Multinational investigation of cross-societal cooperation

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In a globalized world, establishing successful cooperation between people from different nations is becoming increasingly important. We present results from a comprehensive investigation of cross-societal cooperation in one-shot prisoner's dilemmas involving population-representative samples from six countries and identify crucial facilitators of and obstacles to cooperation. In interactions involving mutual knowledge about only the other players' nationalities, we demonstrate that people hold strong and transnationally shared expectations (i.e., stereotypes) concerning the cooperation level of interaction partners from other countries. These expectations are the strongest determinants of participant cooperation. Paradoxically, however, they turn out to be incorrect stereotypes that even correlate negatively with reality. In addition to erroneous expectations, participants' cooperation behavior is driven by (shared) social preferences that vary according to the interaction partner's nationality. In the cross-societal context, these social preferences are influenced by differences in wealth and ingroup favoritism, as well as effects of specific country combinations but not by spatial distance between nations.

social dilemmas | stereotypes | cooperation | prisoner's dilemma | culture

Many social interactions have the structure of a social dilemma, which is characterized by the fact that mutual cooperation—that is, completely transferring one's own resources to an interaction partner (or a group account)—would lead to a socially optimal outcome in that the sum of pay-offs for all persons involved is maximized. However, irrespective of the interaction partner's behavior, each individual person would be better off by defecting: that is, transferring no resources. Thus, mutual defection is the dominant strategy that should be chosen by rational money-maximizing agents (1). Still, cooperation has been observed even in fully anonymous one-shot social dilemmas (2) in which individuals interact only once, so that any selfish incentive to cooperate strategically is excluded. Specifically, it is impossible to cooperate with the aim to later profit from a good reputation (3) or reciprocity (2).

Various factors have been identified that, in combination, could explain this puzzling finding. Individuals might have social preferences in that they value the outcome of others and gain utility from the absolute pay-off of other players or lose utility from inequality in pay-offs (4–6). Additionally, individuals might have specific expectations that the other player will cooperate as well (7, 8). Social preferences and expectations might thereby be driven partially by similarity and kinship, in that individuals cooperate with genetically similar others to increase biological fitness of their own genotype and expect others to do the same (9, 10).

In the present study, our key goal is to investigate the determinants of cooperation between people from different nations. Specifically, cooperation-related expectations and social preferences cannot only account for cooperation behavior in general. These expectations also provide reasons for the assumption that systematic differences in cross-societal cooperation exist, because both can be expected to vary systematically with the nationality of the interaction partner.

According to the classic selfish utilitarian perspective, the utility derived from an action is determined only by one's own pay-off. Social preference approaches complement this assumption in that the pay-off of others is also included (4, 11). The weights given to one's own and others' pay-offs are considerably stable over time (12) and correlate with general personality traits (13). Still, individuals tend to have greater concern for another player's pay-off if this player is from their own group (ingroup) compared with other groups (outgroup) (14, 15). Several studies show that ingroup favoritism applies to cross-societal cooperation, as well (16, 17). In national studies, individuals have also been shown to be inequality-averse, and the utility for an option decreases with increasing differences between outcomes (4). In cross-societal settings, nationality information could be used as a cue for general wealth; and individuals from richer countries might give more to individuals from poorer countries than vice versa.

Expectations might also be determined by the nationality of the interaction partner. Expectations about the characteristics of people are often based on their group membership and are shared among members of a social group. These shared expectations are commonly referred to as cultural stereotypes (18). Previous research has found that individuals hold stereotypes concerning personality traits (19) and behavioral characteristics (20) of persons from different nations. In a more recent study, researchers found that stereotypes about nations incorporate assumptions about their competitiveness (21). Given the importance of cooperation for social interactions and the close relationship to competition, individuals can be expected to also have a stereotype regarding cooperativeness of different nations and act accordingly.

One crucial question is whether these stereotypes correspond to reality. With regard to personality traits, research indicates

Significance

We present a comprehensive analysis of cross-societal cooperation involving full incentivization and population-representative samples of participants from Germany, India, Israel, Japan, Mexico, and the United States. Our main finding is that individuals have shared stereotypes in terms of expected cooperation for interaction partners from different nations. Individuals also hold (shared) social preferences toward these partners, which are driven by ingroup favoritism, differences in wealth, and additional factors. We discuss our results with respect to theories that explain cooperation behavior by similarity, inequality aversion, and specific expectations.

