Influencing youth citizenship

Eidhof, B.B.F.

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5. Using Significant Others and Perspective Taking to Resolve Intergroup Tensions[1]

Abstract: Sustained intergroup tension is an important threat to social cohesion, as it may lead to hostilities and conflict between social groups within society. Individuals typically have difficulty resolving intergroup tension in a mutually beneficial manner. We argue that in contemporary societies, the ability and willingness to resolve intergroup tension is an important yet underexposed citizenship competence. Using goal-framing theory as a model of individual behavior and development, two mechanisms that may stimulate resolution of intergroup conflict are identified: perspective taking and the use of significant others. Our findings confirm that perspective taking and significant others can increase both the motivation for intergroup cooperation and actual cooperative intergroup reciprocation. Finally, the implications for citizenship education are discussed.

Keywords: intergroup tension, intergroup conflict, goal framing theory, Intergroup Prisoner's Dilemma, citizenship education

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Introduction

Over the last decades, many societies have developed increasingly heterogeneous populations. Due to immigration flows and increasing differences between individuals of lower and higher socio-economic status, societies have come to harbor a greater variety of social groups (Pedersen, Pytlikova, & Smith, 2008; Piketty & Saez, 2006). In a globalizing world, societies have become more connected to and dependent on each other as well (WTO, 2014). Individuals' preferences to form social ties with those who are alike (i.e., homophily) have not disappeared, however, contributing to group formation and segregation (McPherson, Smith-Lovin, & Cook, 2001). As these groups come across each other, intergroup tensions can manifest themselves in societies and schools. Yet, individuals find intergroup tensions hard to resolve in a way that is in the interest of all (Bornstein & Ben-Yossef, 1994; Goren & Bornstein, 2000).

Schools are at the forefront of social-cultural developments in society, and have to deal with challenges posed by such trends. They aim to provide a safe learning environment in which students can equip themselves for functioning in society at large. In recent years, Western policymakers have stimulated schools to equip the youngest generation of citizens with competences for maintaining and improving social cohesion and the quality of democratic society (Eurydice, 2012; Osler & Starkey, 2006; The National Task Force on Civic Learning and Democratic Engagement, 2012). Conflict resolution is an area of widespread concern and a prominent citizenship competence in most citizenship education conceptualizations (Ten Dam, Geijsel, Reumerman, & Ledoux, 2011; Torney-Purta, Lehmann, Oswald, & Schulz, 2001; Van Gunsteren, 1998; Veugelers, 2007). While an open classroom climate has been identified as an important factor in citizenship education (Geboers, Geijsel, Admiraal, & Ten Dam, 2013), relatively little is known about the characteristics of effective citizenship education, especially with regard to intergroup conflict resolution. In the citizenship education literature, large parts of classroom and school variance are left unexplained (Isac, Maslowski, Creemers, & Van Der Werf, 2014; Schulz, Ainley, Fraillon, Kerr, & Losito, 2010).

Training for citizenship is not just a preparation for the encounter of intergroup conflict outside school. With increasing heterogeneity in society, schools often experience intergroup conflict among their students, of which ethnic group dynamics are best documented. For instance, in schools that have climates characterized by more interethnic

conflict, peer victimization is higher (Agirdag, Demanet, Van Houtte, & Van Avermaet, 2011). In addition, racial diversity corresponds to lower levels of political discussion in the classroom (Campbell, 2007), while friendship segregation peaks in moderately heterogeneous schools (Moody, 2001). Larger ingroups among minorities buffer the adverse effects of ethnic tension somewhat, as members of ethnic minorities report less peer victimization in schools that have higher minority concentrations (Agirdag et al., 2011; Juvonen, Nishina, & Graham, 2006). The direct exposure to intergroup conflict implies that teachers and students have to have a good understanding of what drives such conflict and which conditions can mitigate it. We therefore contend that for good citizenship education, teachers have to have tools that are based on good behavioral theories.

Previous research on intergroup conflict demonstrates that groups with adult members also have difficulty to cooperate with each other in situations of intergroup tension. Psychological and sociological studies show that mere membership of a group can lead to hostilities toward other groups (e.g., Sherif, Harvey, White, Hood, and Sherif, 1961; Durlauf, 1999). Once intergroup conflict starts, intragroup processes may cause changes in perception, beliefs and values that increase intragroup cohesion, but may also undermine the tractability of the intergroup conflict. Such processes are outgroup deindividuation and dehumanization (Zimbardo, 2007), and may also induce perception of the outgroup members as differently motivated, leading to substantial bias (Waytz, Young, & Ginges, 2014). In experimental settings that mimic real-life situations, the majority of groups fail to reach collectively optimal outcomes (Goren & Bornstein, 2000). Theories of behavior originally used to explain behavior in strategic interaction such as rational choice theory and agency theory typically fail to incorporate insights on the social nature of man (Coleman, 1990; Eisenhardt, 1989). For instance, they often assumed individuals to be strictly self-interested, although the presence of other-regarding preferences has long been documented (e.g., Bogeart, Boone, & Declerck, 2008). While recognizing that humans have social preferences is an important step, by itself it does not help us to explain the dynamics of intergroup conflict.

In the present chapter, we explore mechanisms that focus on the dynamics of intergroup conflict and may increase students' resistance to intragroup processes that lead to competitive behavior toward outgroups. They are selected to be useful to teachers who may wish to stimulate intergroup cooperation to prevent or resolve situations of intergroup

tension in schools themselves, while potentially equipping students for resolving intergroup tension in civic society. These mechanisms are derived from goal-framing theory (Lindenberg, 2013) and are tested by modelling intergroup tension through an Intergroup Prisoner's Dilemma (IPD) game. In doing so, this chapter addresses a number of issues in the citizenship education literature. First of all, it studies individuals' functioning in groups, rather than studying individuals in isolation. Secondly, it studies citizenship by measuring actual behavior while providing insights on the mechanisms at play, rather than intended behavior or democratic competences, which do not necessarily lead to actual participation (Fjeldstad & Mikkelsen, 2003). Thirdly, it uses an explicit model of behavior to base hypotheses on, rather than leaving mechanisms underlying behavior implicit. Finally, it employs an experimental research design that allows for causal inference, rather than drawing on correlational methods.

The next section will further elaborate on undesirable intergroup conflict scenarios, after which goal-framing theory will be described and applied to identify mechanisms that may stimulate citizenship behavior during situations characterized by intergroup tension.

