Identification in Democratic Society

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ABSTRACT: Identification increases cooperation and fairness ("other-regarding" behaviour) in Prisoner's Dilemma and Dictator Games. While identification explains all the difference in behaviour in nonstrategic interactions, face-to face communication further raises cooperation in strategic settings. This "cooperation-increasing" effect must be traded-off against the "equality-decreasing" effect of communication. Allowing for partial communication only—which prevails in large number settings—our experimental results indicate that discussion produces unequal distributions of outcomes to the disadvantage of those excluded from the interaction. Substituting identification for communication is relevant in democracy for all distributive questions and for public good type settings if equality is valued higher than a partial increase of "other-regardedness."

I. INTRODUCTION

In economics, individual actions are coordinated by the market, that is, by anonymous price signals. In the economy, on the other hand, individuals are not isolated but interact by many other means, notably by talking to one another. Communication is even more important in areas where the market does not produce efficient results. While the competition of parties for government and the competition of pressure groups and citizens for subsidies describes many parts of democracy well, the direct interaction of the citizens in the form of communication accounts for one specific feature of a viable democracy: it increases "other-regarding behaviour."

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Many noneconomists therefore stress the crucial role of discussion for democracy and reject the notion of "teledemocracy" or "instant electronic voting" (Arterton, 1987; Wright, 1995) which lack a "face-to-face" interaction. Habermas strongly argues that the discourse between citizens is an essential element of a lawful state, and that under suitable (though not very realistic) conditions, it allows a consensus among individuals based on insight.[1] While the notion that discourse always motivates people to transcend their own interests to seek the public good is certainly extreme, discussion has been shown to systematically influence individuals' behaviour in instances where economists would not expect any effect. Experimental evidence demonstrates that individuals contribute much more to public goods if only they can talk to one another. However, the discussion envisaged by experimentalists and also by philosophers such as Habermas is a face-to-face interaction, and is thus necessarily restricted to small groups. Democratic decisions are normally taken in large number settings[2] where face-to-face discussion among the citizens is impossible. Two surrogates for the missing interpersonal discussion may be considered:

1. The discourse between the citizens may be substituted by the debate in *representative bodies*, that is, parliaments. This solution faces a fundamental principal-agent problem which relates both to the representativeness of the members of parliament and their incentives to pursue the will of the citizens. Moreover, the discussion among the members of parliament, most of which are professional politicians, may be quite different from the talk between ordinary citizens. Communication in representative bodies is oriented at parties and pressure groups. Talking, therefore, corresponds to an exchange of information and to bargaining for pork barrels along individual trade-offs. "Even conceived as some liturgical rite symbolising a kind of discourse that is presumed to take place in the wider community, parliamentary debate is surely more likely to *undermine* the principles of serious political engagement within the community than to uphold them." (Brennan & Lomasky, 1993, p. 99).
2. The discussion between the citizens may be substituted by *nonverbal communication* or *identification.* This type of interaction is less demanding than face-to-face discussion and may take place between a much larger number of citizens.

This paper is devoted to an analysis of the second option.[3] We inquire into how far, and in what respects, the outcomes of verbal interactions deviate from nonverbal interactions. For that purpose, we rely on Prisoner's Dilemma and Dictator Game experiments and confront the subjects with the differing interaction possibilities, identification and communication. Section II summarises our knowledge about the effects of discussion on cooperation and fairness. Section III analyses the effect of substituting discussion by identification. While identification explains all the difference in behaviour in nonstrategic interactions such as the

Dictator Game, face-to-face communication further raises cooperation in strategic settings such as the Prisoner's Dilemma Game. In Section IV, we allow for partial communication only and find that discussion produces unequal distributions of outcomes to the disadvantage of those excluded from the interaction. Substituting identification for communication is relevant in democracy for all distributive questions and for public good type settings if equality is valued higher than a partial increase of "other-regardedness." Section V applies our experimental findings to the democratic framework.

II. DISCUSSION INCREASES OTHER-REGARDING BEHAVIOUR

When individuals communicate with each other, the extent of "other-regarding" behaviour increases. In Prisoner's Dilemma situations, individuals are prepared to contribute significantly more to the public good than under anonymity. According to game theory, however, pre-play communication is irrelevant ("cheap talk") as no binding contracts can be closed, and rational players should choose to act non-cooperatively in the Prisoner's Dilemma Game (Farrell, 1987; Crawford, 1990).

