

Reciprocity as a trigger of social cooperation in contemporary immigration societies?

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Abstract

While the system stabilizing function of reciprocity is widely acknowledged, much less attention has been paid to the argument that reciprocity might *initiate* social cooperation in the first place. This paper tests Gouldner's early assumption that reciprocity may act as a 'starting mechanism' of social cooperation in consolidating societies. The empirical test scenario builds on unequal civic engagement between immigrants and nationals, as this engagement gap can be read as a lack of social cooperation in consolidating immigration societies. Empirical analyses using survey data on reciprocal norms and based on Bayesian hierarchical modelling lend support for Gouldner's thesis, underlining thereby the relevance of reciprocity in today's increasingly diverse societies: individual norms of altruistic reciprocity elevate immigrants' propensity to volunteer, reducing thereby the engagement gap between immigrants and natives in the area of informal volunteering. In other words, compliance with altruistic reciprocity may trigger cooperation in social strata, where it is less likely to occur. The positive moderation of the informal engagement gap through altruistic reciprocity turns out to be most pronounced for immigrants who are least likely to engage in informal volunteering, meaning low, but also highly educated immigrants.

Keywords

Reciprocity, social cooperation, informal volunteering, immigration society, Bayesian multilevel modelling

Introduction

Reciprocity is first of all known for its system stabilizing function, which explains how social cooperation can be maintained in established societies (Axelrod, 1984). According to a hitherto largely neglected argument, reciprocity is not only functional in established societies, but it might even *initiate* social cooperation in early phases of group consolidation, where 'people are brought together in new

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juxtapositions and combinations, and where impending exchange is typically viewed as dangerous and the other is viewed with suspicion' (Gouldner, 1960: 177). More than 50 years after Gouldner's (1960) seminal work, experimental as well as empirical research still neglects this line of reasoning. Yet, every social system has had its beginnings, and every new constellation of people brings with it the possibility of new social systems (Gouldner, 1960: 177). Most contemporary immigration societies exhibit at times traits of these 'early phases of group consolidation' described by Gouldner, and offer therefore a realistic empirical scenario to test whether reciprocity may act as a starting mechanism of social cooperation.

A look at informal voluntary engagement rates in Switzerland, Europe's country with the second largest immigrant share after Luxembourg (Eurostat, 2014),¹ reveals for instance a significant engagement gap between immigrants and natives, corroborating the impression of a lack of social cooperation in immigration societies. As data of the Swiss volunteering survey 2009 reveal, 31% of Swiss citizens engage in informal volunteering, whereas only 23% of non-nationals report informal voluntary activities. Informal volunteering, which comprises voluntary engagement outside organizational structures such as helping in the neighbourhood (Wilson and Musick, 1997), represents a particularly suitable indicator to capture the emergence of social cooperation, as it constitutes a non-institutionalized but spontaneous and original form of civic engagement (Stadelmann-Steffen et al., 2010: 72f). Using Gouldner's (1960) starting mechanism argument, I expect that compliance with altruistic reciprocity (Berger, 2013; Diekmann, 2004), which expresses a prosocial orientation and captures the moral obligation to return a good or service received in the past, should enhance immigrants' propensity to engage in informal volunteering, narrowing thus the engagement gap between immigrants and nationals.

The paper's contribution to existing research is threefold: first and foremost, I examine a classical yet so far neglected thesis by testing the argument that altruistic reciprocity may act as a starting mechanism of social cooperation (Gouldner, 1960) based on the real setting of a contemporary immigration society. Second, the study complements existing research on reciprocity, which is dominated by experimental data (cf. Axelrod, 1984; Diekmann, 2004; Dufwenberg and Kirchsteiger, 2004; Fehr and Fischbacher, 2003) as it uses survey data from the Swiss volunteering survey 2009 (Stadelmann-Steffen et al., 2010). Third, experimental models are restricted to the analysis of reciprocal behaviour and, therefore, any inference made about underlying norms is based on the consistency of behavioural data with theoretical propositions (Diekmann et al., 2014). Although there is reason to believe that reciprocal behaviour is related to reciprocal norms (Maximiano, 2012), there are more direct ways to capture these norms, such as through individual compliance with reciprocal norms, which is the approach chosen in this paper.

Switzerland offers a suitable setting for a first empirical test of Gouldner's starting mechanism hypothesis based on survey data. To start with, the Swiss federation ranks among the most important destinations of immigration of the post-World War II era (Koopmans, 2010: 3). While Switzerland's large non-national share is not least a product of a restrictive *jus sanguinis* citizenship regime, the country also scores highest when it comes to absolute levels of immigrant influx per 1000 inhabitants in Europe (Meuleman et al., 2009: 362). Overall, Switzerland's restrictive and assimilationist understanding of citizenship (e.g. Koopmans, 2010) offers a particularly interesting context to test the evolution of social cooperation in a contemporary immigration society which sets the hurdles to 'become Swiss' very high for non-nationals. Another argument in favour of the Swiss setting relates to the subnational comparative research design of this study. The 26 Swiss cantons are powerful political entities in an unusually decentralized federation, which lead prominent comparatists to recommend analysing this microcosm of Europe (Lijphart, 1999; Rokkan, 1974). The Swiss context allows me thus to test individual associations in a comparative perspective with subnational units approximating a most similar systems design, where the factors of central interest, first of all informal volunteering, vary considerably between cantons.

