremer and Van Vugt did not find much support for that hypothesis in their paper, as proselves did not increase their contribution a lot. However, this does not yet mean that group identity does not boost ingroup trust as this question requires further investigation. Smith (2011) shows that there is a link between group identity and trust and trustworthiness using a lab-induced group identity in a repeated trust game with random matching. However, his results imply that the effect of ingroup identity on trust was positive, but small and insignificant, while outgroup effect was large and significant. Still, there is too little economic literature on trust and group identity to come to a consensus on that question.

Another large group of literature provide evidence that there are different types of motivation affecting decisions to act prosocially or self-interested. Generally, three types are distinguished: intrinsic, extrinsic and image motivation (Ariely, 2009). *Intrinsic motivation* is the value of giving per se represented by pure altruism or other forms of prosocial preferences (Fehr, Schmidt, 2003; Meier, 2007). *Extrinsic motivation* is any material reward or benefits associated with giving. This type of motivation mostly corresponds to self-interested behavior. *Image motivation*, or signaling motivation, is associated with individual's tendency to be motivated by others' perception of their behavior. In order to get social approval one should act in correspondence with the norms and values of the community. Therefore, prosocial behavior is a way to signal to the others that one is "good". Some sources in this group of literature provide evidence that an introduction of extra extrinsic motivation (a monetary reward or sanctions possibility) may crowd out (or rarely crowd in) the positive effects of intrinsic and/or image motivation (Ariely, 2009; Frey, 1997). It might happen due to a number of reasons such as dilution of the signal value of prosocial acts, a shift from social to monetary frame (Ariely, Heyman, 2004) or destruction of trust in principal-agent relationship (Falk, Kosfeld, 2006; Fehr and List, 2004).

Still some questions rise as it seems like there has been almost no research investigating any connection between those two phenomena (group identity and personal motivation to act prosocially and its crowd out effects). Thus, a simple, but meaningful and fruitful study might contribute a lot to the existing studies.

Hypotheses and Experimental Testing

Main Suggestions

It seems that the question why more identified groups cooperate more is not exactly about trust itself, but said more accurately, it is about the expectations of the group members of how the others would act (prosocially or for self-interest). The hypothesis may be quite simple: in high identity groups the members would identify themselves more as a part of a team, and therefore, they would expect other group members to cooperate more in the first place. So that, as a result of such expectations they would cooperate more themselves. While in low-identity groups those expectations would be significantly lower, so that they would cooperate less as well. An interesting thing is how they would react in case when their expectations would not correspond to the reality (if real cooperation is lower than expected). One may expect that such disappointment would result in more negative emotions, stimulating group members to punish the deviators more. It is interesting to see how the amount of punishment would depend on the difference between the expected and the real cooperation.

Another thing, which is interesting in this set up, is if an introduction of any possibility to show distrust (punishment, monitoring etc.) may destroy the positive effect of group identity on cooperation. The reasons for that should be a lot like in the well-known paper by Falk and Kosfeld (2006), as using any external stimulation aimed to control the others shows that you do not believe that the other group members would cooperate well per se, which means that you do not trust them. Consequently, such behavior may weaken or even destroy social ties between more identified group-members.

There are several ways to check that. One is to ask participants how good they feel about the other group members (there are some commonly accepted ways to ask that) before and after the introduction of such “distrust mechanism”. Any decrease in this parameter would mean that the social ties created by induced group identity were weakened or destroyed. To understand if they are destroyed we need to compare results to a control group with low group identity (where no identity-stimulating mechanisms were used).

Another mechanisms to detect the consequences of the introduction of this new mechanism is to look at the cooperation expectations again afterwards. It is interesting to understand how and why expectations would change (if they do), because at the same time there are two factors affecting cooperation after the new mechanism was introduced: there are a negative effect of the (expected) decrease in social ties/group identity and a positive effect of punishment or “monitoring” itself. It may be so that the participants do not fully understand both of these consequences and which of them is stronger. So the question if cooperation would decrease or improve after the introduction of the new mechanism is not obvious not only for participants, but for researchers as well. This makes us expect that participants’ expectations about the level of cooperation after the introduction of the new mechanism may be predictably wrong. For example if they only think that extra control has a positive effect on motivation and do not anticipate any social consequences, their expectations should become higher. This would be an interesting phenomenon to report as a scientific fact.