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that the average personality scores of different cultures deviate from character traits that other nations attribute to them (22). Concerning behavior in strategic games, it was found that individuals attribute the standard of behavior prevailing in their own country to other countries (23) and tend to simplify reasoning about their opponents in strategic games. Thus, individuals often do not take into account so-called second-order (or higher-order) beliefs (expectations): that is, an expectation about the expectation of the interaction partner. Therefore, individuals do not sufficiently consider what the other player thinks about them and how this influences his or her behavior in the strategic game (24), which can be one reason why stereotypes concerning cooperation deviate from reality.

A second crucial question is whether systematic differences exist concerning social preferences for people from specific other nations that are shared across nations on top of differences in expectations. In social dilemmas, many individuals roughly give what they expect to receive minus a small amount (25). In one-shot interactions with two people, giving as much as one expects or even more can be understood as a friendly act that results from a concern for the outcome of the other person, whereas giving less than one expects can be considered a selfish and less-friendly act. Hence, the difference between one's contribution and expectation can be used as a proxy measure of social preferences. Systematic differences in social preferences toward different nations would reflect nationality-based discrimination. We expect such systematic differences in favor of ingroups over outgroups, nations that are similar concerning basic properties of their culture over nations that are less similar (26), and poorer nations because of inequality aversion (4, 6).

Whereas several studies found that different countries exhibit cooperation rates of varying magnitude (27–31), specific empirical evidence on cross-societal cooperation with interaction partners from different nations is still scarce and limited to the comparison between few countries involving mainly student populations. However, these studies provide noteworthy first evidence that expectations and the willingness to cooperate vary with the nationality of the interaction partner (32, 33). There is also one cross-national study involving large-scale nonstudent populations that explores factors influencing cooperation toward a global group consisting of individuals from various nations, showing that cooperation increases with a nation's globalization (34). We go a step further and investigate the role of the interaction partner's nationality in general and also involve large-scale, population-representative samples. We use our multinational dataset to investigate the factors driving cross-societal cooperation, mainly shared expectations and social preferences, taking into account the different classes of theories introduced above.

For our studies, we used a fully incentivized two-person continuous prisoner's dilemma game (35) with interaction partners from 6 (study 1) or 10 (study 2) different nations. We investigate one-shot interactions to exclude effects of reciprocity of experienced behavior, reputation concerns, as well as learning effects as a result of the updating of expectations. Instructions are provided in *SI Appendix*.

In the experiments, participants received an endowment of 100 US cents, from which they could transfer any amount in steps of 10 US cents to another player, who had to make the same decision without knowing the interaction partner's decision. The amount transferred to the respective other player (transfer) was doubled and added to his or her account, whereas any amount not transferred remained in the personal account, resulting in the social dilemma structure as explained above. Each person indicated behavior for one interaction partner from the "own country" and from each of the "other countries" using a strategy method (36). Additionally, participants indicated their expectations regarding the respective interaction partner's transfer (expectation) and rated them on several cooperation-related attributes, which were selected based on previous research (37), as well as the same number of attributes that are not related to cooperation behavior. Transfer was used as the core dependent measure for cooperation. Expectations were analyzed as a potential driver for cooperation; that is, whether they were shared constituted an indicator for the existence of cooperation related stereotypes. The difference between transfer and expectations (net-transfer = transfer − expectation) was calculated as a proxy for nationality-based social preferences.

The crucial factors we varied in our studies were the nationalities of the "sender" and the "receiver" in this game. Specifically, the interactions were fully anonymous, except for the fact that both players were informed of the other player's nationality. Players were made aware that knowledge was symmetric, in that the interaction partner was informed about the other player's nationality, as well. Our research project consisted of three studies.

In a first, nonincentivized pilot study participants indicated their own transfers and expectations concerning transfers for persons from Afghanistan, France, Germany, Israel, Japan, Mexico, and the United States. The study involved participants from the United States only ($n = 504$) and a between-subjects manipulation of the receiver's supposed nationality.