Laboratory experiments have unequivocally shown that when the players are able to talk to each other in a Prisoner's Dilemma situation *before* the decision is taken, they are significantly more "other-regarding" (Ostrom, Gardner, & Walker, 1994; Ledyard, 1995). In one of the first public good experiments with communication cooperation increases from 31% to 72% as soon as the subjects do not have to take the decision anonymously but were allowed to talk to each other (Dawes, McTavish, & Shaklee, 1977; Dawes, 1980). These results were further substantiated by later experiments with one-shot communication and decisions (e.g., Orbell, van de Kragt, & Dawes, 1988; or Bornstein & Rapoport, 1988), and with repeated communication and decisions (Isaac & Walker, 1988, 1991). Interestingly, repetition in a communication setting leads to the opposite result than repetition in anonymous games: Isaac and Walker (1988) report an increase of cooperation to 90% for 10 or more periods.

A meta-study (Sally, 1995) comparing over 100 articles in the principal (Anglo-American) journals of political science, social psychology, economics and sociology supports the cooperation-increasing effect of communication. The author distinguishes 130 different treatment conditions of which one-third involved communication among the participants. Allowing for all possible variables inducing cooperation to rise[4], he finds that the presence of discussion in one-shot games is highly significant and increases the cooperation rate by more than 45 percentage points on average. In a repeated game the frequency of discussion is important: Subjects who may talk to each other before each round are 40 percentage points more likely to contribute to the public good than they would be in an anonymous setting.

Table 1. Effects of Discussion on 'Other-Regarding' Behaviour.

	No Discussion	*Discussion*
Prisoner's Dilemma: Share of subjects choosing the cooperative strategy	12 % (*N* = 172)	78 % (*N* = 100)
Dictator Game: Share of sum allocated to the recipient	26 % (*N* = 78)	48 % (*N* = 34)

Note: Experiments at the University of Zurich, November 1993.

We argue that in the structurally comparable Dictator Game[5] discussion also leads to more "other-regarding" behaviour inducing the allocator to pass some positive amount of money on to the recipient. The game structure is very simple: One randomly chosen individual (the allocator) receives an endowment from the experimenter, which she may freely allocate between herself and a second person (the recipient) who did not receive anything. No monetary incentives are used to induce the allocator to share her endowment.[6] Thus, this game type offers the purest indicator for altruism. The utility of the other person directly depends on the behaviour of the allocator without being mitigated by the uncertainty of the provision of a public good.

A replication of the Prisoner's Dilemma experiments with economics students at the University of Zurich undertaken in the winter semester 1993/1994 confirms the cooperation increasing effect of communication. A cross-game comparison indicates that discussion evokes the same effect in the Dictator Game—people become more "other-regarding" after having talked to one another. In our Prisoner's Dilemma framework students were confronted with a dichotomous choice between a cooperative ("other-regarding") and a defective (egoistic) strategy (see Appendix I). In the Dictator Game, half of the subjects (designed by a random mechanism) had to decide how they wanted to allocate the previously received sum (CHF 13.00, approx. $11.00) between themselves and a randomly chosen counterpart (see Appendix II). The more they passed on to the second person, the more "other-regarding" is their behaviour. Table 1 exhibits the results of our experiments.

Experimental subjects were part of the pool of beginner economics students who jointly attended the lecture but were naturally split up into different discussion groups at the time of the experiment[7]. In classroom experiments, the situation of "no discussion" is not equivalent to strict "anonymity." The players knew that all participants belonged to the body of first semester economics students at the University of Zurich. This explains why in a situation of no discussion the players showed a nonnegligible amount of other-regardedness. Discussion was institutionalised by allowing the students to freely talk to the other group member(s) for ten minutes without supervision. No binding contracts between the participants were possible because the individual decision

was taken privately after the discussion (the necessary documents were only distributed at that point in time). Nevertheless, in both decision situations other-regardedness rises significantly (PD: chi-square value = 89.293, $p < 0.001$; DG: $T = 2.068$, $p = 0.55$) when the players engage in pre-play discussion.[8]

III. IDENTIFICATION INCREASES OTHER-REGARDING BEHAVIOUR

In democracies, face-to-face discussion between the citizens and even among politicians is usually impossible or at least rare. The set of persons one is aware of without ever having talked to is much larger. Nonverbal communication, or *identification*, is therefore more relevant for democracy, even if two-way interaction is considered, only.[9] Identification has several meanings, one of which is the identification with a person in the sense of taking another person as a role model. We use a different meaning: It is not the identification *with* somebody (see, e.g., Hardin, 1995) but the identification *of* somebody which is relevant here. While students may well identify with the student body when they play the games anonymously, seeing the other group member(s) visually has an additional effect. Social sanctioning becomes possible. Thus, it is not only unselfish behavior which costs but also a-moral actions. Not observing some standards of "other-regardedness" to which others relate may be sanctioned by social approval or disapproval (Coleman, 1990; Holländer, 1990).

