Children's cooperation and discrimination in a bilingual province

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Cooperation is a fundamental cornerstone for the well-functioning of human societies[1,2]. A potential downside of it is that cooperation within groups may co-evolve with out-group discrimination[3,4]. This is particularly relevant when two groups with distinctly different characteristics (e.g., with respect to race, religion, or language) live closely together, because under such circumstances in-group cohesion may fuel segregation and thus tensions between groups. Here we present experimental evidence from a bilingual city in Northern Italy on whether the language spoken by a partner in a prisoner's dilemma game affects behavior. We examine how discrimination based on language develops in practically all six- to eleven-year old primary school children in the city. We find that cooperation generally increases with age, but that the gap between cooperation among in-group members and cooperation towards children speaking another language is considerable. This gap is due to both, in-group favoritism and language groups discrimination.

This version: 15 November 2013

Many provinces in which significant fractions of the population speak different languages take huge efforts to avoid segregation of social life across the language-divide and to create a common identity of citizens. Despite such attempts, the worse treatment of subjects speaking a different language – compared to those speaking one's own – can be observed in many different environments, for example by discriminating against subjects with a different language on labor, housing, credit, or consumer markets[5-11]. Such behavior bears efficiency costs in pure economic terms (by forfeiting the benefits of mutual cooperation), but potentially also increases tensions between members of the different language groups, which may ultimately lead to political conflict or even social unrest.

One of the measures taken to facility integration of different language groups is typically to make children learn the other (significant) language that is spoken in a particular province[12] (see, for instance, children being taught English and French in Quebec, Catalan and Spanish in Catalonia, or Italian and German in South Tyrol). While this is certainly helpful for making cooperation between members of different language groups easier, the questions whether or not children in such provinces – despite learning the other significant language – discriminate on the grounds of language and whether the extent of discrimination changes with age are still open. We are going to address these questions by presenting the results of an experiment run in the Northern Italian province of South Tyrol (Alto Adige). This province was part of the Austro-Hungarian Empire for centuries before it was annexed by Italy in the aftermath of World War One and became part of Italy through the treaty of Saint-Germain in 1919. In the interwar-period and early years after World War Two the Italian government promoted the relocation of Italians from other parts of Italy into South Tyrol, creating strong tensions between the German- and Italian-speaking fraction of the population[13]. Only since the 1970ies, when several treaties guaranteed equal rights for both language groups, there has been peaceful coexistence between German- and Italian-speaking citizens, albeit the social interaction between these groups is still fairly limited.

We can exploit an almost unique natural setting in the city of Meran with 38,000 inhabitants, 50% of which are German-speaking and 50% Italian-speaking. Citizens of both languages live next-door to one another, hence there is practically no segregation of neighborhoods. Schools are segregated by language, though, despite serving children from the same neighborhoods. Within schools, children learn the other language from first grade on. We present an incentivized experiment on cooperation with 1,136 children, aged six to eleven years and speaking either Italian or German (see Table S.1 in the Supplementary Information,

SI). This sample represents almost 90% of German- and Italian-speaking primary school children in Meran.

Experimental design

Each subject participated in three one-shot prisoner's dilemma games. In each game, a subject had a new, anonymous partner from the same grade. Both players in each game were endowed with five tokens and had to decide simultaneously how many of the tokens (if any) to send to the partner. Each token sent was doubled, thus making full cooperation of sending all tokens the socially optimal outcome of the game. However, individual self-interest would prescribe to keep all tokens, leading to the worst outcome from a social point of view (by minimizing the total earnings of both players together).

The three games differed with respect to from which group of children the partner was selected. In game CLASS, the partner was a randomly chosen child from the subject's own class, thus representing an in-group condition. In game SAME, the partner was from another school, but spoke the same language as the decision-making child. Finally, in game OTHER, the partner was again from another school, but spoke the other language (either Italian, if the decision-making child spoke German, or vice versa). It is noteworthy that the partner's language was not mentioned during the instructions, but instead we revealed only the name of the school, which is an unambiguous indication of the language that children speak in a particular school.