Our main study (study 1) included equal samples of participants from six nations (Germany, India, Israel, Japan, Mexico, and the United States), which were representative of the population of the respective country in terms of age and gender ($n = 1{,}227$). Each sender indicated responses for all other nations, resulting in a 6 (sender nation) × 6 (receiver nation) mixed between-within subjects manipulation with receiver nation as the repeated-measurement factor.

Finally, study 2 ($n = 485$) served as a replication of study 1 and a generalization of our results to additional nations using a 10 (sender nation) × 10 (receiver nation) mixed between-within subjects design. In the following, we will focus on the results from the main study (study 1). However, detailed results from the other studies are provided in *SI Appendix*.

In the main study, we used population-representative samples for two related reasons. First, we aimed to find effects that generalize beyond the student populations, which might show behavior and expectations different from those of the general population (38, 39). Second, the study should provide nation-specific norm values for cooperation and expectations (*SI Appendix*, Table S12) that can be used as comparison standards in future research.

The nations included in our study were selected so that they varied on the cultural dimensions suggested by Hofstede (40). Furthermore, they varied with regard to their gross domestic product (GDP) per capita and the distance between each other, which allows us to investigate the independent influence of the respective factors. More information on the selection procedure and the Hofstede values (Table S1) of the included nations are provided in *SI Appendix*.

Results

In the pilot study, we find that participants from the United States hold significantly different expectations concerning the transfers of interaction partners from the set of nations considered [Kruskal–Wallis test: $\chi^2(6) = 12.89$, $P = 0.045$]. Expectations concerning transfers are particularly high for people from Japan and low for people from Israel. This finding provides evidence that the knowledge of the other player's nationality matters in cross-societal cooperation and that people from one nation hold shared expectations (i.e., stereotypes) regarding the cooperation of other nations.

In our main study, we show that these stereotypes concerning transfers generalize beyond the United States (Fig. 1) and are not only nationally but also transnationally shared (intraclass correlation of expectations = 0.73, $P < 0.001$). To investigate

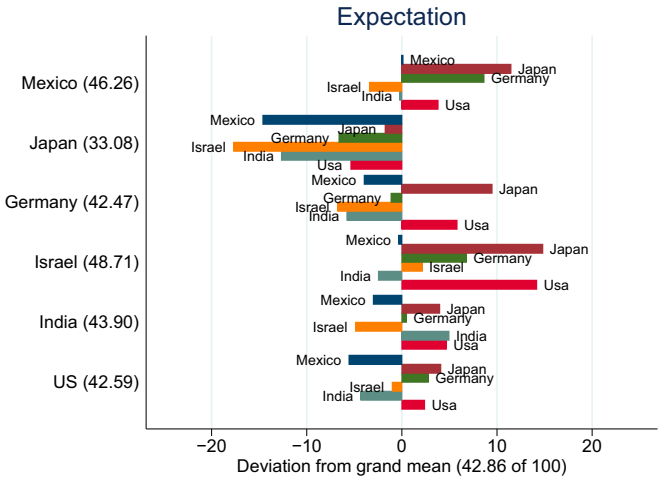

Fig. 1. Expectations concerning transfers for all combinations of sender and receiver countries in study 1. Expectation scores are presented as the difference from the grand mean (42.86 of 100 US cents). The *y* axis depicts the sender country, whereas the bar colors and labels represent receiver nationality. The numbers in parentheses indicate the mean expectation for each sender country.

expectations, transfers, and net-transfers in more detail, we conducted ordinary least-square (OLS) regressions with cluster-corrected SEs at the participant level. Tobit regressions lead to the same conclusion; results are provided in *SI Appendix*. We used effect coding for sender and receiver nationality so that coefficients indicate deviations from the grand mean.

Averaged across sender nationality, expectations concerning transfer of persons from other nations are significantly higher for Japan, the United States, and Germany and significantly lower for Israel, India, and Mexico (receiver main effects) (Table 1, model 1). Furthermore, Japanese senders are significantly less optimistic concerning the transfer of their partners compared with the grand mean, whereas people from Israel expect particularly high transfers (sender main effects) (Table 1, model 1). There are several significant sender–receiver interactions that go beyond these main effects (*SI Appendix*, Table S3, expectation, model, 1). For example, senders from Israel expect increased cooperation from United States citizens, and vice versa, whereas people from Israel expect particularly little cooperation from Indian participants.