Reciprocity as a 'starting mechanism' of social cooperation

Throughout the history of mankind, the norm of reciprocity facilitated social interaction between human beings (cf. Nowak and Sigmund, 1998). While existing research distinguishes manifold forms of the

concept (cf. Berger, 2011; Diekmann, 2004; Perugini et al., 2003), in the end all varieties of reciprocity can be traced back to the general idea that giving and receiving are mutually contingent (Gouldner, 1960). Apart from reciprocal behaviour, reciprocal norms, on which this paper focuses, reveal distinct motivations underlying reciprocity. While *strategic reciprocity* is guided by the expectation of future rewards, a ‘shadow of the future’ (Axelrod, 1984), the internalized norm of *altruistic reciprocity* is not bound to future expectations, but arises out of a moral obligation or ‘shadow of indebtedness’ (Gouldner, 1960) to return a good or service received in the past (cf. Berger, 2011, 2013; Diekmann, 2004). While Gouldner himself did not use the term altruistic reciprocity, his moral norm of reciprocity reflects the very same idea, as it ‘defines certain actions and obligations as repayments for benefits received’ (Gouldner, 1960: 170). Unlike Gouldner, whose norm of reciprocity comprises actions and attitudes, the paper focuses on reciprocal attitudes only, as the very association between reciprocal attitudes and social cooperation, i.e. informal volunteering as a form of prosocial behaviour, is under scrutiny here.

Strategic reciprocity is first of all known for its system stabilizing function (Axelrod, 1984; Diekmann, 2004; Gouldner, 1960). As game theoretical models were able to demonstrate (cf. Dufwenberg and Kirchsteiger, 2004; Fehr and Fischbacher, 2003), rational actors often choose cooperative strategies in social exchange situations although they lack certainty that their cooperative behaviour will be returned (social dilemmata). In these contexts, cooperation occurs because people developed realistic expectations – for instance based on previous social interactions or established social norms – that their cooperative behaviour will be rewarded (Axelrod, 1984). Combined with mutual trust, this strategic reciprocal behaviour facilitates the maintenance of social cooperation in established societies.

By contrast, the argument that reciprocity may act as a starting mechanism of social cooperation (Gouldner, 1960) received far less attention in the literature so far. As a starting mechanism, reciprocity can be functional in early phases of certain groups, where people are brought together in new combinations, *before* they have developed a differentiated and customary set of status duties (Gouldner, 1960: 176). Referring to Hobbes’s (2010 [1651]) archaic state of nature, Gouldner (1960: 177) describes such a situation as one in which each is likely to regard impending exchange as dangerous and view the other with suspicion. From a utilitarian perspective, the main challenge in this early stage of societal consolidation relates to the fact that people have apparently no incentive to cooperate: they not only lack certainty regarding others’ intentions, but in the absence of established customs and norms, they also lack specific expectations concerning the behaviour of others. Thus, if people would only act out of prospective (meaning strategic reciprocal) considerations, the evolution of cooperation would appear very unlikely, unless enforced by a superior authority (cf. Hobbes, 2010 [1651]). Following a less utilitarian line of reasoning, social cooperation could, however, also be jump started through more selfless and unconditional motives. Such motives are inherent in *altruistic reciprocity*, which stands for the willingness to reciprocate a given favour even when there is no ‘shadow of the future’ in which reciprocation can be rewarded, or non-reciprocation punished. This is where Gouldner’s (1960) argument of reciprocity as a starting mechanism of social cooperation sets in: if internalized, the norm of reciprocity not only represents the obligation to repay a received benefit at some time due to feelings of indebtedness; individuals adhering to this reciprocal norm will probably also expect the same reciprocal attitude from others (Gouldner, 1960: 177). Consequently, there may be less hesitancy in being the first cooperator and a greater facility with which the exchange and the social relation can get underway (Gouldner, 1960: 177). Adapted to the present research context, this would mean that altruistic reciprocals should not only be more likely to reciprocate, but also to initiate social cooperation.

An empirical test of Gouldner’s (1960) starting mechanism hypothesis does not require going back to a Hobbesian state of nature. As Gouldner (1960: 177) correctly observes, people are continually brought together in new juxtapositions and combinations, which bring with them the possibilities of new social systems, but also bear the risk of intergroup conflict (Allport, 1954). This is particularly true for contemporary immigration societies, which naturally imply that people are repeatedly brought together in new juxtapositions and combinations. As a consequence, immigration societies exhibit at times traits of early

stages of societal development, where impending exchange might be 'viewed as dangerous and the other viewed with suspicion' (Gouldner, 1960: 177).

Test scenario: social cooperation in immigration societies

Luckily, modern immigration societies are far away from a brute Hobbesian state of nature. A look at the existing literature nevertheless seems to suggest that social cooperation is, at least at times, hampered in contemporary immigration societies. According to a prominent line of reasoning, increasing diversity induced by global migration affects mutual trust (Putnam, 2007). While this point of view has been contested and qualified by several follow up studies (cf. Hooghe et al., 2009; Portes and Vickstrom, 2011), other researchers again point to the segregationist potential of immigration societies in western Europe (Koopmans, 2010). What is more, several studies attest immigration societies' weak primary networks at the communal level in terms of lower organizational involvement or volunteering of immigrants compared to native citizens (Alesina and Ferrara, 2000; Wilson, 2012). As these examples show, immigration societies represent a special, since asymmetric, form of early societal consolidation. New members, i.e. non-nationals who were fully or partly socialized in another societal context, enter an established society, where social cooperation is more or less consolidated among members of the host society.

Following the line of reasoning outlined in the preceding section, it seems unlikely that under such circumstances social cooperation of the new social group (i.e. non-nationals) evolves out of mere strategic reciprocity, as the payoff of a cooperative action appears too uncertain. Instead, compliance with the internalized norm of altruistic reciprocity (Berger, 2011; Diekmann, 2004) might play a crucial role in getting cooperation started in immigration societies. On the one hand, and following Gouldner's assumption, altruistic reciprocals should appear trustworthy and might thereby even motivate strategic individuals to cooperate, as they have some realistic expectation that they will be repaid. On the other hand, individuals endorsing high levels of altruistic reciprocity might indeed have a preference to cooperate unconditionally, which could jump start cooperation as they exhibit traits of a prosocial personality such as strong moral concerns (McClintock and Allison, 1989; Van Lange, 1999).