In question is how far nonverbal communication may substitute for discussion, that is, in how far the prospect of social sanctions may account for the same effects exhibited by communication. The effects of identification[10] on "other-regarding" behaviour are thus compared to the anonymous situation on the one hand (Table 2), and to discussion on the other (Table 1).

In our one-shot Prisoner's Dilemma Game identification nearly doubles the share of participants cooperating (chi-square value = 3.708, $p = 0.054$). Discussion, however, increases cooperation to much higher levels (to 78% which is significantly different from the 23% reached with identification, chi-square value = 51.255, $p < 0.001$). Talk allows the participants to exchange promises for cooperative behaviour which, though not being enforceable contracts, have a psychologically binding effect: the participants' behaviour is coordinated towards

Table 2. Effects of Identification on 'Other-Regarding' Behaviour.

	No Identification	*Identification*
Prisoner's Dilemma: Share of subjects choosing the cooperative strategy	12 % ($N = 172$)	23 % ($N = 64$)
Dictator Game: Share of sum allocated to the recipient	26 % ($N = 78$)	50 % ($N = 56$)

Note: Experiments at the University of Zurich, November 1993.

mutually advantageous cooperation. When the participants in the Prisoner's Dilemma Game are able to identify each other only, such a "psychological contract" based on promises is unfeasible which explains the lower rate of cooperative behaviour (see Ostrom, Gardner, & Walker, 1994).

In the Dictator Game, identification results in an equal sharing of the amount between the allocator and the recipient, that is, the share of the sum passed on rises from 26% to 50% ($T = 4.990$, $p < 0.001$), and thus reaches the same level as with discussion. The expected standard of "other-regardedness" seems clear: Allocators restore equity (Homans, 1961; Fehr & Kirchsteiger, 1994). The additional feature attributed to talk, namely the formation of a psychological contract, is of no importance here because no behaviour needs to be coordinated.

Our experimental results accord well with previous research as far as it exists. We are not aware of any Dictator Game experiments where the effect of identification was tested. For an anonymous Dictator Game, Kahneman, Knetsch, and Thaler (1986) report that when allocators had to decide whether to divide $20 with $18 for themselves and $2 for the recipient, or $10 for each, 76 percent of the allocators chose to split the cake evenly. While the model offer is also an equal split in all our experimental variations, we find that allocators converge to the norm of equal division in 25 percent of the cases in anonymity, but choose this solution much more often, namely in 64 percent of the cases, when they are identified by their recipients. A concentration of offers at equal division could also be observed in other anonymous Dictator Games even though an equal split is not always the model result (see Hoffman & Spitzer, 1985; Bolton, 1991; Forsythe, Horowitz, Savin, & Sefton, 1994).

IV. OTHER-REGARDING BEHAVIOUR AND INEQUALITY

The experimental results reveal a strong positive effect of *face-to-face* discussion on "other-regarding" behaviour. Such verbal interaction is necessarily restricted to small groups. Only a selected number of citizens affected by a problem can participate, leading to solutions which are acceptable only to insiders and to a much lesser degree to outsiders.

Discussion may thus increase "other-regarding" behaviour but at the same time produce more inequality. The effect of communication by exclusion may be demonstrated by using a slightly different experimental design: Individuals do not play a two-person Dictator Game but a three-person game where identification and communication are only allowed for two of the participants (the allocator and the first "included" recipient 1) while the second "excluded" recipient remains isolated and anonymous. Comparing these treatment conditions with a framework where all subjects are anonymous reveals the following results (Table 3):[11]

Table 3. Effects of Identification and Discussion on 'Other-Regarding' Behaviour in a Three-Person Dictator Game.

Treatment Condition	*No Identification and No Discussion*	*Identification*	*Discussion*
Share of sum allocated to recipient 1	14 %	24 %	37 %
Share of sum allocated to recipient 2	14 %	19 %	17 %
	(N = 21)	(N = 36)	(N = 66)

Note: Experiments at the University of Zurich, November 1994.