Theoretical background

Intergroup tension and conflict

In a society where a great variety of social groups are present, an important threat to social cohesion stems from situations in which intergroup tension deteriorates into intergroup conflict. Importantly, intergroup conflicts are not necessarily undesirable; they merely indicate that groups may have different goals and may need to compete for resources to achieve those goals (Campbell, 1965). They may even bring about desirable within-group outcomes, such as within-group solidarity, bonding social capital or emancipation. However, two types of intergroup conflict scenarios are not desirable if one values social cohesion.

The first scenario is one in which the process of resolution seeking stalls or breaks down. A societal example would be when a labor union and employers do not reach agreement over a collective labor agreement resulting in long strikes and loss of production, to the detriment of both employees and employers. In education, two groups may compete for dominance in classroom discussions, preventing others to voice their own perspective on a given issue. This may lead to less democratic citizenship development for all students,

as a safe and open classroom climate in which multiple perspectives are discussed stimulates democratic citizenship development (Geboers et al., 2013; Isac et al., 2014; Torney-Purta, 2002). The second, related scenario manifests itself when groups seek conflict even when cooperation would be more beneficial for both the collective and the individuals. For example, when two groups of students engage in fights, individual students risk serious harm and the school climate may become dominated by fear as a result.

A model of behavior that can be applied to citizenship education needs to explain how individuals may react when goals are in conflict and how individuals are sensitive to social influences. Moreover, a suitable model of behavior would also need to suggest feasible educational interventions that may enhance students' resistance to intragroup dynamics that increase competitive behavior toward outgroups. We suggest that paying attention to the dynamics of overarching goals can serve this purpose. Goal-framing theory meets these conditions.

Goal-framing theory as a model of behavior for citizenship development

Goal-framing theory (Lindenberg & Steg, 2007; Lindenberg, 2013) is a theory that combines insights from cognition and motivation research to address several of the aforementioned requirements. It assumes goals to be essential organizing constructs of human behavior and perception: human beings tend to understand and process their environment in terms of goals. In turn, sets of goals are embedded in overarching goals. The theory distinguishes three overarching goals that shape behavior in important ways when they are strongly activated. The first overarching goal is the 'hedonic' goal, which is characterized by behavior that serves an individually motivated short-term goal that improves the way one feels in the moment, for instance by having fun or economizing on effort. The second overarching goal is the 'gain goal', in which individuals are concerned with guarding and building up one's own resources (i.e., serving individually motivated long-term goals, such as saving for later or investing in one's skills). The third overarching goal can serve both short- and long-term goals and is motivated by the collective interest (i.e., to a feeling of obligation to act appropriately, for example by helping others or contributing to a public good). This is the 'normative' goal. When it is strongly activated, the individual acts as a member of a group or dyad, not as an individual. These overarching goals are called "goal-frames" when they are strongly activated and thereby influence what

we attend to, which knowledge is activated, what we appreciate, what we expect others to do, which alternatives we consider and how we process information (Lindenberg, 2013). As activation of the normative goal-frame may stimulate citizenship behavior, the next section describes how goal-frames may be activated.

Activation of goal-frames

The activation of an overarching goal depends on at least three factors: its *a priori* strength, the degree to which it is being activated by the environment, and the degree to which the individual is motivated to self-regulate its activation.

The *a priori* strength of goal-frames is determined by evolutionary and social influences, such as one's upbringing (Lindenberg, 2008). The hedonic goal is *a priori* the strongest, as it is aimed at satisfying basic needs, which are supported by an emotional-motivational system. The gain goal is *a priori* weaker than the hedonic goal, because even though it is related to the individual's benefits, its results are more removed in time and less directly linked to emotions. The normative goal is *a priori* the weakest as it often asks for individual sacrifices in the interest of the collective without yielding direct personal advantages. Thus in order to have the normative goal be stronger than the other two overarching goals, it needs to be especially activated in a given situation. Two mechanisms are particularly relevant for this activation (Lindenberg, 2013): stimulating perspective taking and significant others. Both mechanisms can also be used to stretch the application range of the normative goal, so that a particular normative goal (e.g., cooperation) is applied to the entire collective, rather than just the ingroup.

Boosts and stretches in perspective taking

For the activation of the normative goal-frame, the individual's perspective taking ability is highly relevant (Lindenberg, 2013). Without being able to take the perspective of others and of the group as a whole, the individual will not act as member of the group or dyad.[2] Thus, stimulating (and thereby boosting) perspective taking will increase the relative strength of the normative goal. The same method can be used to stretch the range of the

[2] Interestingly, this perspective taking is also crucial for the gain goal, as the individual has to be able to put him- or herself into the shoes of itself in the future. Thus, investment behavior also requires perspective taking.

normative goal by pushing a more inclusive collective than the present ingroup. The citizenship education literature has established findings in line with this relationship, as an open and safe classroom climate in which perspective-taking is practiced has also been found to be positively associated with the development of social and political citizenship competences (Geboers et al., 2013; Isac et al., 2014; Torney-Purta, 2002).

Stretching significant others

According to goal-framing theory, activation and stretching of the normative goal may also be strengthened by the actual or mental presence of significant others that value normative goals, Shah (2003) demonstrated the important impact significant others may have on goal commitment, goal accessibility and goal pursuit. The closer the subject was to the significant other, the bigger the effect of being primed with the significant other was on goal pursuit. If the significant other clearly stands for a wider collective than the present ingroup, he or she will not only activate but also stretch the normative goal. In education, teachers can exert normative influence on pupils in their role as significant other as well. For example, when teachers are perceived to take an active stance against bullying by pupils, bullying reduces over time (Veenstra, Lindenberg, Huitsing, Sainio, & Salmivalli, 2014). In addition, classes with teachers who believe that bullying could be attributed to external factors (i.e., a disengaged stance) report a higher victimization rate (Oldenburg, Van Duijn, Sentse, Huitsing, Van Der Ploeg, Salmivalli, & Veenstra, 2015). Finally, social bonds with significant others such as teachers and parents appear to protect at-risk youth again continued truancy (Veenstra, Lindenberg, Tinga, & Ormel, 2010).

The present study

Stretching the range of people who are covered by the normative goal can create a form of "weak solidarity" shown to both in- and outgroups, thereby facilitating positive interactions between different groups (Lindenberg, in press). Activating and simultaneously stretching the normative goal may thus boost the motivation for intergroup cooperation.