One way to account for the lack of social cooperation in immigration societies in behavioural terms is to look at unequal civic engagement between immigrants and natives such as, for instance, volunteering. My focus will be on informal volunteering, which captures any voluntary activity that takes place outside formalized structures such as organizations, but also outside one's own household. Informal volunteering typically refers to activities such as helping and supporting friends, neighbours, acquaintances, and relatives, such as mowing the neighbours' lawns or watching their children (Stadelmann-Steffen et al., 2010; Wilson and Musick, 1997). I consider informal volunteering a basic form of social cooperation mainly for two reasons: to start with, the social exchange occurring during informal volunteering is less institutionalized than formal volunteering for organizations or associations. As a consequence, informal volunteering represents a spontaneous and original form of social interaction with low entry thresholds for everyone (Huijts and Kraaykamp, 2012; Stadelmann-Steffen et al., 2010: 72f). Therefore, informal volunteering is a particularly suitable indicator to account for the very *emergence* of social cooperation. Secondly, informal volunteering embodies ideas of solidarity and unconditional help which facilitate social cooperation (Clary et al., 1996; Stadelmann-Steffen et al., 2010: 88).

One might object that informal volunteering for members of the same immigrant group (ethnically homogeneous bonding social capital), which might bear a risk of segregation, should be distinguished from informal volunteering for others (ethnically heterogeneous bridging social capital). However, this classification has been questioned in recent research, where the two forms of social capital are presented as complementary rather than competitive (cf. Nannestad et al., 2008; Sinha et al., 2011). This is not to say that bonding immigrant social capital has only and always desirable societal consequences, just as it would be misguided to assume that access to bridging majority social networks is generally beneficial (Cederberg, 2012). Yet, considering the importance of bonding social capital as a source of social support and wellbeing of immigrants in societies in which they frequently experience discrimination, I adopt

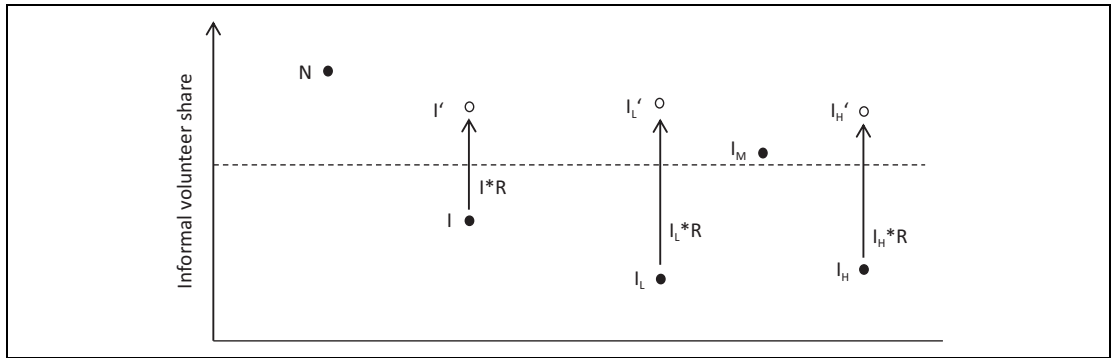


Figure 1. Moderating effect of altruistic reciprocity.

N: natives; I: immigrants; I_L: lowly educated immigrants; I_M: medium educated immigrants; I_H: highly educated immigrants; R: altruistic reciprocity. Dotted line: threshold below which informal volunteering is significantly lower compared to native citizens.

a comprehensive perspective of informal volunteering including immigrants’ bonding *and* bridging activities.

Altruistic reciprocity and informal volunteering, in turn, share important motivational preconditions. The concept of informal volunteering itself is not restricted to acts of mutual commitments. At the same time, existing research suggests that obligations, which are inherent to altruistic reciprocity, are a powerful predictor of, for instance, informal helping activities (Wilson and Musick, 1997: 700). As already mentioned above, informal volunteering is furthermore predominantly driven by altruistic motivations (e.g. ‘helping others’) which correspond to the helping character of altruistic reciprocity (Clary et al., 1996; Stadelmann-Steffen et al., 2010: 88; Wilson and Musick, 1997: 695). In line with Putnam’s (2000: 118) observation that ‘altruistic behaviours tend to go together’, it can thus be assumed that the norm of altruistic reciprocity is positively related to immigrants’ informal volunteering (cf. Manatschal and Freitag, 2014). Yet, the parameter of interest is not immigrants’ informal volunteering per se, but the lack of social cooperation, which can be captured by the *engagement gap* between immigrants and natives, meaning immigrants’ lower propensity to engage in informal volunteering compared to natives. Figure 1 shows how altruistic reciprocity can act as a jump start of social cooperation by enhancing immigrants’ propensity to volunteer, narrowing thereby the engagement gap between immigrants and natives. Hypothesis 1 summarizes this assumption.

H1: Altruistic reciprocity moderates the engagement gap between immigrants and natives to the extent that immigrants indicating high levels of altruistic reciprocity volunteer not significantly less than natives.

Hypothesis 1 starts from the simplistic assumption that immigrants constitute a homogenous group. Yet, existing research shows that the propensity to volunteer varies for instance between different ethnic and racial groups (Sundeen et al., 2009). So far, studies on immigrant civic engagement pay only little attention to more dynamic aspects of immigrant heterogeneity such as social status differences. Considering education represents one of the most powerful and consistent predictors of virtually all forms of volunteering, this neglect is surprising (Kaasa and Parts, 2008; Putnam, 2000: 118; Wilson, 2012). According to Wilson (2012: 182), education boosts volunteering because more highly educated people have broader horizons, as measured by attention to current affairs. Based on these considerations, I account for immigrants’ heterogeneity regarding their social status by distinguishing three educational groups: lowly, medium and highly educated immigrants.