Two effects may be distinguished:

1. A decision situation where the allocators may only interact with one out of two possible recipients leads to the recipients 1 with whom the allocators talk receiving significantly more (T = 3.335, p = 0.005) than the excluded recipients 2 (37% instead of 17%). In the identification condition, on the other hand, excluded recipients 2 are not significantly worse off than their included counterparts: Identified recipients 1 receive 24% while the anonymous excluded recipients 2 get 19% on average (T = 1.123, p = 0.285). This outcome supports the notion that a *partial* introduction of communication creates inequality while neither total anonymity nor partially introducing identification exhibit this effect.

That communication allows discrimination between "in-group" members and outsiders was also observed for the Prisoner's Dilemma setting. Orbell, van de Kragt, and Dawes (1988) used a similar PD game as ours with dichotomous choices but told subjects that their contributions would not provide a public good for their own communication group but for another discussion group. Contributions to the public good were much higher when the public good accrued to one's own communication group: While 79% of the subjects cooperated if the public good was to be provided for the "in-group," only 30% chose the cooperative strategy if outsiders were to profit from the public good.

2. In our three-person Dictator Game, a second effect could be observed. Under both types of direct interaction, there is a positive effect on "other-regarding" behaviour, that is, identification and communication significantly increase the total ratio of "other-regardedness" from 28% to 43% (T = 3.242, p = 0.006) and to 54% (T = 5.855, $p < 0.001$). This increase in "other-regardedness" is also reported for the Orbell et al. setting: Communication raises cooperation even when the benefits go to others. Cooperation increases from 38% under anonymity to 79% in the "in-group" communication setting, and from 20% under anonymity to 30% in the "out-group" communication setting.

That the "other-regardedness"-increasing effect of communication may be extrapolated from the "microcosm" to outsiders is supported by further experimental evidence. Partial (sub-group) communication substantially increases cooperation in a public good framework with a minimal contributing set of five persons (Braver & Wilson, 1986). Groups consisting of nine members were confronted with two treatment conditions: Half of the groups had to decide anonymously and silently whether they wanted to cooperate or to defect. All other groups were split into three sub-groups so that only three persons could talk to each other, thus not being able to provide the public good by designing a psychologically binding contract.

The three authors found two interesting results: First, sub-group communication leads to a convergence to the norm of cooperation within each sub-group even though no sub-groups could produce the public good unilaterally: In 66% of all the cases, all three sub-group members chose the cooperative solution C. Secondly, compared to the anonymous treatment condition sub-group communication increased cooperation from 48% to 75%. Thus, even in a strategic setting where "other-regarding" behaviour does not guarantee a favourable outcome for the cooperating group, the communication effect applies. Subjects took the risk of cooperating because they believed in the effect of communication on "other-regardedness." They, nevertheless, were more confident in their own communication partners than in members of other groups. Other communicating persons were expected to cooperate with the probability of 88% when they were included in one's own group and with 65% when they were part of another group.[12]

V. IDENTIFICATION AND COMMUNICATION IN DEMOCRACY

Applying experimental results to a real-life environment is a tentative endeavour. The advantage of experiments that "the economic environment is very fully under the control of the experimenter" (Roth, 1988, p. 974) has one important drawback: The experimenter defines which parameters may be used for decision-making. Clearly specifying restrictions is relevant when testing theory, the external (outside the laboratory) validity, however, remains an open question. We would like to address this question by investigating whether real life settings provide indications that communication leads to unequal outcomes and that identification and communication increase cooperation.

That exclusion from discussion represents a serious limit to a democracy based on discourse has been acknowledged by those theories focusing on communication as coordination principle (Habermas, 1987). They stipulate that all relevant individuals must be included in the discussion. No indication is given, however, how this goal can be reached in the democratic setting. Institutionalising discussion among citizens by mediation procedures (Dryzek, 1990) or "discourse groups" (Renn, 1993) demonstrates the short-comings of communication in serv-

ing as decision making mechanism. In Renn's (1993) practicable application of discourse theory to a siting or NIMBY (Not In My Back Yard) problem, this condition is clearly violated as only a selected number of citizens affected by the location of the refuse disposal plant could participate in the discussion groups. Quite generally, it is difficult to include certain interests into the discussion process. Latent groups such as consumers and taxpayers are difficult to organize and to represent for lack of incentives.