In the present study the two ways to activate and stretch the normative goal as described will be used to test whether intergroup cooperation can be stimulated in situations in which intergroup tension is salient, using a repeated Intergroup Prisoner's Dilemma (IPD) game. Firstly, stretching the application of the normative goal of

cooperation to the outgroup will be stimulated by having individuals take the perspective of the collective that includes the outgroup. This leads to the following hypothesis:

H1: Stimulating subjects' perspective taking of the collective (that includes the outgroup) leads to higher motivation for intergroup cooperation compared to subjects not stimulated.

Secondly, the activation and stretching of the normative goal will be stimulated through a significant other, who will suggest he typically tried to find a solution that is 'good for all', after telling individuals that they may play the game as they wish. This leads to the following hypothesis:

H2: Exposing subjects to significant others who stand for a more inclusive collective leads to higher motivation for intergroup cooperation compared to subjects not exposed.

Additionally, as increased motivation to establish intergroup cooperation may lead to frustration and competitive behavior when the outgroup does not reciprocate cooperative signals in the repeated IPD game, higher variation in intergroup cooperation is also expected in both experimental conditions.

Methods

Modelling intergroup tension: the Intergroup Prisoner's Dilemma game

In this study we chose to induce intergroup tension by a repeated Intergroup Prisoner's Dilemma (IPD) game, which is a continuous public good game (Bornstein, 2003). This game forces individuals to choose between behavior that is rational from their own, the group, or the collective perspective, and to engage in behavior that is either cooperative or hostile towards the other group. In other words, the game assesses the extent of intergroup cooperation in a situation that is structured to make the possibility of intergroup conflict salient. Using an adaptation of Bornstein's description of team games in symmetric form, the repeated IPD game is structured as follows:

1. The game is played by two groups, A and B, with n members in each group
2. In every round, each member of groups A and B receives an endowment of size e (e>0), and subsequently decides individually whether or not to contribute his or her endowment.
3. The number of contributors per group is given by m_A and m_B, respectively. If $m_A > m_B$, all members of group A receive a payoff of r units, and vice versa for group B. The payoff structure of the IPD game reflects the relative amounts of effort made by the two groups, as is often the case in potential real-life intergroup conflicts. The reward a player in group A obtains is defined by the following function: $r/2n\ (m_A - m_B) + r/2$, with $r/2n < e < r/2$. If $m_A = m_B$, then each of the players in both groups receives a payoff of s ($0 \leq s \leq$ r) units.
4. All players are aware of the rules of the game and the value of the parameters n, e, and r.
5. The game is played in 8 blocks, each of which contain five rounds.
6. Players are given a within-group discussion time of 4, 2, and 1 minute(s) before blocks 1, 2, and 3-10, respectively.

The payoff structure of the IPD game reflects the relative amounts of effort made by the two groups, as is often the case in potential real-life intergroup conflicts. Contributed endowments are not refunded; non-contributed endowments are added to the player's payoff in a given round. As this renders an individual contribution (e) larger than the additional payoff by contributing ($r/2n$), individual payoff decreases when contributing. With the parameters $m_A = m_B = 3$, $e = 2$, $r = 6$, the following payoff structure emerges for

individual players in a given round (table 1). The resulting game includes a Prisoner's Dilemma game both within and between groups. As can be seen, the dominant individual strategy for pay-off maximizing individuals is to not contribute in a given round.

Table 1. *Payoff for an individual in group A for the Intergroup Prisoner's Dilemma game*

	$m_A - m_B$						
	3	**2**	**1**	**0**	**-1**	**-2**	**-3**
Contribute	6	5	4	3	2	1	-
Not contribute	-	7	6	5	4	3	2

When all individuals are taken together as a group, the payoff structure is as follows (table 2). Groups that want to maximize their payoff regardless of what the other group does will tend to designate all members as contributors, as this leads to an outcome that is at best the maximum group payoff and at worst a draw. Such a competitive strategy is typically met by use of the same competitive strategy by the outgroup in a repeated IPD game (Goren & Bornstein, 2000), leading to the lowest collective payoff of 18 points (see the cell in the lower right corner of table 2). In contrast, the collectively optimal or Pareto-efficient outcome is that both groups designate zero contributors, as this allows all members to keep their endowment (collective pay-off is maximal at 30 points; see the cell in the upper left corner of table 2). Hence, the cooperative strategy entails non-contribution by a group. In other words, there are two Nash equilibria at the team level. On the intergroup level, the competitive strategy can be seen as escalating intergroup tension into intergroup conflict, whereas the cooperative strategy can be interpreted as the resolving intergroup tension by intergroup cooperation.

Table 2. *Group Payoff Matrixes for the IPD game*

	m_A			
m_B	**0**	**1**	**2**	**3**
0	15, 15	12, 16	9, 17	6, 18
1	16, 12	13, 13	10, 14	7, 15
2	17, 9	14, 10	11, 11	8, 12
3	18, 6	15, 7	12, 8	9, 9

The achievement of the collectively optimal outcome is dependent on cooperation from both groups. Similarly, the competitive strategy is dependent on within-group cooperation, which is undermined if a player follows the dominant individual strategy. In sum, contribution can be interpreted as within-group cooperation causing intergroup conflict, while non-contribution can be interpreted either as a signal indicating willingness towards intergroup cooperation or free-riding if the group pursues a competitive strategy.

Participants

A total of 240 students from the University of Amsterdam and the VU University Amsterdam participated in the experiments. Participants were recruited through e-mails promising a variable monetary reward (with a minimum of 10 euros) for participating in a decision-making experiment.

Procedure

Participants were randomly assigned to the treatment or control condition in clusters of six, within which participants were randomly assigned to one of two groups consisting of three members. They were subsequently directed to their cubicles, which were arranged so that participants could not see each other's monitors, and received an overview of the experiment and explanations on the rules of the repeated IPD game. No reference was made to cooperation, defection, competition or maximization of individual, group or collective payoffs at this point. Participants' understanding of the payoff structure was verified by including a number of comprehension questions. If a participant did not answer these questions correctly, the experimenter explained the payoff rules until the participant was thought to understand. A payoff table and note taking paper were available to participants for the duration of the experiment.