These differences in expectations are mirrored in differences in transfers to the respective receiver nations (Fig. 2). Transfers are significantly higher for interactions with receivers from Japan and the United States and lower for Israel and Mexico (Table 1, model 2). The collapsed patterns of expectations and transfers correlate perfectly on ranks ($r = 1$), and individual expectations are the strongest predictor for transfers ($b = 0.78$, $P < 0.001$). With regard to the question whether cooperation stereotypes correspond to reality, we observe that, as people expect, there are differences in transfers between people from various nations (sender main effects) (Table 1, model 2). However, we observe a small to moderate, negative correlation between the transfer that people expect to receive from a nation and what they actually receive ($r = -0.41$, $P = 0.014$; partial correlation corrected for sender nation effects: $r_{part} = -0.38$, $P = 0.035$). Japan, the country with the highest expected transfer, in reality shows the lowest transfer level. The reverse effect holds for Israel: people expect the lowest transfer from Israeli people, although their actual transfer is the highest of all nations.

Next, we were interested in the effects of nationality on cross-societal cooperation that cannot be accounted for by differences in expectations indicating a concern for the other player's outcome, which we use as a proxy for social preferences. We analyzed these effects by using the net-transfer score introduced above—that is, the difference between transfer and expectation—indicating deviations from "fair" reciprocation. Values above zero indicate that participants give more than they expect, whereas negative values indicate that they give less. Averaged across the senders' nationalities, individuals give significantly more than they expect to receive to receivers from Mexico, Israel, and India, and less than they expect to receive to Germany, the United States, and Japan (i.e., receivers' main effects for net-transfers) (Table 1, model 3). This finding can be interpreted as discrimination based on shared social preferences for specific nations. We also see a senders' main effect on net-transfer in that people from Germany and the United States overall give significantly more than they expect to receive, whereas people from India give less. On top of these main effects, there are several sender–receiver interactions. For example, persons from Israel generally transfer below their expectations, particularly to receivers from Germany, yet above their expectations to people from India (*SI Appendix*, Table S3, net-transfer, model 3).

We analyze the factors driving differences between transfer and expectation by regressing net-transfer on an ingroup indicator, as well as spatial distance, wealth difference, and cultural difference between sender and receiver country (Table 2).

As expected based on previous research, net-transfer is significantly increased for ingroups compared with outgroups. This effect is mainly because of the fact that, for receivers from the ingroup, transfers ($b = 7.48$ cent, $P < 0.001$) are increased more strongly than expectations ($b = 2.37$ cent, $P = 0.205$). Still, both aspects of ingroup effects vary considerably between nations (*SI Appendix*, Table S3, cells in the gray main diagonal). Israeli senders show no increased expectations for receivers from Israel but give considerably more than they expect to receive. Persons from India expect to receive more from their ingroup and do not favor their own group on top of that. Germans even expect to receive rather little from the ingroup but transfer more than they expect to receive. Overall, the detailed analyses show that ingroup favoritism varies quantitatively as well as qualitatively between nations.

There is no additional effect of spatial distance between sender and receiver countries on net-transfer.

As a third factor, we tested for effects of inequality aversion as a result of differences in the level of wealth based on GDP per capita (corrected for purchasing power) (www.imf.org/external/pubs/ft/weo/2014/01/weodata/download.aspx) for the sender minus that for the receiver. In doing so, we find a wealth difference effect on net-transfer. In line with the inequality-aversion argument introduced above, persons give more than they expect to receive to persons from poorer countries but expect less cooperation from these persons.

Fourth, we tested the effect of cultural similarity between nations based on the Euclidean distance on the Hofstede cultural dimensions. Contrary to the assumption that social preferences could be positively shaped by cultural similarity, we find that the tendency of individuals to give more than they expect overall decreases with cultural similarity. Detailed analyses on the Hofstede dimensions (including all other predictors from Table 2) reveal that net-transfers increase with similarity regarding masculinity but decrease with cultural similarity regarding power distance and uncertainty avoidance.

Finally, we analyzed data from our postexperimental questionnaire, in which participants rated the other countries on cooperation-related and nonrelated attributes concerning their effects on transfers and expectations.