Lowly educated immigrants

Low-skilled immigrants are commonly perceived of as an especially disadvantaged social group. As a look at the data confirms, immigrants belonging to this group are most vulnerable to unemployment or likely to be reliant on a low salary full-time job – both factors are not necessarily conducive to voluntary engagement (Sundeen et al., 2009; Wilson, 2012). Considering that low human capital in terms of education is an obstacle to civic engagement, I expect lowly educated immigrants to engage significantly less in informal volunteering compared to natives, and that this engagement gap should be moderated by altruistic reciprocity.

Medium educated immigrants

Immigrants exhibiting a medium level of education presumably comprise former working migrants from southern Europe who have already lived in Switzerland for several years and should therefore be most familiar with, and incorporated into, Swiss society. To put it in Gouldner's (1960) terms, middle educated immigrants constitute the most consolidated immigrant group within Swiss society. As a consequence, I expect that medium educated immigrants do not engage significantly less in informal volunteering than natives, which renders the moderating effect of reciprocity for this group obsolete.

Highly educated immigrants

In line with research findings on volunteering, one could expect highly educated immigrants to exhibit the highest levels of informal voluntary engagement among all immigrant groups, since they should be most sensitive and responsive to societal challenges. At the same time, and as a closer data inspection confirms, highly educated immigrants have a higher probability of working full-time for career reasons, meaning that they have only scarce capacities for low prestige activities such as informal volunteering. What is more, the group of high skilled immigrants also comprises a highly mobile global elite, whose self-understanding is rather cosmopolitan than local. Therefore, high skilled immigrants are likely to constitute the group with the lowest level of informal local volunteering, with reciprocity exerting a potentially strong moderating effect on the engagement gap between highly educated immigrants and Swiss citizens. Based on this discussion, Hypothesis 2 refines the general assumption made in Hypothesis 1 (cf. Figure 1).

H2: The moderating effect of altruistic reciprocity on engagement gaps in informal volunteering is particularly pronounced for lowly and highly educated immigrants, whereas it is irrelevant for medium educated immigrants.

Data and research design

To test the hypotheses outlined above, I base my analysis on the Swiss volunteering survey 2009 (Stadelmann-Steffen et al., 2010). Depending on the model estimated, the final sample from the Swiss volunteering survey comprises between 5993 and 6213 Swiss and non-national respondents in the 26 Swiss cantons. The individuals in the cantons were randomly chosen and questioned by means of computer assisted telephone interviews (CATI). In order to obtain a sufficiently high number of respondents for each subnational unit ($N \geq 100$), the random sample was stratified disproportionately among cantons.

My dependent variable is whether or not an individual engages in informal volunteering. The measurement refers to the reported informal voluntary engagement as indicated by the Swiss volunteering survey 2009: 'Did you perform any type of unpaid work beyond volunteering in associations or other organizations, such as babysitting (children other than your own), neighbourly-aid, participating in any kind of projects, organizing festivities in your neighbourhood, etc. in the last four weeks? (The work has

to be for the benefit of people outside one's own household'). Respondents indicating informal voluntary engagement were allocated the value of 1, while all others were assigned the value 0.

The parameter of interest is, however, not the dependent variable, but the engagement gap in informal volunteering, that is, the relationship between non-national background and informal volunteering. This gap evolves already from a mere descriptive inspection of the data, where immigrants report significantly lower levels of informal volunteering (23.7%) compared to nationals (31.6%; $t = 4.47$; $p = 0.00$). The central independent variables at the individual level are thus non-national background and altruistic reciprocity, which is expected to moderate the relationship between non-national status and informal volunteering.

As for altruistic reciprocity, respondents were asked to indicate their agreement on a scale ranging from 0 (no agreement) to 10 (total agreement) to the following item of the Swiss volunteering survey 2009: 'I take particular effort to help someone who has helped me in the past'. This statement implies compensation for past goodwill, expressing thereby a moral obligation or a 'shadow of indebtedness' to reciprocate (Gouldner, 1960: 174), which corresponds to the general idea of altruistic reciprocity. While this item covers only one aspect of altruistic reciprocity (cf. Berger, 2013: 34), it comes closest to Gouldner's specific understanding of the norm of reciprocity in his starting mechanism argument, which is under scrutiny here.² A descriptive inspection of the data reveals that on average, non-nationals and Swiss citizens do not differ in their commitment to altruistic reciprocity (cf. Table A1 in the appendix). Whether brought along from the country of origin or adopted in the host society, non-nationals do also accede to altruistic reciprocity. In line with Gouldner (1960), I expect that this compliance with altruistic reciprocity might make a difference when it comes to non-nationals' informal voluntary behaviour.

In order to explain informal volunteering, I control for education (Hypothesis 1), and I also use this variable to create specific immigrant educational groups (categorical variable for lowly, medium and highly educated immigrants, with Swiss citizens as reference category) for testing Hypothesis 2. I further build on former research on the individual determinants of volunteering (cf. Salamon and Sokolowski, 2003: 77; Wilson, 2012; Wilson and Musick, 1997), and integrate gender and age as socio-demographic individual characteristics into the analysis. I furthermore account for employment status as well as religious affiliation (cf. Putnam, 2000; Ruiter and De Graaf, 2006; Wilson, 2012). Additionally, I add residential stability, i.e. how long the respondent has lived at his or her current residence, since rootedness might be related to informal volunteering (Voicu and Serban, 2012).