The three games were played in random order (see SI for experimental instructions). After children had made their three decisions, we elicited their beliefs of how many tokens they expected to receive from the partner in each game (again in random order). The belief elicitation was incentivized with tokens. One randomly selected game was paid out four weeks after the experiment had taken place and tokens were exchanged for fruits, sweets and little presents (like stickers, yoyos, pencils, small scrapbooks).

Note that both SAME and OTHER represent an out-group condition, and can therefore be expected to yield less cooperation than the in-group condition in CLASS[14-16]. However, through our within-subjects design we can disentangle three forms of discrimination based upon different group membership of the partner: pure language discrimination (comparing SAME with OTHER), pure in-group favoritism (comparing CLASS with SAME) and the joint effect of language discrimination and in-group favoritism (comparing CLASS with OTHER).

Experimental results

Fig. 1 shows in panel (A) the number of tokens sent to the partner, separated by age and game. The level of cooperation is increasing with age in all three games, yet there is a clear and consistent ordering across games within each age group. Cooperative behavior is most pronounced in CLASS, intermediate in SAME, and worst in OTHER. The gap between cooperation with an in-group member and out-group members is, in general, widening with age, rather than getting smaller. This gap and its size in each age group is shown in Fig. 2. The largest differences are found between CLASS and OTHER, a comparison that captures the joint effect of differences in language and in-group favoritism, the latter also denoted as parochialism. The pure effect of parochialism (CLASS vs. SAME) is somewhat lower for each single age group. The smallest differences are between SAME and OTHER, suggesting only a mild effect of pure discrimination on grounds of language. By and large, the gaps are increasing with age. Comparing the youngest age group of six/seven year-olds to the oldest age group of ten/eleven year-olds, we find that all three discrimination measures roughly double in size.

Fig. 1 shows in panel (B) the development of beliefs across the five grades of primary school. Strikingly, the number of tokens expected from the partner is always considerably higher than the actual amounts sent to the partner (displayed in panel (A)) in each age group and game ($p < 0.01$ in each case; Wilcoxon signed ranks tests). This highlights the fact that a substantial fraction of children have (i) unrealistic beliefs about the behavior of their partner and (ii) are somewhat freeriding on the expected behavior of their partner. Yet, there is a positive correlation between tokens sent and tokens expected from the partner ($p < 0.01$ in each age group; Spearman rank correlation), indicating that children act conditionally cooperative[17].

In panel (B) of Fig. 1 there is clear downward trend with age. This means that, as children grow older, (i) expectations are getting more realistic and more closely aligned with actual decisions (the gap to panel (A) is narrowing with age) and (ii) less freeriding on the partner's expected contribution can be observed. It is noteworthy that the order of cooperation across games observed in panel (A) of Fig. 1 also holds in panel (B). Children expect to receive on average the largest number of tokens from a partner who attends the same class (CLASS), followed by a partner from another school, but within the same language group (SAME), and they expect to receive the least from someone of the other language group (OTHER). Given that children seem to condition their level of cooperation on their

expectations about the partner's choice, this implies that the differences between games observed in panel (A) are, at least partly, driven by expectations.

The patterns of results shown in Fig. 1 and Fig. 2 are confirmed by regression results (see Tab. S2 and S3 in SI). Tab. S2 demonstrates that cooperation increases significantly with age. Girls send more tokens than boys. We also find a significant positive correlation between beliefs and cooperation, with an estimated 0.52 tokens sent more if a child expects the partner to contribute one token more. The Wald-tests beneath Tab. S2 show a significant degree of discrimination between games concerning the levels of cooperation. Cooperation is significantly higher across all age groups in CLASS than in OTHER, indicating that the joint effect of language discrimination and in-group favoritism is significant (at the 1%-level). Furthermore, the pure effect of in-group favoritism (CLASS vs. SAME) is also significant across all five age groups ($p < 0.01$ from 7/8-year olds on; $p = 0.02$ for 6/7-year olds). The net effect of language discrimination (treatment SAME vs. OTHER) becomes significant from the age of 8/9 years on. From Tab. S3 (in particular from the Wald-tests beneath it), we can see that the joint effect of language discrimination and parochialism is significantly increasing with age, i.e. the gap in tokens sent in CLASS and OTHER gets wider with age. The pure effects of in-group favoritism, respectively pure language discrimination, however, do not significantly increase with age.