Experimental design

Experiment 1: perspective taking

120 participants were randomly assigned to the treatment or control condition, resulting in 10 six-person clusters per condition. The experimental condition treatment consisted of a set of questions that the participants were required to answer in between the instructions of a game and the actual play. These questions prompted the participant to take the

perspectives of the collective (including the outgroup) and of the outgroup's members during the game. They included questions tailored to the dynamic of the IPD game, such as *"Both groups contribute with 1 person per round for a while. In one of the groups, someone then proposes to contribute with 3 people in the next round. If you consider this proposal from the perspective of all 6 players together, which advice would you then give?"* and *"In a given round, group A contributes with 3 people, while group B contributes with 1 person. How do you think group B will react in the next round?"*. In the control condition, participants answered a number of math questions.

Subsequently, the IPD game was played for 40 rounds, in 8 blocks of 5 rounds each. The start of the last block was announced on the PCs of every participant. After every round, participants were informed who of the in- and outgroup members had contributed, the number of points they received in this round, and the total number of points received. Before every block, group members could communicate with each other via an online chat channel. These chats were recorded.

After playing the repeated Intergroup Prisoner's Dilemma game, participants filled in a questionnaire that measured their perceptions of the motivation of themselves, their group members and the other group's members. At the end of the experiment, the participants were debriefed and received their respective monetary compensations individually. Participants were represented by an identity number during the game, so that they could ascertain that they could inform themselves of the actions of the other participants after every round of play, while ensuring anonymity.

Experiment 2: the significant other

120 participants were randomly assigned to the treatment or control condition, resulting in 10 six-person clusters per condition. The treatment consisted of a pre-experiment in which the instructor offered instrumental help to the participants to gain the status of significant other. In this pre-experiment, participants were instructed to solve three logical puzzles that were presented in order of increasing difficulty, while the time to solve them was limited to 7 minutes. All participants were helped by the instructor, who provided a plenary hint and could be asked to offer private advice or tips on these puzzles once by every participant.

Subsequently, the instructor told the participants in the experimental condition that they were free to do as they desired, but that s/he always tried to find solutions that 'were

best for everyone' (i.e., the collective) in these type of games. In the control condition, the pre-experiment was conducted in identical fashion, but no subsequent comments were offered on the norm with which the instructor typically approached these games. Both the game and the post-game procedure were identical to the respective procedures in experiment 1.

Content analysis of within-group chats

Communication in the within-group chats was coded to distinguish between cooperative and competitive inclinations of groups, following Goren and Bornstein's (2000) coding scheme:

1) Expressions of within-group distrust;
2) Explicit understanding that lowering contribution levels is optimal for both groups;
3) Explicit willingness to signal cooperative intentions to the outgroup by lowering ingroup contributions;
4) Explicit belief that the outgroup understood the collectively optimal outcome;
5) Interpretation of a sudden drop in outgroup contribution as a signal of cooperative intentions;
6) Expressions of competitive intentions toward the outgroup.

Results

The overall mean proportion of contribution differed per condition and experiment. For the Perspective Taking experiment, the experimental condition displayed a lower overall mean (M = 0.77, S.D = 0.28) than the control condition (M = 0.83, S.D. = 0.19), suggesting more intergroup cooperation took place in the experimental condition. In the Significant Other Norm experiment, these differences were even larger, with mean proportions of contribution of 0.59 (S.D. = 0.33) and 0.70 (S.D. = 0.23) for the experimental and control conditions, respectively. In both experiments, the variation differenced significantly between conditions. Moreover, all standard deviation scores are relatively high, replicating earlier findings of the within-group communication variant of the IPD game (Goren & Bornstein, 2000).

The 2 (conditions) by 40 (rounds) RM ANOVA found no significant main effect or interaction for the Perspective Taking experiment. The RM ANOVA for the Significant Other experiment revealed a significant interaction between condition and round for the Significant Other experiment ($F(39, 702) = 1.80$, $p = 0.002$, or a Huynh-Feldt corrected p-value of 0.056[3]), indicating that clusters in the experimental condition decrease their contributions more over time. As mentioned, the experimental conditions displayed significantly more variation than the control conditions. In other words, the clusters in the experimental conditions differ more from each other than the clusters in the control conditions. What explanation might there be for the higher variation in contribution rates in the experimental conditions? A more detailed look at the data suggests that the experimental treatments induce substantial differences in motivation for intergroup cooperation, and that the aggregated results are not prototypical for any of the clusters nor the different interaction patterns at play.

Cluster-level behavioral dynamics

To what extent do clusters[4] reach actual intergroup cooperation, and does this change over time? Figure 1 displays the proportion of contribution per block in each of the experimental Perspective Taking clusters separately, with contribution rates shown for each group. When

[3] We provide this measure as the RM ANOVA assumption of sphericity was not completely met.
[4] A cluster consists of two groups. These groups played with or against each other for the full duration of the game, or 40 rounds.

both groups show near zero contribution rates, this can be interpreted as intergroup cooperation, while high contribution rates indicate intergroup conflict. Figure 2 displays the same information for the control condition.

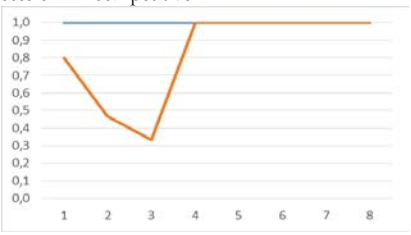
Different intergroup dynamics are suggested by the graphs. These patterns were classified into three types, in similar fashion as Goren and Bornstein (2000): cooperative, in which the two groups eventually reached the collectively optimal outcome of no contribution (sessions 2 and 8 in the experimental condition); intermediate, in which intermediate contribution levels characterized the game and no full or maximal contribution levels were reached (sessions 4 and 6 in the experimental condition; sessions 3 and 4 in the control condition); and competitive, in which the two groups reached the maximum contribution levels at least once for all rounds in a block (all other sessions).[5] In the control condition, the collectively optimal outcome of no contribution was not reached once for a given block by any cluster.

Figure 3 and 4 show the same figures for the Significant Other experiment. Again, the experimental condition contained more clusters with cooperative sessions (sessions 4, 8 and 9 in the experimental condition versus session 8 in the control condition). Intermediate sessions were more prevalent in the control condition (sessions 3, 5, 6 and 9) than in the experimental condition (sessions 2, 5, and 6), as were competitive sessions (sessions 1, 2, 4, 7 and 10 versus sessions 1, 3, 7 and 10, respectively). Fully cooperative interactions[6] were present for only one block in the control condition, while 10 such blocks emerged in the experimental condition clusters.