At the contextual level, a canton's degree of urbanization as well as the language region is integrated into the models, as these contextual factors have proven to be important in explaining volunteering in Switzerland (Kriesi and Baglioni, 2003; Stadelmann-Steffen et al., 2010). I use the values of the contextual factors measured prior to 2009 to assure that the potential predictor precedes the outcome. More detailed information on all variables (operationalization and sources) as well as descriptive statistics can be found in Table A1 in the appendix.³

Methodologically, I apply random intercept models, implying that individual behaviour can vary between cantons (Steenbergen and Jones, 2002). I prefer multilevel analysis over fixed-effects models, as this allows me to explain cantonal variation in informal volunteering by including macro-level characteristics (in the present case, of the contextual control variables at the cantonal level), instead of just controlling for this variation. As the dependent variable is dichotomous, individual volunteering of immigrants is transformed into a logit structure. A Bayesian estimation approach is used, which has been shown to perform better than maximum likelihood, particularly when employing multilevel models faced with a small number of level 2 units (Stegmüller, 2013). For an easy interpretation of the Bayesian estimation results, the mean and the 95% credible interval of the posterior distribution are provided, which can be interpreted as in a standard regression situation. The mean is the average effect of an independent variable on the outcome variable, and the credible interval, the Bayesian analogue to confidence intervals in a standard regression context, gives a sense of the statistical reliability of this estimate. If the credibility interval does not include zero, I speak of relevant coefficients, which corresponds to significant coefficients in frequentist terms.⁴

Table 1. Moderating effect of altruistic reciprocity on non-nationals' engagement gap in informal volunteering.

	Model 1	Model 2
Fixed effects		
Constant	-0.89 [-1.33:-0.45]	-0.89 [-1.32:-0.49]
<i>Individual level</i>		
Gender (ref.cat.: male)	0.41 [0.30:0.52]	0.37 [0.26:0.47]
Age	-0.01 [-0.01:-0.00]	-0.01 [-0.01:-0.00]
Education (ref.cat.: medium education)		
Low education	-0.54 [-0.70:-0.39]	–
High education	0.05 [-0.08:0.17]	–
Employment (ref. cat.: part-time)		
Full-time employment	-0.40 [-0.54:-0.26]	-0.43 [-0.56:-0.29]
Not employed	-0.03 [-0.16:0.10]	-0.13 [-0.25:0.01]
Residential stability	0.04 [-0.03:0.10]	0.03 [-0.03:0.09]
Religious affiliation (ref. cat.: Protestant)		
Catholic	-0.05 [-0.16:0.06]	-0.07 [-0.17:0.04]
Other	-0.07 [-0.32:0.18]	-0.04 [-0.28:0.21]
None	-0.07 [-0.23:0.08]	-0.04 [-0.19:0.11]
Non-national	-1.04 [-1.85:-0.26]	–
Non-national educational groups (ref. cat.: Swiss citizens)		
Lowly educated immigrant	–	-2.82 [-5.17:-0.77]
Medium educated immigrant	–	-0.23 [-1.16:0.67]
Highly educated immigrant	–	-2.55 [-5.65:-0.67]
Altruistic reciprocity	0.04 [0.01:0.06]	0.03 [0.01:0.06]
Immigrant * altruistic reciprocity	0.08 [0.00:0.17]	–
Lowly educated immigrant * altruistic recip.	–	0.24 [0.01:0.49]
Med. educated immigrant * altruistic recip.	–	0.00 [-0.10:0.10]
Highly educated immigrant * altruistic recip.	–	0.24 [0.03:0.47]
<i>Contextual level</i>		
Urbanization	-0.11 [-0.21:-0.00]	-0.10 [-0.20:0.01]
Regional provenance	0.01 [0.00:0.001]	0.01 [0.00:0.01]
Random effects		
Contextual level variance	0.01 [0.00:0.02]	0.01 [0.00:0.02]
N	5993 (26)	6213(26)
DIC	7268.35	7567.95

Note: Mean posterior distributions of logistic Bayesian multilevel regression coefficients (log-odds), and 90% credible interval (squared brackets); relevant coefficients are printed in bold; all models were calculated in MLwiN using Markov Chain Monte Carlo (MCMC) estimation (100,000 iterations, burn-in 1000, diffuse [gamma] priors); no signs of non-convergence; DIC: Deviance Information Criterion.

Empirical results

In the following, I present a two-stage analytical procedure to examine whether altruistic reciprocity equalizes immigrant engagement gaps in informal volunteering.

In a first step, I set out a basic model which includes individual and contextual variables as well as the same level interaction terms testing a moderating effect of altruistic reciprocity on the relationship between immigrant background and informal volunteering (see Table 1). Model 1 in Table 1 contains the basic interaction based on immigrant background and altruistic reciprocity, whereas Model 2 tests the more subtle interaction between lowly, middle and highly educated immigrants and altruistic reciprocity.

To start with, the constitutive terms of the interaction effects in Models 1 and 2 corroborate the assumption of an immigrant engagement gap: as expected, immigrants in general (Model 1), as well