Discussion

The news from this paper is good and bad, at the same time. The good news is that children become more willing to cooperate in their primary school years. Since cooperation reaps efficiency gains, this is welcome. It is also good to see that the level of cooperation increases independent of the group membership of the partner in a simple prisoner's dilemma experiment. The bad news, however, is the fact that the difference in cooperation (measured as the number of tokens sent to the partner) is increasing between a condition where the partner is an in-group member, and a condition where the partner belongs to an out-group. This is particularly so when the partner speaks a different language, something which is particularly relevant in provinces where two (or more) significant fractions of the population speak different languages. Frankly speaking, we were surprised to notice the increasing gap, mainly because our expectation was that learning the other language may make children from the other language group appear more similar to the own language group. Hence, the longer children learn the other language (in the course of the primary school years), we would have expected to see less of a difference. One possible explanation for this result is certainly the

fact that the school system in South Tyrol is practically segregating Italian- from German-speaking children by having schools that either teach in German or Italian (except for language classes), but none that teaches bilingually. While the latter might have more desirable effects in terms of closing the gap in cooperation based on language discrimination, our results show that learning (and speaking) the same language as the partner does not suffice for overcoming discriminative tendencies. As discrimination is most prevalent between the in-group and the two out-groups, while pure language discrimination is (despite being significant) smaller in magnitude, we argue that the (frequently applied) policy to make subjects learn the other significant language is not sufficient to tackle the inefficiencies which arise from discrimination. We view measures which aim to integrating citizens from different language groups into the respective in-group as a more promising approach. While the possibility of communication, that is, a joint language, is necessary for social integration, it is not sufficient. The promotion of interaction between language groups, e.g., by providing multilingual schools and associations, is an important measure for overcoming exclusionary behavior which bears negative economic and social consequences.

Methods

We conducted our experiment in all fourteen elementary schools in Meran (South Tyrol, Italy) from April to May 2012. The experiment on cooperative behavior is part of a larger research study which investigates the development of economic decision making in elementary school children. Before starting the project we obtained permission from the International Review Board of the University of Innsbruck, the South Tyrolean State Board of Education, from the headmasters and the parents of the involved children to run a series of three experimental sessions in all involved schools within each of the academic years 2011/12 and 2012/13. Participation in the experiment was voluntary, and only one child opted out. The experiment on cooperative behavior was the third experiment conducted with the children in the first year of the study (with previous experiments being unrelated to cooperation and discrimination).

Each child was fetched individually from the classroom and brought to a separate room where the experiment was explained fact-to-face by one of the experimenters (with some other experimenters explaining the experiment to other children in different corners of the room). The experimenters had to memorize the instructions of the game (see experimental instructions) and explain the game orally (in the mother-tongue of the child) with some visual support. The duration of the experiment was approximately 20 minutes and it was conducted

with pen and paper. In order to guarantee the understanding of the experimental instructions each child had to repeat the rules of the game until it was able to completely explain the experiment with all its consequences. 27 children were excluded from the analysis because they were not able to repeat the rules of the game.

The experiment consisted of three one-shot prisoner dilemma games with varying anonymous partners from the same age group (i.e., grade). In the game CLASS the partner of the child came from the same class. In the game SAME (OTHER) the partner of the child came from another school but from the same language group (the other language group). In each of the three games, the child and the partner were endowed with five tokens which had to be allocated simultaneously between the two players. Each token sent to the other player was multiplied by two by the experimenter. The participants were informed that only one of their decisions was randomly drawn in the end and paid out for real.