Still, the main question is about the mechanism we want to introduce during the experiment as there may be several plausible options to choose from. The first, as mentioned

above is the introduction of a possibility to control each other in the group (by punishing or other options dissimulating others to deviate), which would possibly lower the social ties within the group as a sign of a distrust to each other. The second option may be a group voting if they would like to introduce a certain new mechanism of control or not. A decision not to introduce any extra control may improve social ties even more, as the group members would have a signal that everybody trust each other, which in its turn may improve their cooperation to a new level. On the other hand, if the group votes to introduce external control, this would be a signal that the group members do not trust each other enough, which consequently may have a negative effect on social ties and cooperation. Still, this new external control mechanism should work towards cooperation improvement, so the final level of cooperation is difficult to predict. The third option is to introduce a new mechanism of extrinsic motivation, such as monetary reward or punishment independent on participants' will to have it or not. On the one hand it should work as an extra positive motivation to act prosocially. On the other hand, it may crowd out intrinsic and image motivation, as now the others might begin to think that you cooperate not because you are a "good person" or a "prosocial type", but as you only do that for that reward. Moreover, a good action made for free as a good will is intrinsically different from the same action made as a good will but also for some monetary reward. In this mechanism, (even though it sounds quite different from the previous two), it is still quite interesting to look at the change in cooperation expectations after its introduction. As people may still not fully anticipate the negative social consequences of its introduction, which is valuable to show during an experiment. Of course, there may some other possible mechanism options to use in the experiment, and that is still an open question.

Comparing two stimulation mechanisms

Another important part of our work is to compare two different mechanisms of increasing motivation to cooperate. As we know, induced group identity tend to improve cooperation. That can be measured in the first round of the game for the high-identity condition. On the other hand, there is also evidence that in groups without any induced group identity an introduction of external monetary stimuli would increase cooperation as well. This is what we can measure by comparing the no-identity group before and after the introduction of the new mechanism. Thus, a comparison between no-identity group in the second round with the high identity group in the first round (where there were no external mechanisms) would give us information about which of those stimulation mechanisms is more effective. This is an interesting question indeed, as there are many articles on both social and monetary stimuli that increase cooperation, but there is little evidence on which of them is more effective in comparison with the other. Any result here would give us a valuable implementation to the organizational theory, as we would be able to recommend investing in group identity versus in monetary control.

Experimental set up

Two treatments: control and high-identity. The second differs by the presence of some mechanism to have participants divided by groups and one or two sections (e.g. group tasks/communication), while the control treatment is randomly divided by groups and goes straight forward to cooperation sections.