We thereby find that perceived wealth is a predictor for expectations, $b = 1.64$, $t(1,024) = 2.96$, $P = 0.003$ and net-transfers, $b = -2.06$, $t(1,024) = -5.22$, $P < 0.001$, which provides further support for the inequality results from the analysis of GDP.

Table 1. Expectations, transfers, and net-transfers in study 1

Sender/receiver nationality	Expectation (model 1)	Transfer (model 2)	Net-transfer (model 3)
Sender nationality			
Mexico	2.493	1.332	−1.160
	(1.52)	(0.76)	(−1.38)
Japan	−8.741***	−8.126***	0.615
	(−5.53)	(−4.52)	(0.69)
Germany	−0.708	2.547	3.255***
	(−0.46)	(1.49)	(3.79)
Israel	5.219***	5.497**	0.278
	(3.31)	(3.22)	(0.30)
India	2.910	−3.486*	−6.396***
	(1.67)	(−2.06)	(−5.20)
United States	−1.173	2.236	3.409***
	(−0.69)	(1.19)	(3.42)
Receiver nationality			
Mexico	−4.522***	−2.908***	1.614***
	(−9.05)	(−6.73)	(3.80)
Japan	7.010***	3.791***	−3.219***
	(13.68)	(8.48)	(−7.78)
Germany	1.802***	0.531	−1.271**
	(3.64)	(1.17)	(−3.03)
Israel	−5.247***	−3.071***	2.176***
	(−10.05)	(−6.66)	(4.96)
India	−3.324***	−0.602	2.722***
	(−6.48)	(−1.29)	(5.83)
United States	4.280***	2.259***	−2.021***
	(8.06)	(4.95)	(−4.63)
Constant	42.86***	44.35***	1.491***
	(61.46)	(59.34)	(3.69)
Observations	7,362	7,362	7,362
Adjusted R^2	0.058	0.058	0.050

Regression models (OLS with cluster-corrected SEs) for study 1 predicting expectations (model 1), transfers (model 2), and net-transfers (model 3) by the sender's and receiver's country of origin as well as all two-way interactions, which are reported in *SI Appendix*, Table S3. Indicators for sender and receiver countries are effect-coded (centered variables) and represent comparisons against the grand mean (i.e., constant). To be able to report deviations for all countries, coefficients for the omitted category are estimated in a second run of the analysis in which a different country was omitted. All models control for an instructional manipulation check (see *SI Appendix* for details), as well as age and gender (all centered). *t* statistics are reported in parentheses. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$.

Friendliness, $b = 1.30$, $t(1,024) = 2.35$, $P = 0.019$ and attractiveness, $b = 1.44$, $t(1,024) = 2.42$, $P = 0.016$ determine the amount transferred, but do not shape expectations. In contrast, trustworthiness is a predictor of both, expectations, $b = 3.68$, $t(1,024) = 5.65$, $P < 0.001$, and transfers, $b = 3.29$, $t(1,024) = 5.06$, $P < 0.001$ (*SI Appendix*, Table S7).

Some of these results can be related to the Stereotype Content Model (SCM), one of the leading theories on stereotype content, which has been validated in a wide range of different cultures (e.g., ref. 41). The SCM postulates that expectations about social and cultural groups (i.e., stereotypes) can be organized along the dimensions competence and warmth (42). The latter determines whether a social group is seen as cooperative or competitive and includes the attributes friendliness and trustworthiness (43), which were also assessed in this research. As could be expected from the SCM, perceived trustworthiness predicts expectations in our study. Friendliness, however, is a predictor for transfer but not expectations. A related framework that builds on the SCM, and assumes that perceiving a group as being warm elicits passive facilitation (e.g., convenient cooperation) (44) toward this group, might add to this picture. However, to draw firm conclusions regarding perceptions of warmth and competence and their consequences for expectations and behavior in social dilemmas, all attributes of the respective dimensions must be assessed in future studies.

One potential limitation of study 1 is that results (particularly those concerning shared expectations) might be dependent on the set of nations selected (i.e., the reference group). We address this concern in study 2, in which we replicate our results regarding shared high expectations for specific countries, such as Japan, and low expectations for Israel and Mexico while using a larger number of countries; that is, additionally including Afghanistan, Spain, France, and Bangladesh. Importantly, the result concerning a negative correlation between expected and actual cooperation of people from various countries ($r = -0.23$, $P = 0.022$; partial correlation corrected for sender nation effects: $r_{part} = -0.24$, $P = 0.025$), as well as the effects of GDP on net-transfer, were replicated (see *SI Appendix* for further details).