We used little presents like sweets (lollipops, small chocolates, candies), fruits (bananas, apples, oranges) and other presents (stickers, balloons, pencils, wristbands) which children could buy in exchange of their tokens in our "store". The cost of each present was equal to one token. The children were invited to come one by one into the "store" to choose their most preferred reward. As the total earnings of each child were dependent also on the decision of the partner, it was not possible to calculate the exact earnings of the children directly at the end of the experiment. Thus the rewards were handed out in non-transparent envelopes by a coordinator in each school. This procedure was well known by the children and they were told to open the envelope only when they arrived at home. Hence, no child could observe another child's earnings and figure out the decision. Before the children were allowed to choose their most preferred reward, the children were asked for their age and how many siblings they have.

References and notes

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Acknowledgements The authors thank Rudolf Meraner from the South Tyrolean State Board of Education (*Pädagogisches Institut für die deutsche Sprachgruppe in Südtirol*), the headmasters of the participating schools (Gabriella Kustatscher, Maria Angela Madera, Eva Dora Oberleiter, Brigitte Öttl, Ursula Pulyer, Vally Valbonesi), the parents of the involved children for making this study possible, and the children for participation. We received helpful comments from Loukas Balafoutas, Uri Gneezy, Martin Nowak, Markus Walzl, and seminar participants at Harvard University, University of Gothenburg, University of Innsbruck, University of Mainz, and the Economic Science Association Meetings in Cologne and Tokyo. Financial support from the Government of the autonomous province South Tyrol is gratefully acknowledged. The project was approved by the Internal Review Board of the University of Innsbruck.

Figure 1: (A) Average tokens sent by age and game. **(B)** Average beliefs on the tokens received from the partner by age and game. (*N* = 1,136 subjects) Error bars, mean ± SEM.

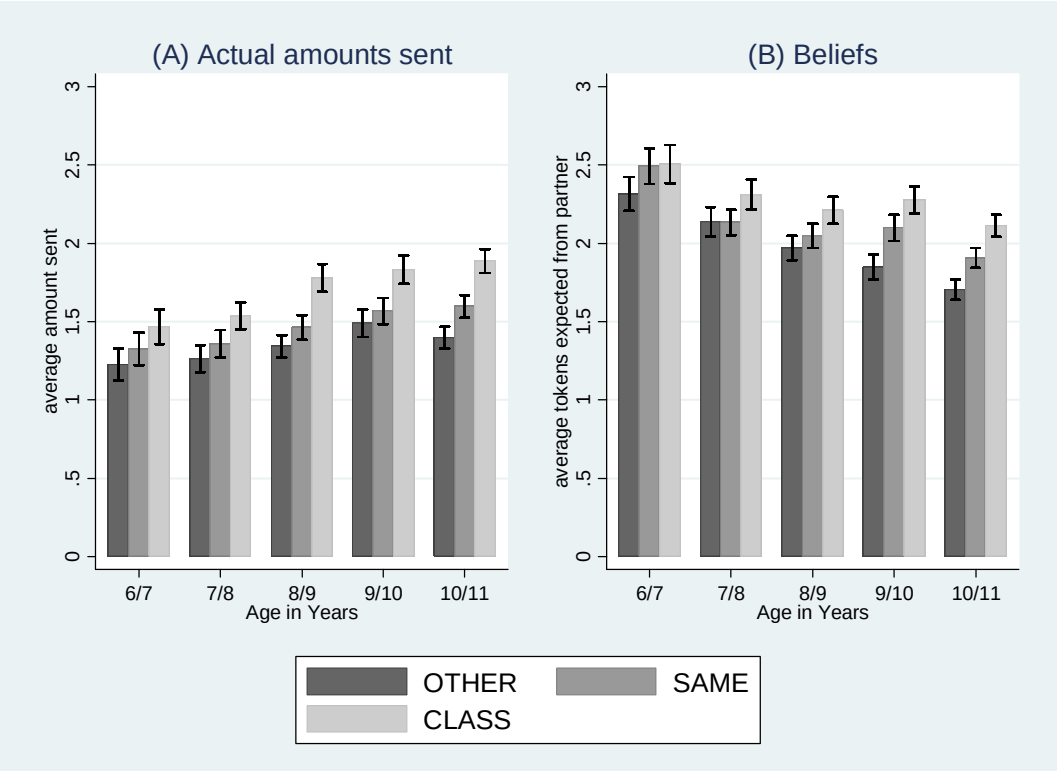
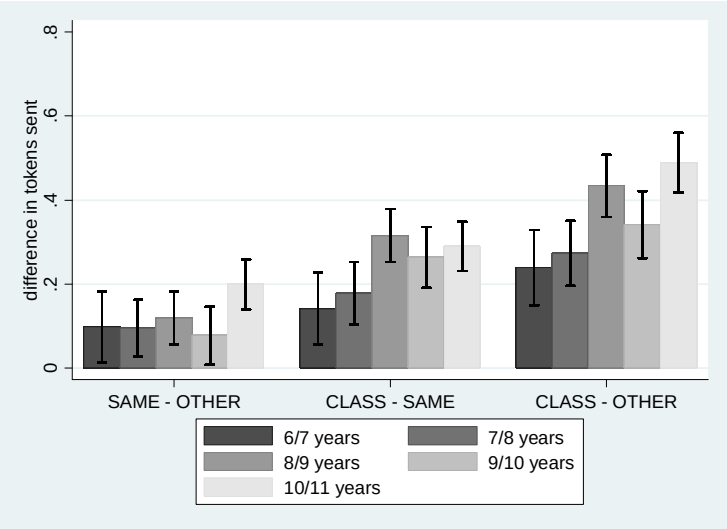