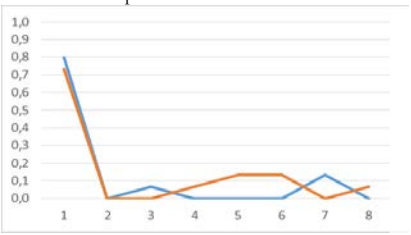
[5] In sessions that contained blocks with both zero and maximum contribution, the blocks that occurred latest were used to score the session.
[6] Fully cooperative interactions are characterized by zero contribution from both groups.

Figure 1. Proportion of Contribution by Group and Block in the 10 clusters of the experimental condition of the Perspective Taking experiment.

session 1 - competitive



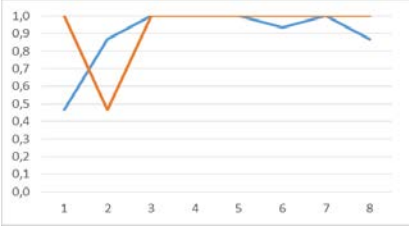
session 2 - cooperative



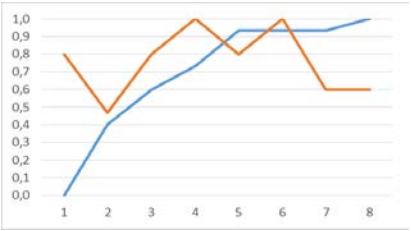
session 3 - competitive

session 4 - intermediate

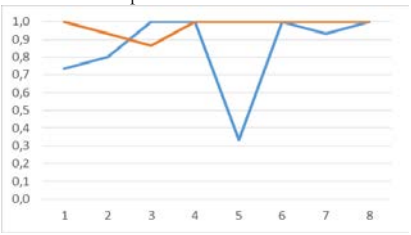
session 5 - competitive



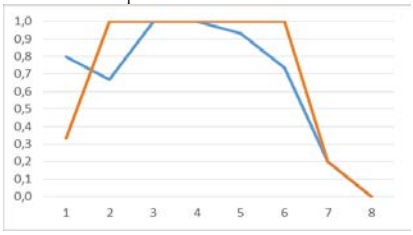
session 6 - intermediate



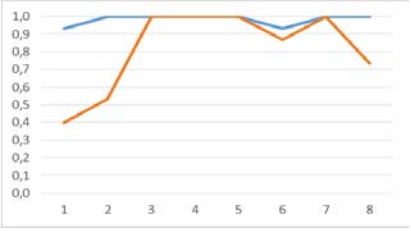
session 7 - competitive



session 8 - cooperative



session 9 – competitive



session 10 - competitive

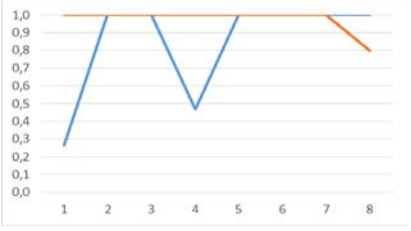
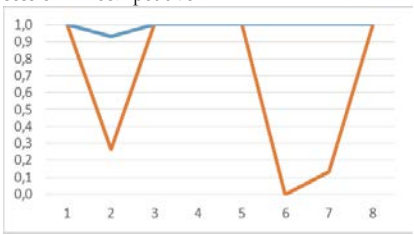
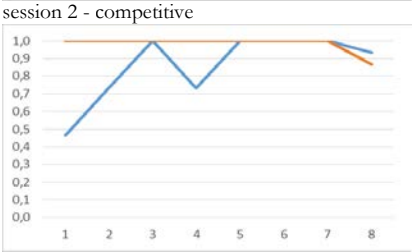


Figure 2. Proportion of Contribution by Group and Block in the 10 clusters of the control condition of the Perspective Taking experiment.

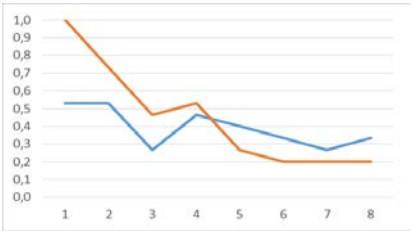
session 1 - competitive



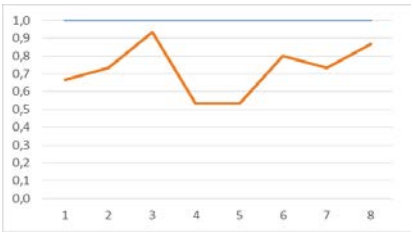
session 2 - competitive



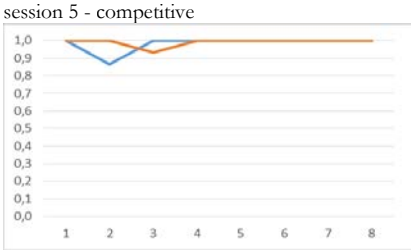
session 3 - intermediate



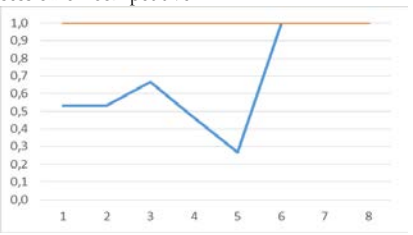
session 4 - intermediate



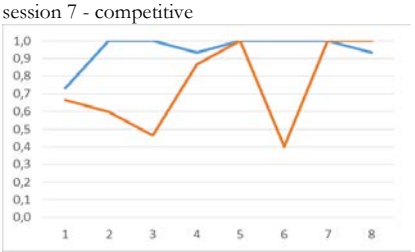
session 5 - competitive



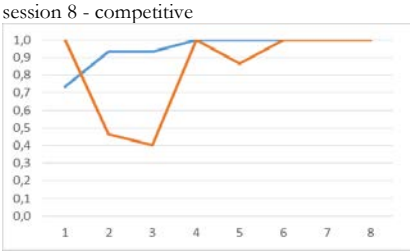
session 6 - competitive



session 7 - competitive



session 8 - competitive



session 9 – competitive

session 10 - competitive

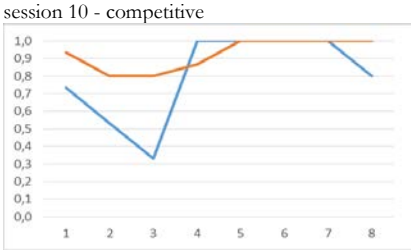
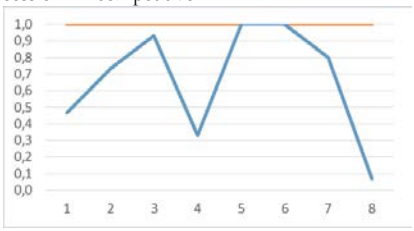


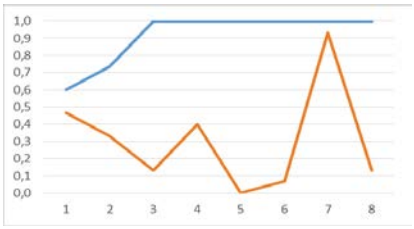
Figure 3. Proportion of Contribution by Group and Block in the 10 clusters of the experimental condition of the Significant Other Norm experiment.