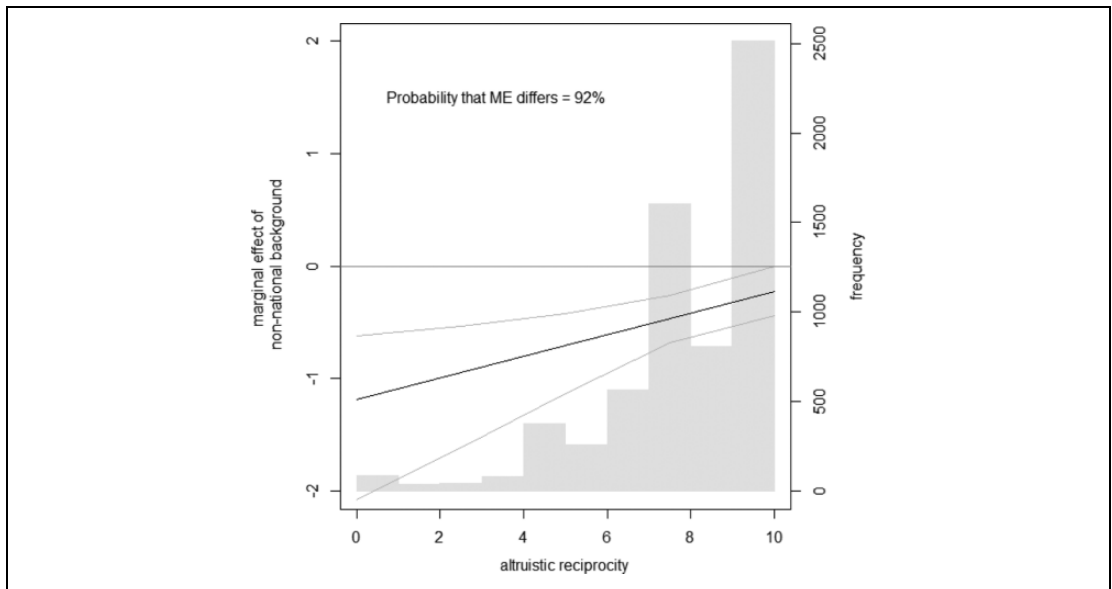


Figure 2. Marginal effect of non-national background on informal volunteering for different values of altruistic reciprocity.

Note: Marginal posterior distributions (last 1000 iterations) including histogram with frequency distribution of observations in sample for altruistic reciprocity (grey bars); black line: mean, grey lines: 95% credible interval (2.5% and 97.5% percentiles) based on Model 1 in Table 1. $N = 5993$ respondents, of whom 769 respondents have a non-national background. ‘Probability that ME differs’ indicates the share of iterations for which the marginal effect of low education is smaller if the values of altruistic reciprocity vary from one standard deviation below the mean (6.4) to the maximum (10).

ME: marginal effect.

as lowly and highly educated immigrants in particular (Model 2), are less likely to engage in informal voluntary activities compared to Swiss citizens, if the moderating variable altruistic reciprocity takes the value 0. Furthermore, both models largely confirm earlier studies, according to which the likelihood for informal volunteering is higher for women, whereas this probability is lower for full-time employed individuals (Wilson and Musick, 1997). Informal volunteering rates are higher in German-speaking cantons, which is commonly explained by cultural differences and political factors. The more family-oriented social culture in Latin cantons is expected to hamper civic engagement. By contrast, the vivid use of direct democracy in German-speaking cantons is assumed to yield a participation enhancing effect on civic engagement (Stadelmann-Steffen et al., 2010: 117f). Interestingly, local residence period does not affect the likelihood of informal volunteering, which could reflect the spontaneous and unconditional nature of informal as opposed to formal volunteering.⁵

In a second step, I tested whether high levels of altruistic reciprocity may reduce the engagement gaps identified in Table 1. To this end, I estimate and illustrate the marginal effects of non-national background (Figure 2) and the three educational immigrant groups respectively (Figure 3) on informal volunteering for different levels of altruistic reciprocity, based on Models 1 and 2 in Table 1. In line with Hypothesis 1, the marginal effects presented in Figure 2 draw an increasing line, indicating that immigrants reporting higher values of altruistic reciprocity are more likely to engage in informal volunteering compared to immigrants reporting low values of altruistic reciprocity. What is more, the 95% credibility interval touches the zero line when altruistic reciprocity amounts to 10 (maximal value), suggesting that the engagement gap caused by non-national background becomes irrelevant when individuals attest themselves a very high level of altruistic reciprocity.

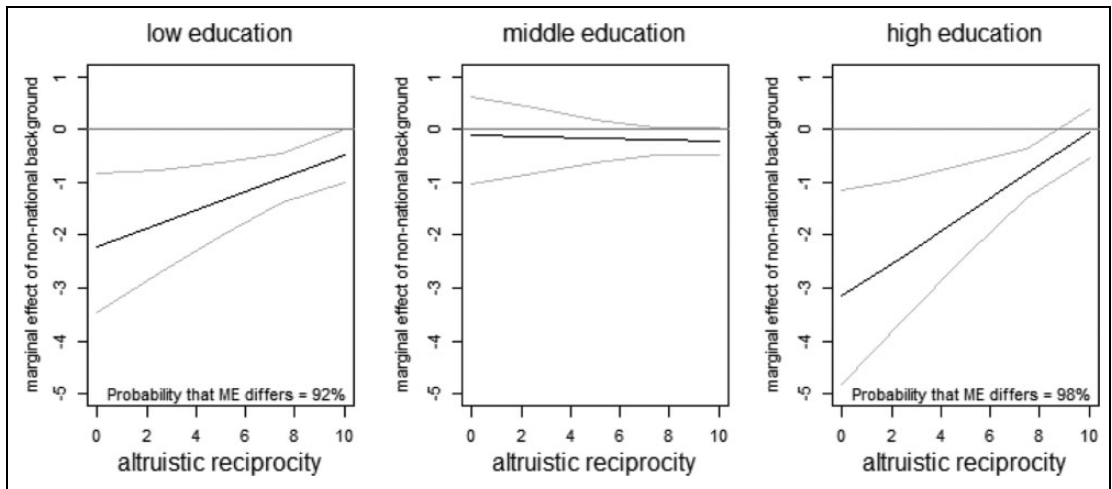


Figure 3. Marginal effect of three immigrant educational groups on informal volunteering for different values of altruistic reciprocity.

Note: Marginal posterior distributions (last 1000 iterations) for low (left graph), medium (middle graph) and high education (right graph); black line: mean; grey lines: 95% credible interval (2.5% and 97.5% percentiles) based on Model 2 in Table 1. $N = 6213$ respondents, of whom 156 were non-national respondents with low, 395 non-national respondents with middle, and 165 non-national respondents with high education. 'Probability that ME differs' indicates the share of iterations for which the marginal effect of low education is smaller if the values of altruistic reciprocity vary from one standard deviation below the mean (6.4) to the maximum (10). ME: marginal effect.