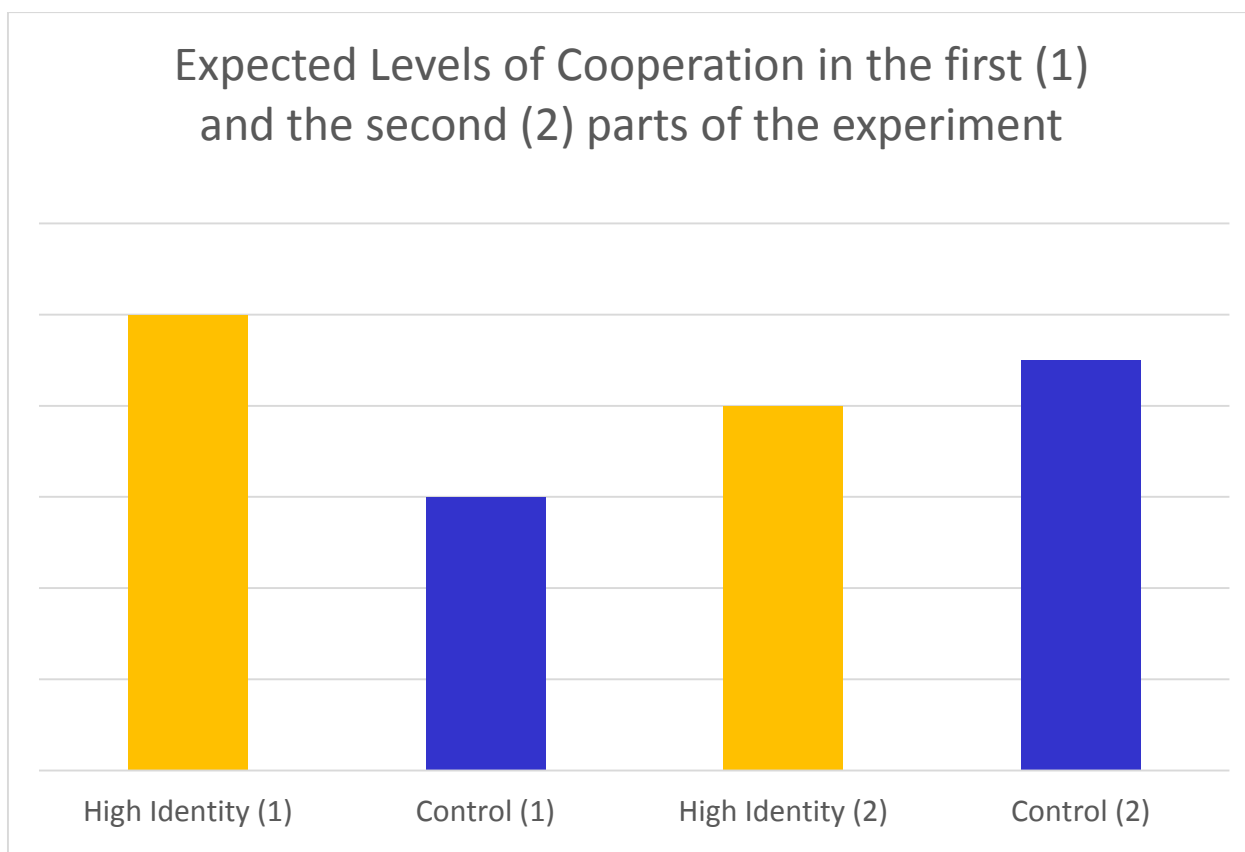
The rest of the experiment should be the same for both treatments. At first participants are asked how they feel about the group (to detect the level of group identity/social ties) and their guesses of the expected mean level of cooperation in the group in the cooperation game introduced to them before. Right guesses should be rewarded. Then starts the first cooperation section (public good or other cooperation game, it is not decided yet), and the participants decide to which extend to cooperate (e.g. what amount of their initial endowment to contribute to the public good). Importantly, there is no external monetary motivation (such as punishments or rewards) to act prosocially and not to free ride. Probably afterwards the participants should be asked how pleased they are with the results/ which emotions did they experience after observing the real contribution level.

Then starts the second cooperation section, and some new mechanism is introduced (yet no details about it). Before the participants start to play, they should be asked again about the expected level of cooperation after the introduction of this new mechanism and (if possible) about how much the others they think will use new methods of control (such as punishment). Afterwards the section is played, given new design elements, and after it is played, some questions similar to those in the first coop. section may be asked. In the end it is up to decide if some other personal questions should be asked to the participants or not.

Anticipated results

The first important results we expect to observe is the difference between cooperation expectations in the two treatments (high-identity and control). This finding would prove one of our main hypothesis, as we expect that cooperation improves in high-identity groups as a result of higher expectations about how much the other group members would cooperate. Expectations might in fact be a mechanism that motivates people behave more prosocial. People are mostly conformists by their nature, so the fact that we expect the others to cooperate might be a sufficient stimulus to increase one's cooperation. The opposite should take place as well. Such finding would confirm the hypothesis of De Cremer and Van Vugt (1999) concerning the role of trust to the other group members as a driving force to increase cooperation. Importantly, they did not find any support for that hypothesis, but their study was not dealing with cooperation expectations. That is why reason why we may succeed in confirming the importance of trust in high-identity groups.