Discussion

We investigated cross-societal cooperation and the factors driving it in one-shot social dilemmas. We applied a comprehensive multinational approach involving population-representative samples and incentivized interactions. We show that transnationally shared expectations (i.e., cooperation stereotypes) exist regarding the extent to which people from different nations cooperate in one-shot prisoner's dilemma games. These stereotypes are the most important determinant of peoples' own transfers (i.e., cooperation). Furthermore, additional variables above and beyond expectations influence cross-societal cooperation, which can be considered

instantiations of differential social preferences. For example, individuals generally transfer more than they expect to individuals from their own nation compared with other nations, which is an indicator of ingroup favoritism. In addition, people give more than they expect to receive to people from poorer nations than their own, indicating that inequality aversion plays an important role in cross-societal cooperation. There are, however, additional specific effects for certain combinations of sender and receiver countries.

Our findings bring about important implications for psychological and economic theory. In contrast to the standard economic perspective, recent theories on behavior in social dilemmas acknowledge that characteristics of the interaction partner matter to the decision maker (4–6, 10, 11). Previous research demonstrated increased prosociality toward individuals from the ingroup (own nation) (16) as well as individuals in a comparatively worse financial position (5). We show that, beyond these effects, the interaction partner's specific group affiliation (nationality) also determines expectations and cooperation. In addition, with regard to ingroup favoritism in social dilemmas, we can complement previous research, as we assessed not only cooperation but also expectations. That is, in line with theoretical predictions of Social Identity Theory (45), the mere existence of outgroups (i.e., other nations) appeared to have increased the salience of participants' own nation (ingroup), leading to transfers (cooperation) that were higher than individuals' expectations. This finding is particularly noteworthy, as previous studies involving individuals from one nation typically observed cooperation below expectations (25).

Our research is also of practical significance. We find that cooperation stereotypes largely diverge from the real average cooperation behavior of individuals from the respective nations. Both even correlate negatively for the sample of nations considered, a finding consistent with erroneous trait attribution in the cross-societal context (22). Japanese participants, for example, cooperated much less than expected, whereas the cooperation behavior of Israelis is largely underestimated. These unjustified stereotypes influence chances to profit from establishing sustained mutual cooperation, which is reflected, for example, in that participants from Japan earned 29% more than participants from Israel in our main study, [$b = 0.37$ €, $t(400) = 5.43$, $P < 0.001$]. This difference can be expected to further increase in repeated interactions because of the potential accentuation and escalation of conflicts. As a result of globalization, interacting with people from other nations has become part of the daily business for many individuals. The divergence between expectations and behavior observed in our studies can lead to conflicts; and erroneous stereotypes might constitute sources for cultural misunderstandings and obstacles to efficient cooperation.

All in all, our research was successful in identifying drivers for cooperation in the cross-societal context. Furthermore, our research provides representative benchmarks for cooperation tendencies in various nations as well as cross-societal cooperation stereotypes. There are, however, also some important caveats. First, for pragmatic reasons, our research focused on anonymous one-shot interactions in two-person social dilemmas, a relatively small subset of nations, and an online sample of participants. Future research must examine whether the findings generalize to other related tasks and also hold for investigations including additional countries as well as samples from the general population. Second, we unexpectedly found that cooperation decreases with (overall) cultural similarity, which was mainly driven by a respective effect of the dimension power distance. Because this dimension concerns inequality within one nation in terms of power distributions (e.g., regarding social classes, education, and so forth) (46), this might be driven by effects of inequality aversion with respect to the persons within the other country or even some kinds of perceived complementarity. Further research, however, is necessary to investigate this unexpected effect in more detail. Third, our research focused on only a few factors that could be potentially relevant for cross-societal cooperation. Other factors, such as the degree of globalization (34) or historical factors explaining specific effects, should be considered in the future.