In order to check for which values of altruistic reciprocity this effect is substantial (Berry et al., 2012), Figure 2 also contains the frequency distribution of observations in the sample. As could be expected due to social desirability, the frequency distribution is negatively skewed with the vast majority of observations attesting themselves high values of altruistic reciprocity. This affects the precision of the estimation for lower levels of altruistic reciprocity. To restrict the interpretation of marginal effects to meaningful quantities, I calculated the probability of a positive moderation for the 86% of all respondents included in the analysis (i.e. 86% of the nationals and 87% of the non-nationals) who indicated high values on the reciprocity scale, covering the range from 6.4 (mean minus one standard deviation) to the maximum of 10. This probability amounts to 92% (standard deviation = 0.28), indicating that the moderating effect of altruistic reciprocity on the nationality-gap is relevant and substantial at the 10% level.

Analogous to Figure 2, Figure 3 comprises the marginal effects for lowly, middle and highly educated immigrants on informal volunteering for different values of altruistic reciprocity. The three plots confirm the differentiated theoretical expectations formulated in Hypothesis 2, according to which especially lowly and highly educated immigrants are responsible for the overall engagement gap between immigrants and natives: the engagement level of middle educated immigrants (middle plot in Figure 3) does not substantially differ from the one of Swiss citizens, which renders a moderating effect of reciprocity obsolete. By contrast, there are pronounced engagement gaps for low and even more for highly educated immigrants (left and right plots in Figure 3), which are both positively moderated by altruistic reciprocity.

Similar to the marginal effects reported in Figure 2, the marginal effects in Figure 3 are not only relevant, but also substantial: the probability of a substantive positive moderation of altruistic reciprocity amounts to 92% in the left graph, and even 98% in the right graph of Figure 3. To sum it

up, the engagement gap in informal volunteering loses its relevance (lowly educated immigrants) or disappears entirely (highly educated immigrants) for individuals attesting themselves high levels of altruistic reciprocity.

In the remainder of this section, I discuss the robustness of these findings. Due to the small number of observations for single nationalities, it is unfortunately not possible to control for this factor in the analysis. A look at the composition of the three educational groups by nationality, however, shows that there is no disproportionate pattern which would allow tracing back the observed differences to specific nationalities. As separate analyses not reported here for west-European non-nationals only revealed, the negative engagement gap remains significant and is positively moderated by altruistic reciprocity even for this immigrant group which shares a similar cultural background with Swiss citizens. Finally, additional models not reported here reveal that the moderating effects described above could not be replicated if strategic reciprocity, which stands for the idea that to help someone is the best way to receive help in the future (cf. Diekmann, 2004), instead of altruistic reciprocity, was used.

Discussion and conclusion

The purpose of this paper was to examine Gouldner's (1960) neglected argument that reciprocity has not only a system stabilizing function in established societies, but might already act as a starting mechanism of social cooperation in early phases of societal consolidation. Using unequal engagement between immigrants and nationals in the area of informal volunteering as an indicator for a lack of social cooperation in immigration societies, I tested whether individual compliance with the norm of altruistic reciprocity has the potential to narrow this engagement gap, and thus initiate social cooperation, as postulated by Gouldner (1960).

The Bayesian multilevel analyses based on survey data of the Swiss volunteering survey 2009 suggest that immigrants endorsing altruistic reciprocity as a trait of a prosocial personality may indeed play a crucial role in jump starting social cooperation in contemporary immigration societies. To start with, immigrants engage significantly less in informal volunteering than nationals, which I identified as a lack of social cooperation within Switzerland's immigration society. This engagement gap turns out to be most pronounced for immigrants exhibiting low levels of altruistic reciprocity, and it diminishes with increasing compliance with this altruistic norm. Finally, immigrants indicating the highest levels of altruistic reciprocity no longer differ substantially in their propensity for informal volunteering compared to Swiss citizens. More differentiated analyses furthermore revealed that this moderating effect of altruistic reciprocity on immigrants' informal voluntary engagement is mainly attributed to those groups who are least likely to engage in informal volunteering, meaning lowly and highly educated immigrants.

The findings of this paper bear important implications for the research on reciprocity, on the one hand, as well as on social cooperation in immigration societies, on the other hand. Most importantly, the results seem to confirm Gouldner's (1960: 176) classical but so far neglected thesis that reciprocity is functional in early phases of certain groups, where people are brought together in new juxtapositions and combinations and where impending exchange is typically viewed as dangerous and the other is viewed with suspicion.

From the perspective of the empirical test scenario, the findings presented here furthermore contribute to the research on social cohesion in societies of immigration. While existing research repeatedly observes a lack of social trust, social cohesion and civic engagement in contemporary immigration societies (Laurence, 2011; Putnam, 2007; Wilson, 2012), the study at hand offers a more optimistic perspective. It seems like reciprocity is not only functional in early phases of societal consolidation, but it might even act as a trigger of social cooperation in societies of immigration. Overall, the results of this study seem thus to support the argument that reciprocity represents a more relevant, since less demanding, basis for social cohesion in immigration societies than trust (Hooghe, 2007).

The study at hand is a first step in testing the cooperation initiating potential of reciprocal norms based on survey data. Future research shall subject the suggestive and explorative findings presented here to critical scrutiny. Research based on larger immigrant samples could provide more nuanced evidence on whether the moderating effect of altruistic reciprocity varies, for instance between non-national and naturalized individuals. Longitudinal data on this topic would be particularly useful to disentangle potential causal pathways between reciprocal norms and social cooperation, which would be an important added value to the merely cross-sectional nature of the associations reported in this paper. So far, such an endeavour is complicated by data limitations, especially the scarcity of survey data on reciprocity, and existing international studies use rather indirect measures to capture reciprocal norms, be it through trusting attitudes (León, 2012: 203) or mere perceptions of reciprocal behaviour (Laurence, 2011: 75). At the same time, European social survey data from 2006 reveal an engagement gap between immigrants and nationals when comparing individual informal helping across west-European countries. The fact that we find such a negative engagement gap even for informal helping, which is narrower than informal volunteering, suggests that the issue under consideration here clearly matters beyond Switzerland. To test Gouldner's starting mechanism thesis more systematically not only across and within other contemporary immigration societies, but also over time, differentiated survey data on informal volunteering, which also cover different forms of altruistic reciprocity (cf. Berger, 2013), are needed.