Figure 2: Average discrimination by age (*N* = 1,136 subjects). Error bars, mean ± SEM.



Supporting Information (SI)

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Content

Table S1: Number of participants by age and language group

	Language group	
Age (in years)	Italian schools	German schools
6/7 years	95	89
7/8 years	107	124
8/9 years	105	130
9/10 years	117	103
10/11 years	120	146
ALL (N=1,136)	**544**	**592**

27 more children participated in the experiments but were excluded from the analysis because of lack of understanding the experiment.

Table S2: Clustered tobit regression on the number of tokens sent in each of the three treatments.

Explanatory Variables	Dependent variable Number of tokens sent	
Age in years	0.172***	(0.034)
Female (=1)	0.333***	(0.078)
German school (=1)	0.146*	(0.078)
Other[$] (=1)	-0.209	(0.292)
Same[$] (=1)	-0.145	(0.275)
Age*Other	-0.014	(0.032)
Age*Same	-0.009	(0.030)
Belief	0.524***	(0.033)
Number of siblings	0.016	(0.043)
Parents other language too[&] (=1)	0.153	(0.104)
Friends other language too[§] (=1)	-0.028	(0.087)
# Observations	1136	
Wald tests (p-values)		
H_0: No age effect for …		
… other $(\beta_{age}+\beta_{age*other}=0)$	0.000	
… same $(\beta_{age}+\beta_{age*same}=0)$	0.000	
H_0: no discrimination effect between other and class for…		
… 6.5-year-olds$(\beta_{other}+\beta_{age*other}*6.5=0)$	0.001	
… 7.5-year-olds$(\beta_{other}+\beta_{age*other}*7.5=0)$	0.000	
… 8.5-year-olds$(\beta_{other}+\beta_{age*other}*8.5=0)$	0.000	
… 9.5-year-olds$(\beta_{other}+\beta_{age*other}*9.5=0)$	0.000	
… 10.5-year-olds$(\beta_{other}+\beta_{age*other}*10.5=0)$	0.000	
H_0: no discrimination effect between same and class for …		
… 6.5-year-olds$(\beta_{same}+\beta_{age*same}*6.5=0)$	0.023	
… 7.5-year-olds$(\beta_{same}+\beta_{age*same}*7.5=0)$	0.001	
… 8.5-year-olds$(\beta_{same}+\beta_{age*same}*8.5=0)$	0.000	
… 9.5-year-olds$(\beta_{same}+\beta_{age*same}*9.5=0)$	0.000	
… 10.5-year-olds$(\beta_{same}+\beta_{age* same}*10.5=0)$	0.000	
H_0: no discrimination effect between other and same for …		
… 6.5-year-olds$(\beta_{other}+\beta_{age*other}*6.5=\beta_{same}+\beta_{age*same}*6.5)$	0.300	
… 7.5-year-olds$(\beta_{other}+\beta_{age*other}*7.5=\beta_{same}+\beta_{age*same}*7.5)$	0.132	
… 8.5-year-olds$(\beta_{other}+\beta_{age*other}*8.5=\beta_{same}+\beta_{age*same}*8.5)$	0.028	
… 9.5-year-olds$(\beta_{other}+\beta_{age*other}*9.5=\beta_{same}+\beta_{age*same}*9.5)$	0.015	
… 10.5-year-olds$(\beta_{other}+\beta_{age*other}*10.5=\beta_{same}+\beta_{age*same}*10.5)$	0.056	