Direct democracy works without representation and includes all relevant individuals, the citizens, into decision-making. It is not a dictator or some representatives in government and parliament to whom the buck may be passed, but each individual citizen who decides. Compared to ad hoc mediation groups, it supplies an institutionalised decision-making mechanism based on communication. The Swiss experience with direct democracy shows that people indeed have a demand for discussion before casting a vote and that this demand varies according to the importance of the issue in question. Some referenda motivate intensive and far-reaching discussions which lead to a high rate of vote participation. The proposal to join the European Economic Area (December, 1992), for example, witnessed a participation rate of 79 percent while the average between 1985 and 1992 was only 42 percent. Other referenda which are considered of little importance by the voters engender little discussion and low participation rates (down to 25 percent) (Bohnet & Frey, 1994).

Partial communication in mediation groups and its capacity to solve public good type problems must thus be compared with institutionalised communication opportunities for all. A nuclear waste disposal facility is such a public good. It is socially beneficial but locally very costly. Econometric evidence for Switzerland suggests that citizens are more likely to host such a NIMBY if they are included in the decision-making process. We find that it was the people who approved of nuclear energy in the national referendum in 1990 who also supported the siting of the nuclear waste repository in their backyard, that is, in their home town, later on in 1993 (Oberholzer, Bohnet, & Frey, 1995).

Both, identification and communication, increase "other-regarding" behaviour. Discussion does so more strongly than identification if behaviour needs to be coordinated by a "psychological contract." Voluntary public good provision is an important case for which Ostrom, Gardner, and Walker (1994) forcefully demonstrate that informal institutions such as shared norms, exchanged promises, and a group identity help in finding productive solutions. We focus on formal institutions. Empirical evidence for Switzerland suggests that communication induced by direct democracy increases cooperation. The more direct democratic a Swiss canton is, the higher is the tax moral of the citizens. Compared to the mean of all cantons, there are almost 8 percentage points (i.e., about Sfr. 1600 per taxpayer and year) less income concealed in cantons with a high degree of direct political influence. In contrast, in cantons with few direct political participation possibili-

ties, the mean income undeclared exceeds the mean of all cantons by roughly Sfr. 1500 (Pommerehne, Hart, & Frey, 1992).

The design or reform of constitutions should take the relative advantages and disadvantages of the various forms of communication into account. Discussion clearly has its merits and is indispensable for democratic institutions, but it needs to be harnessed by clearly defined rules institutionalising discussion opportunities for all relevant individuals. If discussion cannot be suitably arranged in large-scale environments, we argue for taking the merits of identification into account.

APPENDIX

I. Explanation of the Prisoner's Dilemma Game With Identification

A) What It Is About

In this experiment you form a group with three other persons. You may decide between the alternatives *X* and *Y*. Your gain or loss depends on how you and the other three members of your group are acting.

- If you and the other three members of the group choose *X*, each person gets Sfr. 2.50.
- If you choose *Y*, but the other three stay with *X*, you will get Sfr. 9.00 while the others pay Sfr. 0.50 each.
- If you and another person choose *Y* and the other two choose *X*, you (and the other person choosing *Y*) get Sfr. 6.00, each while the other two choosing *X* pay Sfr. 3.50 each.

Persons Choosing X	*Result For X*	*Person Choosing Y*	*Result For Y*
4	2.50	0	—
3	-0.50	1	9.00
2	-3.50	2	6.00
1	-6.50	3	3.00
0	—	4	0.00

- If you and two more choose *Y* and the fourth decides for *X*, then you (and the two others choosing *Y*) get Sfr. 3.00 each and the fourth choosing *X* pays Sfr. 6.50.
- If all four persons of the group choose *Y*, nobody gets anything.

Theses results are summed up in the following table:

Before you take the decision you will get to know who are the other members of your group.

B) The Procedure

Stage 1: You and all other members of your group get up in order to identify each other. You may look at the other persons but you cannot talk to your group members.

Stage 2: Then you have to decide between the alternatives *X* and *Y*. Please, indicate your choice on the blue sheet enclosed. You take the choice on your own; no other person knows what you choose (not even after the experiment). Therewith the experiment *ends*.

Stage 3: Please, put all the documents into the white envelope and hand it in. We thank you for participating in the experiment.

II. Explanation of the Anonymous Dictator Game

A) What It Is About: Allocator Instruction

In this experiment you form a group with one other person. You receive the amount of Sfr. 13.00, which you may allocate between yourself and the other person *as you like*.