Engagement gaps in informal volunteering represent only one way to account for social cooperation in real life exchange situations. However, the results presented here are in line with recent game theoretical research proving the relevance of altruism and reciprocity in other emerging social exchange contexts such as online markets (cf. Diekmann et al., 2014). While there is no doubt that strategic reciprocity is fundamental for the maintenance of social cooperation in established communities, the societal function of reciprocity, as Gouldner (1960) suggested, does not stop here. The starting mechanism function of reciprocity merits more attention, especially in today's consolidating immigration societies.

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Notes

1. In this article, immigrants are defined in a narrow sense, referring to non-nationals only, since the data do not allow a further distinction of the migration background of an individual (e.g. naturalized foreign or Swiss born). Yet, given Switzerland's restrictive *jus sanguinis* citizenship regime, non-nationals constitute a large share of the population with migration background in Switzerland.
2. Besides this person-specific form of positive altruistic reciprocity which stands for the obligation referred to by Gouldner (1960) to return a favour received to that same person, altruistic reciprocity can for instance also take a negative form (i.e. to punish unfriendly behaviour) or be of a generalized nature, where giver and receiver are no longer identical (cf. Berger, 2013).
3. A look at the descriptive statistics in Table A1 shows that women and older people are slightly over-represented in the sample, which has to do with the increasing difficulty of the CATI survey method

- to reach certain segments of the population such as young people. Since the analyses control for age and gender, this data limitation should, however, not affect the empirical evidence presented here.
4. The fundamental inference logical differences between Bayesian and frequentist estimation techniques notwithstanding, there should be little practical differences in the results (Hadfield, 2014: 5). As further analyses not reported here confirm, using a frequentist maximum likelihood estimation approach did not alter the results.
 5. While residence period might not matter so much for the overall population, it could make a difference for immigrants' informal volunteering, given that immigrants' propensity for formal volunteering increases with length of residence (cf. Voicu and Serban, 2012). Yet, as additional models based on non-national respondents only reveal, neither local nor national residence period affect non-nationals' informal volunteering.

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Author biography

Anita Manatschal obtained her PhD from Bern University in 2012, where she is currently working as a postdoctoral researcher and lecturer. At Bern University, she is also engaged in the project management of the research unit ‘Volunteering and social capital’. Her research interests comprise civic engagement, immigrant integration, migration policy, and political institutions.

Appendix

Table A1. Variables, operationalization, and data sources.

Variable	Summary statistics	Operationalization/source ^a
<i>Dependent variable</i>		
Informal voluntary engagement	<p><i>Shares (whole sample):</i> Volunteer: 30.7% Non-volunteer: 69.3%</p> <p><i>Shares (Swiss):</i> Volunteer: 31.6% Non-volunteer: 68.4%</p> <p><i>Shares (non-nationals):</i> Volunteer: 23.7% Non-volunteer: 76.3%</p>	Dummy: 1 = Individual performs informal unpaid work; 0 = individual does not perform informal voluntary work outside associations or organizations and outside their own household (e.g. babysitting others' children, helping out in the neighbourhood, involvement in projects, organizing (street) festivities, etc.).
<i>Independent variables – individual level</i>		
Altruistic reciprocity	<p>Mean (whole sample): 8.4 SD: 1.9 Min.: 0 Max.: 10 Mean (Swiss): 8.3; SD: 1.9 Mean (non-nationals): 8.5; SD: 2.1</p>	Agreement on a scale from 0 to 10 (0 = no agreement, 10 = total agreement): ‘I put a particular effort in helping someone who has helped me in the past’.

(continued)

Table A1. (continued)

Variable	Summary statistics	Operationalization/source ^a
Strategic reciprocity	Mean: 6.5 SD: 2.8 Min.: 0 Max.: 10	Agreement on a scale from 0 to 10 (0 = no agreement, 10 = total agreement): 'helping someone is the best method to be certain that one will receive help in the future'.
Gender	Shares: Male: 39.2% Female: 60.8%	Dummy: 0 = men; 1 = women.
Age	Mean: 56.5 SD: 17.1 Min.: 17 Max.: 98	Age (in years) of the persons interviewed.
Nationality	Shares: Swiss: 88.1% Non-national: 11.9%	Dummy: 0 = Swiss; 1 = non-national.
Educational level	Shares: Low education: 14.2% Medium education: 66.9% High education: 18.9%	Highest completed level of education, 3 categories: (1) no education higher than obligatory school or low educational achievements; (2) secondary education; (3) tertiary education.
Employment	Shares: Full-time: 32% Part-time: 21.5% Not employed: 46.5%	3 categories: (1) full-time employed; (2) part-time employed; (3) not employed.
Religious affiliation	Shares: Protestant: 35.7% Catholic: 44.5% Other: 5.3% None: 14.5%	4 categories: (1) Protestant; (2) Catholic; (3) other; (4) none.
Residential stability	Mean: 3.7 SD: 0.8 Min.: 1 Max.: 5	Time spent living in same place, 5 categories: (1) less than one year; (2) one to three years; (3) three to 10 years; (4) more than 10 years; (5) since birth.
Independent variables – contextual level		
Urbanization	Shares: Urban / aggl.: 69.4% Rural: 30.6%	Dummy: 0 = rural, 1 = urban/agglomeration; Source: Federal Statistical Office: population census, 2000.
Regional provenance	Mean: 78.2 SD: 33.9 Min.: 13 Max.: 99	Percentual share of German-speaking population within a canton; Source: based on Federal Statistical Office, population census 2000.

^aAll individual variables are taken from the Swiss volunteering survey 2009.