Table 2. Net-transfers in study 1

Predictor	Net-transfer
Ingroup (no = 0; yes = 1)	5.115**
	(3.16)
Spatial distance	−0.0000281
	(−0.45)
GDP difference	0.000106***
	(7.62)
Cultural distance (Hofstede)	0.0393*
	(2.19)
Constant	−0.890
	(−0.37)
Observations	7,362
Cluster/subjects	1,227
Adjusted R^2	0.039

OLS regression (with cluster corrected SEs) for study 1 predicting net-transfer by ingroup vs. outgroup, spatial distance, difference in GDP, and the cultural distance measured as the Euclidean distance in the five-dimensional model by Hofstede (46) between the sender and receiver countries. The model controls for age and gender effects as well as an instructional manipulation check and indicators for sender nationality (all not reported). *t* statistics in parentheses. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$.

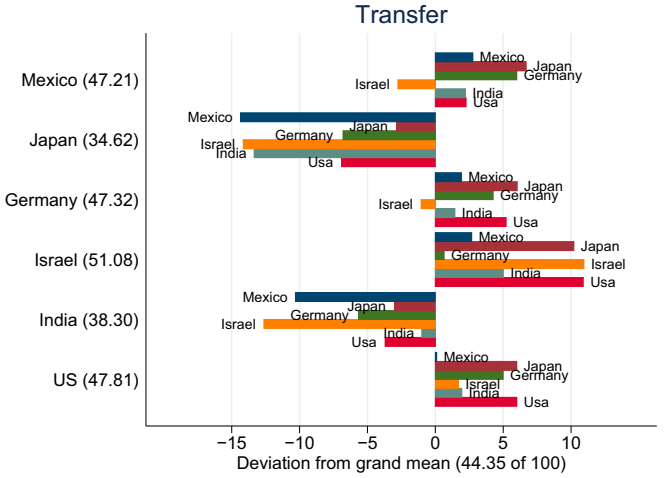

Fig. 2. Transfers for all combinations of sender and receiver countries in study 1. Transfer scores are presented as the difference from the grand mean (44.35 of 100 US cents). The *y* axis depicts the sender country, whereas the bar colors and labels represent receiver nationality. The numbers in parentheses indicate the mean contribution for each sender nation.

Materials and Methods

A total of 2,216 individuals voluntarily participated in three online-experiments. In the pilot study, 504 participants from the United States recruited via Amazon Mechanical Turk played one round of a hypothetical continuous prisoner's dilemma game with an interaction partner from one of seven different nations: Afghanistan, France, Germany, Japan, Mexico, Israel, and the United States. In addition, participants stated their expectations regarding their current interaction partner's transfer. For the main study ($n = 1,227$), we used population-representative samples for the included nations—Germany, India, Israel, Japan, Mexico, United States—to find effects that generalize beyond the student populations. Individuals were recruited via the online panel provider Toluna (https://de.toluna.com/). All participants indicated transfers for one-shot continuous prisoner's dilemma games for receivers from all six nations. Afterward, they rated receivers on several cooperation-related

attributes (i.e., trustworthy, friendly, generous, and likeable) and nonrelated filler attributes (i.e., attractive, spirited, extraverted, and athletic) as well as on the dimension wealthy vs. not wealthy. Instructions were provided in the respective national languages to avoid foreign language effect on choice behavior (47). It was common knowledge that one of the interactions was randomly selected and incentivized after study completion. Participants received payments between US$ 2.00 and US$ 5.00, consisting of a US$ 2.00 base payment plus a US$ 0–3.00 bonus payment, depending on their decisions during the study. Study 2 ($n = 485$) aimed to replicate and extend results from study 1 with an expanded set of 10 different nations but with smaller subsamples that were not representative of the respective nation's populations. Therefore, in addition to the nations used in study 1, study 2 included individuals from Afghanistan, Bangladesh, France, and Spain. These additional nations were associated with the largest possible participant pools on Amazon Mechanical Turk, which was the recruitment platform used in study 2. The materials and procedure were essentially the same as in study 1 except for the fact that the payment (of the same magnitude) was realized with an Amazon voucher. All studies were approved by the ethics committee of the University of Goettingen and were conducted in accordance with the approved guidelines. Informed consent was obtained by the online survey platforms (for further information, see *SI Appendix*). The data of all three studies can be found at https://osf.io/phgbs.

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