Notes.

***, **, * denote significance at the 1%, 5%, 10% level, robust standard errors in parentheses. Clustered on the level of individual subjects.

[$] The reference category is "Class".

[&] This variable is equal to one if the child has at least one parent which speaks also the language of the other language group.

[§] This variable is equal to one if the child has at least one friend which speaks also the language of the other language group.

Table S3: Clustered tobit regressions on the discrimination measure in each of the three possible discrimination comparisons.

Explanatory Variables	Dependent variable Discrimination	
Age in years	0.041*	(0.023)
Female (=1)	-0.027	(0.045)
German school (=1)	0.113**	(0.047)
Same-Other[$] (=1)	-0.039	(0.188)
Class-Same[$] (=1)	0.031	(0.185)
Age*Same-Other	-0.020	(0.021)
Age*Class-Same	-0.015	(0.020)
Belief difference	0.143***	(0.020)
Number of siblings	-0.036	(0.025)
Parents other language too[&] (=1)	-0.001	(0.062)
Friends other language too[§] (=1)	-0.092*	(0.052)
# Observations	1136	
Wald tests (p-values)		
H_0: No age effect for …		
… same-other $(\beta_{age}+\beta_{age*same\text{-}other}=0)$	0.318	
… class- same $(\beta_{age}+\beta_{age*class\text{-}same}=0)$	0.205	
H_0: no discrimination difference between same-other and class-other for …		
… 6.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*6.5=0)$	0.005	
… 7.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*7.5=0)$	0.000	
… 8.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*8.5=0)$	0.000	
… 9.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*9.5=0)$	0.000	
… 10.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*10.5=0)$	0.000	
H_0: no discrimination difference between class-same and class-other for …		
… 6.5-year-olds$(\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*6.5=0)$	0.260	
… 7.5-year-olds$(\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*7.5=0)$	0.056	
… 8.5-year-olds$(\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*8.5=0)$	0.002	
… 9.5-year-olds$(\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*9.5=0)$	0.001	
… 10.5-year-olds$(\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*10.5=0)$	0.003	
H_0: no discrimination difference between same-other and class-same for …		
… 6.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*6.5=\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*6.5)$	0.296	
… 7.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*7.5=\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*7.5)$	0.131	
… 8.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*8.5=\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*8.5)$	0.030	
… 9.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*9.5=\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*9.5)$	0.019	
… 10.5-year-olds$(\beta_{same\text{-}other}+\beta_{age*same\text{-}other}*10.5=\beta_{class\text{-}same}+\beta_{age*class\text{-}same}*10.5$	0.066	

Notes.

***, **, * denote significance at the 1%, 5%, 10% level, robust standard errors in parentheses. Clustered on the level of individual subjects.

[$] The reference category is "Class-Other".

[&] This variable is equal to one if the child has at least one parent which speaks also the language of the other language group.

[§] This variable is equal to one if the child has at least one friend which speaks also the language of the other language group.

Experimental Instructions

Instructions are translated from German, respectively Italian, into English. Instructions were explained individually to each child in his/her mother tongue by one of the experimenters.