The second and even more important result we expect to get is the motivation crowd out effect in high-identity groups after the new mechanism of monetary stimulation is introduced in the second part of the experiment. The anticipated results here might be illustrated by the following graph:



The first two columns marked with “(1)” refer to the control (blue) and the high-identity (orange) conditions in the first part of the experiment, where the cooperation game was only characterized by the basic rules, and the only difference between the two conditions was the fact that group identity was induced in the high-identity treatment. If our experiment will be run in correct conditions, one should expect the level of cooperation in high-identity (1) condition to be significantly higher than that in the control (1) condition. That would follow the findings of Brent and Simpson (2006). The last two columns refer to the same two conditions but in the second part of the experiment, when the new mechanism of monetary stimulation is introduced. One more thing that is expected is that the level of cooperation in control treatment should increase after the new mechanism is introduced, in other words, Control (2) column should be significantly higher than the Control (1) one. That follows from the general economic logic: having no other stimuli rather than monetary, agents would increase the amount of cooperation when this cooperation is rewarded with extra money (or when low cooperation is penalized).

The other two possible comparisons seem not that obvious. Actually, a decrease in cooperation in the high-identity condition is something we would wish to demonstrate, but in order to catch this result we need a very accurate experimental framework to be created. A higher High-identity (2) column than the High-identity (1) column would mean that the motivation crowd-out effect is actually observed. This might happen when the negative effect of extra monetary motivation on social ties is more salient than its direct positive effect on the incentive to cooperate.

Moreover, the comparison between High-identity (1) and Control (2) columns is also very important. A significant difference between them two would mean that one way of improving cooperation is more effective than the other. That is something valuable and important for future

implementations that we may want to show. Still, it is difficult to predict which one would be higher (if there is any difference).

Lastly, we expect to observe predictable mistakes people make before the motivation crowd-out effect takes place. This will follow from the case in which people would predict a higher level of cooperation, when in fact it would decrease. Just as in the previous cases we are not sure that this result will be obtained.

Conclusion

We are going to provide a significant empirical addition to the existing literature on group identity effects and cooperation in general. It remains uncertain how group identity effects cooperation, and the explanations of social psychologists seems not reliable enough to the economists. Our experimental study would give an opportunity to see how induced group identity affects cooperation expectations and cooperation itself. If we manage to show that the level of expectations is different in two treatments, that might mean that the main mechanism through which group identity works is *the beliefs about to which extend the others will cooperate* (trust, roughly said). Secondly we would be able to see how the participants feel when the real cooperation differs from the real cooperation (both before and after the introduction of a new mechanism to the game), and how they differ in two treatments (are they different under different levels of group identity or not). If the observed difference in fact causes negative emotions, it might motivate the participants to punish/control the others more. Moreover, we will know if the amount of initial control differs in two treatments (under different levels of group identity).

What is probably most important, we can demonstrate that an introduction of a new control mechanism (able to be a signal of distrust) can destroy the positive effects of group identity / social ties. If we do show that there is in fact a destroying effect on these social factors, this would allow us to show the real mechanisms behind this positive effect of group identity on cooperation (which is not yet explained in the literature). Last but not least, we would be able to compare two mechanism of improving cooperation: social (group identity) and economic (formal monetary control mechanism). It is still unclear if one of those mechanisms is stronger and why. Consequently, our comparison would give very fruitful results to analyze. A good simple theoretical model may be created in support and demonstration of the mechanic of this phenomenon.

Taking all the arguments together, even if not all of our expectations will take place in a real experiment, any result would be valuable. If motivation crowd-out effect does not take place in high-identity groups, this is also something interesting to explain. Thus, the study we are about to conduct has a good chance of becoming an important addition to the existing literature.

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