Figure 4. Proportion of Contribution by Group and Block in the 10 clusters of the control condition of the Significant Other Norm experiment.

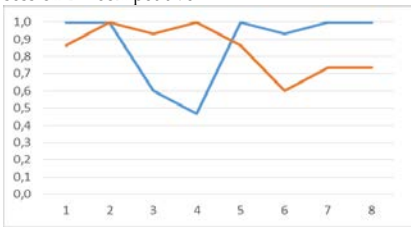
session 1 - competitive



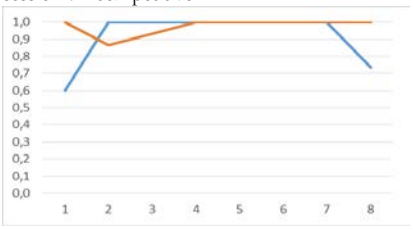
session 6 - intermediate



session 2 - competitive

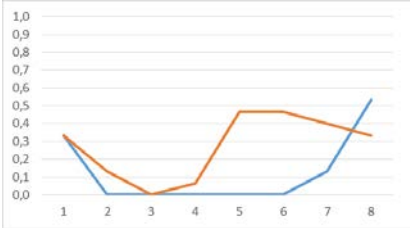


session 7 - competitive



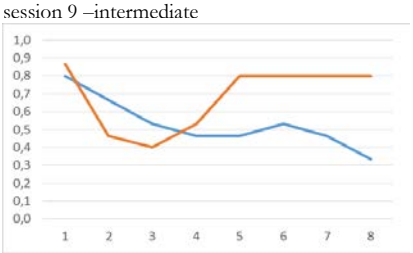
session 3 - intermediate

session 8 - cooperative

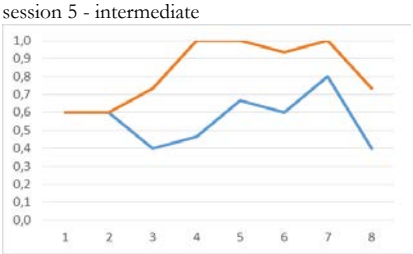


session 4 - competitive

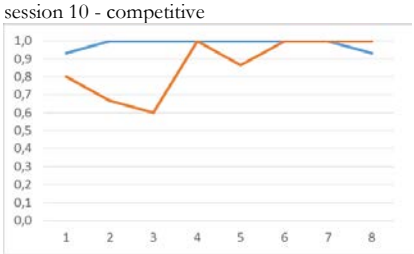
session 9 –intermediate



session 5 - intermediate

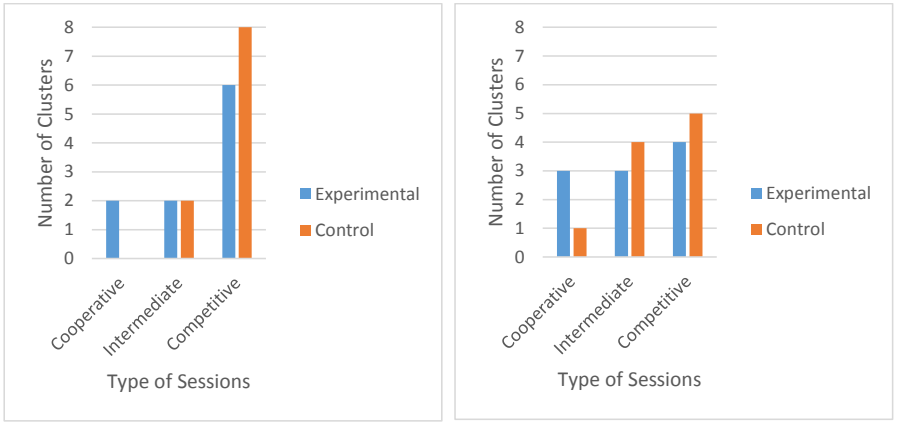


session 10 - competitive



Overall, more cooperative sessions and fewer competitive sessions can be observed in the experimental condition clusters of both experiments as compared the control condition clusters (see figure 5 and 6).

Figure 5 and 6. The number of Clusters per Type of Session for the conditions in the Perspective Taking (left) and the Significant Other (right) experiment.



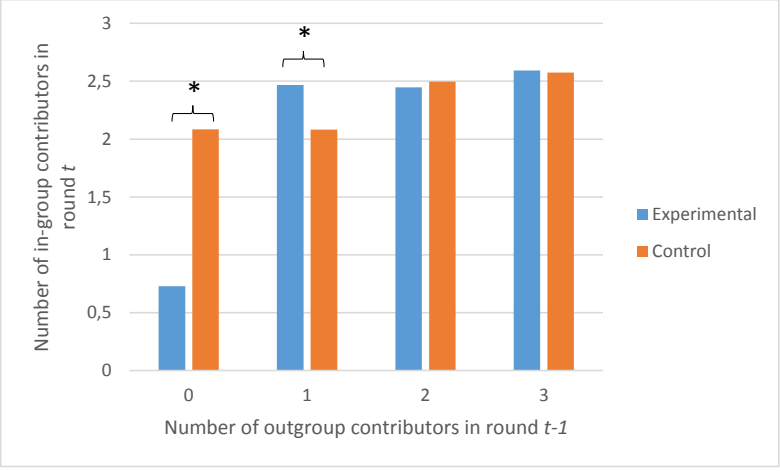
Motivation for intergroup cooperation and between-group reciprocation

A closer look at the processes underlying intergroup cooperation can shed light on why groups in the experimental conditions could establish prolonged intergroup cooperation more easily. To establish intergroup cooperation, both understanding of the collectively optimal outcome and the motivation to reach it can be of great help. Content analysis of the within-group chats reveals that the experimental treatment particularly induced a difference in motivation for intergroup cooperation in the Perspective Taking experiment. While groups in the experimental and control condition equally often explicitly indicate that low contribution levels are optimal for both groups (12 times), groups in the experimental condition more frequently show a willingness to lower their own group contribution rate so as to show their cooperative intentions (12 times versus 3 times in the control condition). This pattern appeared rather independently from the type of session groups were in: even in competitive sessions groups in the experimental condition more frequently expressed the willingness to show their cooperative intentions by lowering their

contribution rate (6 times on a total of 6 clusters) than groups in the control condition did (2 times on a total of 8 clusters).