- You may keep the whole sum of Sfr. 13.00 for yourself.
- You may as well give the whole sum of Sfr. 13.00 to the other person.
- Finally, you may also devide the sum according to your liking between you and the other person, for example, Sfr. 2.00 for yourself and Sfr. 11.00 for the other one.

During the experiment you remain completely anonymous. The other person does not know who allocates the sum determined by you (possibly zero) to him/her. The other person remains anonymous as well.

B) The Procedure

Stage 1: You run the experiment without knowing the other member of the group (you are not known by her either).

Stage 2: Now, you have to decide how much of the Sfr. 13.00 you want to forward to the other person. Please, put the corresponding amount of money into the coloured envelope and hand it in (it will be given to your designated recipient). Therewith the experiment *ends*.

Stage 3: Please, put all the documents into the white envelope and hand it in. We thank you for participating in the experiment.

C) What It Is About: Recipient Instruction

In this experiment you form a group with another person. The other person (the allocator) gets a sum of Sfr. 13.00. He or she may give part of it or the whole sum to you.

During the experiment you remain completely anonymous. The other person does not know to whom he/she allocates the sum determined by him/her (possibly zero). The allocator remains anonymous as well (even after the experiment).

D) The Procedure

Stage 1: You run the experiment without knowing the other member of the group (you are not known by him/her either).

Stage 2: You get an envelope from the experimenters with the sum that has been allocated to you by the other member of your group. Please, note on the green sheet enclosed how much money you got. Therewith the experiment *ends*.

Stage 3: Please, put all the documents into the white envelope and hand it in. We thank you for participating in the experiment.

NOTES

1. See Habermas, 1987, 1992. An excellent discussion of the power and limits of his approach is given by Johnson, 1993.
2. Athenian democracy is an exception (see Hansen, 1987), and to some extent also direct democracy in some Swiss cantons and in communes which know an assembly of all citizens. For the Swiss "Landsgemeinden" see Möckli, 1987, and for the town-hall meetings in some New England states, Mansbridge, 1989.
3. For a discussion of the first option see Bohnet and Frey, 1994.
4. Among the independent variables we find, for example, the pay-off matrix as indicator for the relative importance of monetary incentives to defect, the group size, and the extent of repetition.
5. In a Dictator Game a budget (b) is divided up between the sum kept by the allocator for him- or herself (s) and the part given to the recipient (r):

$$b = s + r \tag{1}$$

In a Prisoner's Dilemma situation, the utility (or good) gained for oneself is defined by:

$$s = p + \pi g \tag{2}$$

where p are private and g public goods. While an investment into a private good p pays an individual 1, investing into the public good g yields a return of $(0<\pi\leq 1)$. The pay-off produced for the other individuals is:

$$r = \pi g \tag{3}$$

Total expenditures exhaust the budget:

$$b = p + g \tag{4}$$

$$b = s - \pi g + r/\pi,$$

$$\text{or } b = s + [(1-\pi)/\pi]\, r \tag{5}$$

(5) is structurally equivalent to (1) (for $\pi = 0.5$ it is identical). The budget is in both the Dictator and the Prisoner's Dilemma Game divided up between what is kept for oneself and what is given to others. See for example, Andreoni and Miller, 1994.

6. Compare the Ultimatum Game where the recipient may reject the sum allocated to her in which case both, the allocator and the recipient, do not get anything, for exampel, Güth, Schmittberger, and Schwarze, 1982.
7. Subjects were recruited during their second week at the university and therefore most did not know each other before the experiment. Experiments were run in class; participation, however, was voluntary. Students were given the chance to leave the room after we had announced that we would be running an experiment. Less than five percent of the prospective participants chose to opt out.
8. A more complete description of the experimental outlay may be found in Frey and Bohnet, 1995, and is summarised in this paper's appendix.
9. One-way identification—due to the modern means of communication (in particular, print media, TV, and radio) in modern societies—includes almost all citizens. Thus, virtually all German citizens would be able to identify their current chanceller, Kohl.
10. Identification implied that the subjects who were to be part of an interaction were specified by the experimenters, brought together (in randomly defined groups of four in the PD and of two in the DG), and then had to silently look at each other (for a couple of seconds). For the experimental design, see the appendix.
11. The results reported below belong to a second series of experiments jointly conducted with Reiner Eichenberger and Felix Oberholzer in Fall 1994 (see also Eichenberger & Oberholzer, 1995). Again, subjects were recruited from beginning economics students at the University of Zurich.
12. For biased results for the group-identity theory, see Sally, 1995, p. 78.

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