General instructions for the assistant are italicized

Hello, my name is XY. The participation in this game is voluntary. Do you want to participate? *(write down the answer: if child wants to participate go on with the instructions; if child does not want to participate then bring the child back to the classroom).* In this game you can earn tokens. With these tokens you can buy little presents in our shop. Today all presents cost 1 token. At the end of the game you can choose your favorite present and you will get as many pieces of your favorite present as you earned tokens in the game.

In this game you can send tokens to another child. Here you can see 4 meeples: a yellow meeple, a green meeple, a blue meeple and a red meeple. (*meeples are placed in front of the participant*) You are the yellow meeple (*point at the yellow meeple*). The green, blue and red meeple represent your partners in this game and are randomly selected children. It may be a girl or a boy. The green partner is a child who attends the same grade like you but goes to one of these schools here in Meran *(place green meeple on the green school-card with German school names on it),* but not to your own school. *(This needs to be adapted in Italian schools.)* Could you please read the names of the schools your partner could be selected from? (*let the child read the school names*) The blue partner is a child who attends the same grade like you but goes to one of these schools here in Meran *(place blue meeple on the blue school-card with Italian school names on it).* Could you please read the names of the schools your partner could be selected from? (*let the child read the school names*) The red partner is a child from your class *(place red meeple on red card).* You don't know who exactly you are playing with. This is a secret. The only thing you know is that the green and the blue partner are in the same grade as you, that they go to one of these schools here in Meran and that your red partner is in the same class as you. Your partners do not know who exactly you are. Could you please repeat what I have told you so far in your own words? *(The following points have to be repeated: (i) the participant is the yellow meeple (ii) the participant plays with 3 partners (iii) the partner with the green meeple attends one of the schools listed on the green school-card; the child should repeat some of the names on the card (iv) the partner with the blue meeple attends one of the schools listed on the blue school-card; the child should repeat some of the names on the card (v) the partner with the red meeple attends the same class as the*

participant (vi) all partners are of the same age as the participant (vii) the partners can be male or female (viii) the participant receives no other information on the partners (ix) the partners do not know the identity of the child; if the participant does not repeat all the points alone, then ask questions).

The game works as follows:

(The order of presentation of the green/blue/red partner is randomly assigned to each child. Decision sheet with green partner is placed in front of the child; yellow and green meeples with school cards are placed at the right and the left hand side of the decision sheet respectively; blue and red meeples are layed aside.) As you know, you are the yellow meeple. On this decision sheet you can see also a green meeple *(point to the green meeple).* This means that you are now playing with your green partner. Each of you gets five tokens at the beginning *(five tokens are placed in front of the yellow and green meeple)* and each of you has to decide how many tokens you want to take for yourself and how many tokens you want to send to your partner. It is very important that the child who you can send tokens to can also send tokens to you. Look, I have tokens too *(tokens are placed in front of the assistant).* For each token sent, I will add another token. I will do this for each token you send to your partner, but also for each token that your partner sends to you. On this decision sheet you have to decide, whether you would like to send ZERO, ONE, TWO, THREE, FOUR or FIVE of your tokens to your green partner *(when listing the possibilities of decision making point at the respective box).* If you want to send for example TWO tokens, than you have to tick the box here *(point at the box).* In that case you send two tokens away *(two tokens from the yellow meeple are pushed away),* I will add two more tokens *(two tokens are added to the other two tokens)* and your green partner gets four tokens in addition *(four tokens are placed next to the tokens of the green partner).* Can you tell me which box you have to tick if you would like to send FOUR tokens to your partner? *(reallocate the tokens to get the original allocation).* And what happens if you send FOUR tokens? *(the participant has to explain: (i) participant sends four tokens away (ii) assistant adds four more tokens; (iii) partner gets eight tokens additionally)* And what happens if you send nothing? *(the participant has to explain: (i) participant sends no tokens away (ii) assistant adds nothing; (iii) partner gets nothing in addition)* The green partner has exactly the same decision to make: he also has to decide whether to send ZERO, ONE, TWO, THREE, FOUR or FIVE tokens to you. Can you tell me, what happens if your partner sends THREE tokens to you? *(the participant has to explain: (i) partner sends three tokens away (ii) assistant adds three more tokens; (iii) participant gets six tokens in addition).* Do you know how many tokens your green partner sends to you?