A requirement for actual intergroup cooperation is reciprocation of cooperative signals by both groups. How do groups in the Perspective Taking experiment respond to cooperative signals of the outgroup? Figure 7 shows the number of ingroup contributors in round *t* per number of outgroup contributors in round *t-1* (i.e., the previous round) for the Perspective Taking experiment. Clearly, groups in the experimental condition reciprocate no-contribution by the outgroup more often in relative terms. In absolute terms they do so as well, with 72 versus 7 of such occurrences in the control condition. However, when the outgroup contributes with one member, experimental groups tend to designate more members as contributors in the following round.

Figure 7. Number of ingroup contributors in round *t* per number of outgroup contributors in round *t-1* in the Perspective Taking experiment.

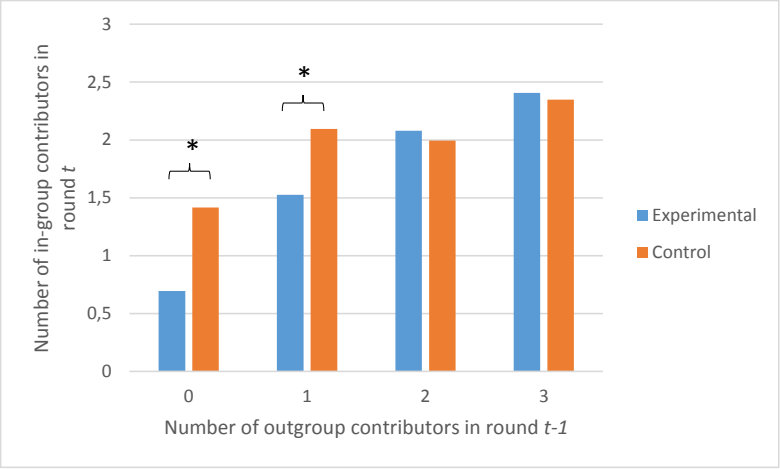


In the Significant Other experiment, content analysis of the within-group chats reveals that far fewer clusters in the control condition show explicit understanding of the collectively optimal outcomes (3 versus 16 occurrences in the experimental condition), fewer control condition groups are willing to show their cooperative intentions to the outgroup by lowering their contributions (1 versus 10 occurrences in the experimental condition), while none indicate that they believe the outgroup to understand the collectively

optimal outcome (versus 10 occurrences in the experimental condition), and none interpret a lowering of contributions by the outgroup as a cooperative signal (while 3 such interpretations were mentioned by experimental condition groups). Moreover, there were 13 occurrences of competitive intentions towards the outgroup in the control condition, while the experimental groups displayed such intentions 9 times. In competitive sessions, the experimental condition groups expressed understanding of the collectively optimal outcome (6 times) and their willingness to show cooperative intentions by lowering their contribution (5 times) more often than groups in the control condition (1 and 0 times, respectively). At the same time, within-group mistrust was voiced more frequently in competitive sessions of the control condition groups (10 times) than in the experimental condition groups (1 time). Analysis of the post-game questionnaire revealed that experimental condition groups rated themselves significantly more motivated for the collective interest (M=3.96 out of 5) than groups in the control condition rated themselves in this regard (M=3.44 out of 5), at $p < 0.01$.

These differences in understanding and motivation are reflected in the behavior exhibited in both conditions: experimental condition groups respond less competitively to outgroup contributors (figure 8), as groups in the experimental condition respond with significantly less contribution on average when the outgroup does not contribute or contributes with only 1 person. Again, they do so in both relative (e.g., the average number of contributors) and absolute (frequency of zero or single contributor rounds) terms.

Figure 8. Number of ingroup contributors in round *t* per number of outgroup contributors in round *t-1* in the Significant Other Norm experiment.



The differences in motivation to send maximally unambiguous cooperative signals to the outgroup is indicated by within-group dynamics as well. In both experiments, participants in the experimental condition display significantly more no-contribution responses after other group member had not contributed either in the previous round as compared to the participants in the control condition. While in the Perspective Taking experiment the number of within-group distrust indications as voiced in the chats were equal between conditions, they were higher in the control condition (22) than in the experimental condition (13) in the Significant Other experiment. Failure to trust other group members led to decreasing contributing rates in a subset of the control condition groups, even when all members identified the maximal group contribution option as the best strategy. This dynamic specifically occurred when one group member continued to abstain from contributing after having agreed on the latter strategy (i.e., displayed free-rider behavior). For both experiments, all clusters in which intra-group distrust was voiced 3 times or more failed to establish a cooperative session (7 groups in total).

Intergroup timing

Notably, while endurance of cooperative intentions towards the outgroup was typically conditional on the outgroup's reciprocation, groups who continued to send cooperative

signals to the outgroup for several blocks (even if initially unreciprocated) were more successful in establishing intergroup cooperation. The establishment of intergroup cooperation did not always lead to warm feelings between the two groups, however. For instance, group A in session 9 of the Significant Other experimental condition signaled its cooperative intentions early. As the outgroup responded to these signals somewhat slowly, group A decided to play the competitive strategy in the final rounds of the game, out of spite. The great majority of groups in cooperative sessions did not display such competitive behavior after establishing a cooperative equilibrium, however, and voiced within-group distrust less frequently than groups in intermediate and competitive sessions. Moreover, most cooperative sessions were only established after both groups understood the collectively optimal outcome in early blocks, showing the importance of intergroup timing. Only one cluster managed to establish a cooperative equilibrium towards the end of the game, after a long competitive dynamic.

Discussion

In most societies and schools, individuals are bound to experience intergroup tensions at some point in their lives. Whether such tensions come about between groups of different ethnicity, social class, gender or political inclination, peaceful resolution is for many intergroup tensions in the interest of all parties. The ability and willingness to resolve intergroup tension in a nonviolent manner when possible is therefore an important citizenship competence for both students and adults in many increasingly plural and interdependent societies. Yet, under conditions typical of real-life intergroup tensions, individuals find it challenging to reach collectively optimal outcomes and often resort to competitive behavior towards outgroups.

The aim of this chapter was to identify mechanisms that may be used in citizenship education to enable students to better deal with intergroup tensions. We examined whether cooperative resolution of intergroup tension could be stimulated using treatments based on goal-framing theory as a model of individual motivation and behavior (Lindenberg, 2013). In particular, the experiment scrutinized whether the combination of normative goal-frame activation and stretching could increase motivation for intergroup cooperation, using perspective taking and significant other mechanisms.

Can intergroup tension resolution be influenced by these mechanisms? Our findings suggest an affirmative answer, in line with our hypotheses. In the Perspective Taking experiment, the larger variation in aggregated contribution rates suggested that the processes in and interactions between groups in the experimental condition may have been of a different nature than those in the control condition. Subsequent analyses of the interactions per cluster revealed that the experimental treatment led to more cooperative sessions. Analyses of between-group dynamics show that the perspective taking treatment induced more cooperative responses from individuals when the outgroup did not contribute, but relatively more competitive responses when the outgroup contributed with one member. This suggests that better understanding of the collectively optimal outcome, induced by perspective taking, may also induce spite when an outgroup member is perceived as uncooperative. Experimental groups were much more frequently willing to show their cooperative intentions towards the outgroup by lowering their contributions, and did so to indicate that they were more motivated to establish intergroup cooperation. These results corroborate earlier findings indicating that while taking the perspective of an

outgroup is difficult (Gutsell & Inzlicht, 2010), individuals' engagement in such processes can be enhanced (Schumann, Zaki, & Dweck, 2014).

In the Significant Other experiment, intergroup cooperation increased more over time in the experimental condition as compared to the control condition. Variation of contribution rates in the experimental condition clusters was higher than variation in the control condition clusters as well. Individuals in the experimental condition responded with lower average levels of contribution to non-contribution by group members, suggesting that they were more eager to establish a situation in which their entire group signaled cooperative intentions toward the outgroup. In contrast to the Perspective Taking experiment, the experimental condition also induced better understanding of the collectively optimal outcome, perhaps as the treatment preceded rather than followed the explanations of the IPD game. In addition, the treatment motivated increased signaling of cooperative intentions towards the outgroup. As a result, cooperative sessions were much more prevalent in the experimental condition. In establishing the effect of significant others' norms, we corroborate earlier findings in this area (Veenstra et al., 2014).

Overall, the findings show that the motivation for and actual intergroup cooperation is more prevalent among groups whose normative goal-frames were activated and stretched by the experimental treatments, demonstrating the suitability of goal-framing theory for stimulating citizenship behavior. Interestingly, the inclination to cooperate was found to be larger in experimental clusters in both experiments, even when these clusters primarily experienced intergroup competition. This indicates a fairly robust effect on the motivation for intergroup cooperation, as it appeared independent of game dynamic. Moreover, as all clusters who frequently displayed within-group distrust experienced either intermediate or competitive intergroup dynamic, further research may investigate to which extent ingroup cohesion is required for intergroup cooperation.

Taken together, the findings suggest that there are multiple requirements for establishing intergroup cooperation. Firstly, groups need to understand that a collectively beneficial outcome exists. Secondly, they need to be willing to show cooperative intentions, while organizing sufficient within-group cooperation to clearly indicate these intentions. Thirdly, reciprocation by the outgroup is required to establish sustained intergroup cooperation. Finally, if the outgroup initially fails to understand what the collectively beneficial outcome is, or is slow to interpret and respond to cooperative signals,

perseverance of the ingroup's sending of cooperative signals is required to potentially establish intergroup cooperation.

The relevance of equipping students with the ability to overcome intergroup tensions for student learning and well-being in schools is clearly indicated by the findings of previous educational ethnic diversity studies. As the current study took place in an experimental setting, the relevance of the presented findings for educational practice should be interpreted with care. The results nevertheless indicate that teachers may consider stimulating perspective taking of their students and voicing citizenship norms, particularly as the treatments used have been brief and of low intensity, suggesting that effects of real-life interventions such as those in schools can be larger in magnitude. With regard to perspective taking, the current results underline that perspective taking is an important process for citizenship development, as indicated by previous studies, but also suggest that perspective taking processes can be induced in a structural manner. With respect to communication norms as significant others, some teachers would need to overcome the desire to take a strictly neutral stance on citizenship, however (Oulton et al., 2004). Moreover, two further nuances can be made with regard to expression of norms by significant others such as teachers. Firstly, while expression support of a certain norm can certainly have an effect, treatment of students in accordance with these norms appears equally important (Abdelzadeh, Zetterberg, & Ekman, 2015). Secondly, direct approaches to citizenship education in which norms are simply imposed on students in the forms of rules, appear ineffective (SCDRD, 2010; Haidt, 2013). In addition, we speculate that the effectiveness of this approach is higher when not one, but all teachers engage in voicing citizenship norms, as students may then be more likely to process the citizenship norm to be a general, rather than a teacher-specific norm. Shared school-wide norms are generally considered to improve schools' performance as well (Kruse, Louis, & Bryk, 1994; Honig & Hatch, 2004; Elmore, 2005).

In addition to direct benefits students might reap from being able to resolve intergroup conflict in the context of school, successful use of the identified mechanisms may also allow students to benefit from the use of their intergroup tension resolution abilities outside the school context and in later life. As the current design did not measure potential impact on individuals' future ability to resolve intergroup tension, further research is required to establish whether this is the case. Increased awareness, motivation and ability

to successfully resolve intergroup tensions may prevent societal groups from keeping each other in mutually detrimental competitive dynamics. As the presence of a multitude of social groups has become a defining feature of many of today's societies, these have become indispensable abilities for maintenance and improvement of social cohesion and the pursuit of the public interest.

All in all, we have demonstrated the value and feasibility of employing a game-based experimental design to model and study citizenship behavior, using interventions based on goal-framing theory as an explicit model of behavior. In particular, a game-based design enabled inspection of motivational and behavioral dynamics over time, while the use of goal-framing allowed for identification of influential psychological mechanisms. As such, we hope to have advanced the citizenship education literature from both a theoretical and methodological point of view.