(Answer: No) The same is true for your green partner; he also does not know how many tokens you sent to him when he is upon to decide.

Could you please repeat the rules concerning the tokens in your own words? *(participant has to repeat: (i) the participant can send between zero and five tokens to the partner (ii) the tokens are doubled (iii) the partner has to make the same decision and the tokens sent by the partner are also doubled (iv) at the time of the decision no one knows how many tokens the partner sent)*

You know you have three partners, a green partner, a blue partner and a red partner. On this decision sheet *(decision sheet with blue partner is placed onto the green decision sheet)* you can see a blue meeple *(point at the blue meeple)* This means that you are now playing with your blue partner. The game works exactly the same as with your green partner. The only difference is that now you play with your blue partner. When you are playing with your red partner *(decision sheet with red partner is placed onto the blue decision sheet)*, the game works exactly the same as with your green and blue partner. The only difference is that now you play with your red partner.

At the end of the game you will not receive the tokens for all three decision sheets but only for a single decision sheet. This means that only one out of the three decision sheets is played and paid out for real. Which decision sheet is played and paid out will be drawn by lot.

This works exactly as follows.

I will mingle the three decision sheets under the table and then you can draw one decision sheet. The drawn decision sheet is the one that is played at the end and you will get only the tokens of this decision sheet; the other two decision sheets are no longer valid.

We don’t know yet how many tokens you earn in this game. You receive the tokens that you keep for yourself and the tokens that your partner sends to you. Since we don’t know yet how many tokens your partner will send to you, you will receive the presents not today, but in four weeks.

Your partner really exists and just like you your partner also can buy presents with the tokens he earns. Can you please repeat the part on which sheet is implemented for payment how you get your presents in your own words? *(Participant has to repeat: (i) only one decision sheet is played and paid out; (ii) the participant gets the presents in four weeks from now; (iii) the partner can also buy presents with the tokens earned).*

It is very important that your decisions are secret. The other children will never know how many tokens you sent. This is your secret.

Now you can make your decisions. Please start with your green partner – your green partner attends one of these schools in Meran *(point at the green school card with German school names and at the green decision sheet lying to the left from the participant's perspective).* Then fill in the decision sheet with your blue partner – your blue partner attends one of these schools here in Meran *(point at the school card with Italian school names and the blue decision sheet lying centered).* And then fill in the decision sheet with your red partner – your red partner is a child from your class *(point at the red decision sheet lying to the right hand side from the participant's perspective).* Please take any time you need for your decisions. I will turn around in the meantime so that you are not disturbed. Call me when you are ready *(give the participant the pen and turn around; when participant calls, turn towards the participant).*

(After the decisions the assistant has to check the decision sheets for completeness. If something is incomplete, ask participant to take the missing decision).

Thank you for your decisions. Now I have some questions. How many tokens do you think does your green, blue and red partner send to you? If in the drawn part your guess is correct you will get a bonus token. If your guess is not correct, you don't get a bonus token. How many tokens do you think does your green partner send to you? (*note down*) How many tokens do you think does your blue partner send to you? (*note down*) How many tokens do you think does your red partner send to you? (*note down*)

What do we have to do next? Exactly, we have to decide which of the three decision sheets is played and paid out. I mingle the three decision sheets under the table and now you can draw one sheet. *(Mingle the decision sheets and let the child draw one decision sheet)* You have drawn the {color} sheet, meaning that this sheet is paid out and that you play with your {color} partner. You will learn in four weeks when you get the envelope with your presents how many presents you get in total.

Photos

Decision sheet

0	1	2	3	4	5	6	7	8	9
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

K.: Code:

Punkte: Klasse: