Cut From the Same Cloth: Similarly Dishonest Individuals Across Countries

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Abstract

Norms for dishonest behaviors vary across societies, but whether this variation is related to differences in individuals' core tendencies toward dishonesty is unknown. We compare individual dishonesty on a novel task across 10 participant samples from five countries varying in corruption and cultural values. In each country, a die-rolling task was administered to students at major public universities and the general public in coffee shops. A separate group of participants in each country predicted that dishonesty would vary across countries and demonstrated a home country dishonesty bias. In contrast to predictions from independent samples, observed dishonesty was limited in magnitude and similar across countries. We found no meaningful relationships between dishonesty on our task and macro-level indicators, including corruption ratings and cultural values. These findings suggest that individuals around the world are similarly dishonest at their core.

Keywords

morality, cultural psychology, decision-making, dishonesty

Dishonesty is a costly problem. Insurance fraud, shoplifting, academic dishonesty, media piracy, and myriad other acts of dishonesty erode the efficacy of societal institutions. Alarmingly, it is estimated that for most countries, losses due to tax evasion exceed total spending on health care (the Tax Justice Network, 2011). However, although dishonesty is a problem the world over, evidence suggests that countries vary substantially in the prevalence of specific dishonest behaviors such as tax evasion (Richardson, 2006; Tsakumis, Curatola, & Porcano, 2007) or cheating on exams (Grimes, 2004; Waugh et al., 1995). In addition, differences in corruption indexes across countries reported by Transparency International point to wide cross-cultural variation in the abuse of public power for personal gain. These observations raise the question of whether differences in macro-level cultural variables such as corruption are related to the dishonesty of individuals.

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In recent years, interest in the forces shaping individual dishonesty has triggered a surge of research on the subject (e.g., Fischbacher & Heusi, 2008; Gino, Ayal, & Ariely, 2009; Houser, Vetter, & Winter, 2012; John, Loewenstein, & Rick, 2014; Mazar, Amir, & Ariely, 2008). While standard economic theory, resting on the axioms of self-interest and rationality, predicts that in the absence of external penalties, people should cheat as much as possible (Becker, 1968, 1993), studies examining dishonest behavior in lab settings using novel tasks and with no penalty for cheating have revealed a different pattern of dishonesty. The general finding is that dishonesty is common, yet limited in magnitude, a pattern of behavior that Hao and Houser (2013) refer to as "incomplete cheating." To better account for the experimental evidence, Mazar and colleagues (2008) put forward an alternative theory, the theory of self-concept maintenance. This theory posits that in addition to being influenced by external incentives to act dishonestly (such as good grades or money), people are influenced by the internal desire to maintain a moral self-image. Incomplete cheating is thought to represent the balance point between the external rewards of dishonesty and the internal rewards of maintaining a view of oneself as an upright individual.

What is not yet well understood is to what extent this balance point varies across social and cultural contexts. Studies have identified numerous local, situational factors that shift the balance point for dishonesty; for example, people have been found to cheat more when the lighting is dim (Zhong, Bohns, & Gino, 2010), when wearing counterfeit apparel (Gino, Norton, & Ariely, 2010), when earning tokens with monetary value rather than money (Mazar et al., 2008), or after observing obvious cheating from an in-group member (Gino et al., 2009). However, the vast majority of this research has been conducted on participants from similar Western cultural backgrounds (Henrich, Heine, & Norenzayan, 2010), and researchers have paid little attention to the impact of broader, cultural factors. Reflecting on how culture affects dishonesty of individuals raises the following question: To what extent are people's basic tendencies to behave dishonestly affected by culture?

From a theoretical standpoint, culture could affect individual dishonesty in two ways: by normalizing dishonesty in particular situations (such as bribing a police officer to avoid a ticket) and/or by affecting individuals' general tendencies toward dishonesty. We refer to the former as context-specific dishonesty and to the latter as generalized dishonesty. Evidence that corruption affects context-specific dishonesty was observed in a clever study of parking violations among United Nations (UN) diplomats in New York City (Fisman & Miguel, 2007). Fisman and Miguel found that the number of unpaid parking violations incurred by diplomats from different countries was positively related to the corruption index of diplomats' home countries. This finding suggests that cultural norms affect decisions about whether to act dishonestly in specific situations (in this case, illegal parking).

It is less clear whether cultural norms for corruption affect generalized dishonesty. By generalized dishonesty, we are referring to trait-level dishonesty that is expressed across different types of situations, in other words, a person's general propensity toward dishonesty. Recent research has found that an Honesty–Humility personality dimension is related to decisions about whether to cheat on experimental tasks, suggesting some stability in trait-level dishonesty (Hilbig & Zettler, 2015). Generalized dishonesty is typically operationalized using experimental tasks that allow for dishonesty in a novel situation devoid of existing social or cultural norms. In one study testing whether cultural norms affect dishonesty, Cohn and colleagues examined cheating on a coin flip task in professionals from the banking industry, which carries a reputation for slippery ethical standards in the United States (Cohn, Fehr, & Maréchal, 2014). The authors found that bankers were dishonest only when cued with their professional identity, suggesting that cultural norms influence dishonest behavior selectively, in situations where they are made salient.

Researchers interested in the relationship between corruption and generalized dishonesty have looked at whether dishonesty is related to a preference for entering public office. Studies conducted on university students in India have observed a positive relationship between dishonesty

in experimental tasks and interest in public-sector careers (Banerjee, Baul, & Rosenblat, 2015; Hanna & Wang, 2013). In contrast, Barfort, Harmon, Hjorth, and Olsen (2015) observed a negative relationship between dishonesty on a die-rolling task and interest in public-sector careers in Denmark, known as the world's least corrupt country (Transparency International, 2013). Taken together, these findings suggest that dishonest individuals self-select into or away from public-sector positions, depending on whether corruption is normative, and the opportunity for personal gain is present.

Although these studies suggest that corruption influences the life choices of individuals high or low in generalized dishonesty, the question of whether country-level corruption affects the generalized dishonesty of everyday citizens has yet to be explored. To what extent does country variation in corruption translate to differences in citizens' generalized dishonesty? In this research, we compare tendencies to cheat on a die task across 10 participant samples from five countries varying in corruption. Furthermore, we examine two other dimensions that vary across cultures: traditional/secular-rational values and survival/self-expression values. These values dimensions were identified by Inglehart and Welzel (2005, 2010, 2012) based on cross-national data from the World Values Survey. According to Inglehart and Welzel, these two dimensions account for more than 70% of cross-national variance on a factor analysis and are correlated with many other cultural variables.

How Do Cultural Variables Influence Economic Decisions?

A few notable research efforts have explored the connections between macro-level societal variables and individuals' economic behaviors by comparing participant pools across different societies. The first of these was conducted by Joseph Henrich and a team of experienced field researchers, who administered canonical games to participants in 15 small-scale societies (Henrich et al., 2001; Henrich et al., 2005). The games included the dictator game (DG), the ultimatum game (UG), and the public goods game (PGG), each of which looks at how much money people will offer others at a cost to themselves. The research team found that the level of cooperative behavior demonstrated in these games varied across societies and was positively related to societies' degree of economic integration.

A second research effort by Gächter, Herrmann, and Thöni (2010)looked at PGG contributions across groups of participants from 16 societies, with six distinct cultural backgrounds. In the PGG, participants decide how much money to contribute to a common pool; money from this pool is multiplied by a fixed number and redistributed evenly across participants. Gächter and colleagues examined contributions over repeated rounds of the public goods game, when the opportunity to punish other participants was present or absent. In both punishment-present and punishment-absent conditions, average contributions were similar across societies with similar cultural backgrounds but varied significantly across societies from different cultural backgrounds. Unlike in Henrich and colleagues' investigation, all societies sampled by Gächter and colleagues were developed and highly economically integrated, suggesting that in addition to individual-level and group-level differences, cultural factors are also relevant to decisions about whether to cooperate.

Until very recently, no research effort aimed to assess the influence of cultural background on generalized dishonest behavior using behavioral measures. In 2015, however, an international team of researchers led by David Pascual-Ezama published an investigation of dishonesty in 16 countries (Pascual-Ezama et al., 2015). Their experimental paradigm involved a coin flip task with a chocolate reward. Participants (students on university campuses) were asked to flip a coin in private and report whether it landed white side or black side up. Reports of white side up were rewarded with a chocolate truffle, while reports of black side up earned no reward. Depending on the experimental condition, rewards were administered by the participant (self-reported

condition), or by the experimenter based on the participant's written or verbal report (written and verbal reported conditions).

Results from this study revealed no significant differences in dishonesty across the 16 countries in their sample. However, it is difficult to determine whether this failure to reject the null hypothesis was based on true similarity in generalized honesty or insufficient power to detect differences in dishonesty. In each country, Pascual-Ezama and colleagues administered the coin flip task to 90 participants, 30 per experimental condition. Because only half of the participants would have flipped the unfavorable black side of the coin by chance, only half this number of the participants faced the decision about whether to cheat. Furthermore, given that each of these participants faced only one decision about whether to cheat, the coin flip task is likely a noisier measure of individual dishonesty than a measure involving multiple trials.

Overview of the Present Research

In the present research, we designed a study to compare dishonesty across individuals sampled from different countries and different cohorts within the same countries. Our research tested whether country affects dishonesty on an abstract, novel task. In our work, given that we wanted to examine whether higher country-level corruption translates to higher levels of dishonesty in individuals, we studied countries that varied in terms of corruption levels and assessed whether their citizens also differed in terms of individual dishonesty using a de-contextualized task.

In each country, we administered a dishonesty behavioral measure to two cohorts: students, sampled at major public universities, and the general public, sampled in coffee shops. Obtaining two participant samples from each country allowed us to compare between-country effects against within-country effects. Participants were sampled from five countries based in distinct cultural regions of the world (Inglehart & Welzel, 2005, 2010): China, Colombia, Germany, Portugal, and the United States. Although all of these countries are modern, large-scale societies, they vary in their levels of corruption (Transparency International, 2013). In addition, these countries vary along traditional/secular-rational (TSR) values and survival/self-expression (SSE) values dimensions, identified by Inglehart and Welzel (2005, 2010, 2012) as accounting for a wide degree of cross-national cultural variance. The TSR values dimension captures a society's emphasis on religion, familial ties, and traditional values (higher scores indicate less emphasis on these values). The SSE values dimension captures citizens' prioritization of economic and physical security as opposed to tolerance and participation in government (higher scores indicate less emphasis on personal security). Table 1 presents corruption scores and ranks for the five countries.

In addition, we surveyed a separate pool of participants from the same five countries, describing the cross-cultural study and die task in detail, and asking them to estimate the level of dishonesty observed for each of our 10 participant samples. This prediction study was intended to assess how independent samples from the five countries estimated the level of dishonesty in each country.

Method

All research was approved by Duke University's Institutional Review Board and carried out in accordance with the World Medical Association Declaration of Helsinki. The data sets can be accessed online (behavioral study: https://datahub.io/dataset/predictions-of-dishonesty-on-die-task-administered-across-countries, prediction study: https://datahub.io/dataset/predictions-of-dishonesty-on-die-task-administered-across-countries).

Table 1. Transparency Rankings, Corruption Scores, and Cultural Values Scores for the Five Countries in This Study.

	Country	Transparency rank (2013)[a]	Corruption score (2013)[a]	Traditional/secular-rational values[b]	Survival/self-expression values[b]
1	Germany	12	22	1.31	0.74
2	The United States	19	27	−0.81	1.76
3	Portugal	33	38	0.90	0.49
4	China	80	60	0.80	−1.16
5	Colombia	94	64	−1.87	−0.60

Note. Transparency International prepares the Corruption Perceptions Index based on how corrupt their public sector is perceived to be. The information presented includes their rank relative to other countries (1 = *least corrupt country*) and a corruption score. We transformed the original Transparency International scores by subtracting them from 100, so that higher scores would correspond with perceptions of greater corruption (this transformed corruption score is the number presented in the table above). For the corruption scores in the above table, which were used in our regression analyses, 0 = *no corruption* and 100 = *maximal corruption*. Traditional secular-rational values and survival/self-expression values rankings are based on country data from the World Values Survey.
[a]Transparency International (2013). Corruption Perceptions Index.
[b]Inglehart and Welzel (2012).

Behavioral Study

Participants. We administered the die task to 2,495 individuals in five countries. In each country, we targeted 500 participants divided into two cohorts (students and public); based on fluctuations in recruitment and scheduling, initial sample sizes ranged from 223 to 288 participants. Twenty-five individuals who did not complete the study due to technical issues or their own decision to end the study early were excluded. To ensure that the participant samples reflected the cultures of our countries of interest, our final data set includes only 2,179 native residents, in other words participants who were born and currently living in the countries sampled (we excluded 291 participants who were not born in or currently living in the country). Table 2 provides location and demographic data on our 10 participant samples.

The die task. To examine generalized dishonesty, we adapted a task developed by Jiang (2013), which we refer to as the die task. The die task, administered on iPads, involves rolling a virtual die over repeated trials. On each trial, participants are instructed to mentally choose a side of the die (top or bottom) before rolling the die. They are instructed to remember their choice; roll the die; and then, when the outcome is visible, indicate which side they chose. The outcome screen displays the number of dots on the top and bottom sides of the die, and participants know that they will be paid an amount proportional to the number of dots on the chosen side. Thus, on any roll where the unfavorable side is initially chosen, participants can cheat by claiming to have chosen the higher earning side. Participants roll the die and report "top" or "bottom" over 20 trials, with a tally of their earnings updating at the top of the screen.

The die task allows participants to cheat under conditions of plausible deniability, as it is impossible to distinguish dishonesty from good fortune on any individual trial. However, when response data are aggregated across many participants, we can test for the statistical likelihood and magnitude of dishonesty by comparing the average proportion of favorable rolls with what would be expected by chance. Our experiment has high power to detect underlying differences in dishonest tendencies across countries should such differences exist. For example, given that an honest sample should choose the favorable side on .50 of trials, and assuming (based on a simulated outcome distribution) a standard deviation is .23, if a sample of 220 cheated on 5% of trials in our study, the power to detect this dishonesty with a two-sided test would be .90.

Table 2. Summary of Data Collection and Demographics Information for Student and Public Participant Samples.

Country	City	Payment per dot	University	Student samples			Public Samples		
				N	Gender	Age	N	Gender	Age
China	Beijing	0.40 CNY	Beijing University of Chemical Technology	251	54.6% female	$M = 21.77$ $SD = 1.02$	208	59.1% female	$M = 30.01$ $SD = 7.71$
Colombia	Bogotá	150 COP	National University of Colombia	235	34.5% female	$M = 21.40$ $SD = 3.08$	210	46.7% female	$M = 33.30$ $SD = 12.54$
Germany	Munich	0.10 EUR	University of Munich	215	57.7% female	$M = 23.19$ $SD = 2.64$	231	66.7% female	$M = 33.38$ $SD = 13.62$
Portugal	Lisbon	0.05 EUR	University of Lisbon	239	68.6% female	$M = 21.93$ $SD = 3.39$	181	49.2% female	$M = 32.25$ $SD = 13.71$
The United States	Raleigh	0.10 USD	North Carolina State University	224	38.4% female	$M = 20.58$ $SD = 3.10$	185	54.6% female	$M = 38.84$ $SD = 15.08$

Payment. The die task involved a financial incentive to cheat. The payment was proportional to the number of dots on the side reported each time. In the United States, participants were paid 10 cents per dot. To arrive at an equivalent payment per dot for the other four countries, we used the Purchasing Power Parity Index (the World Bank Group, 2012) and then rounded the amount converted to the nearest whole currency unit.

Administration and procedure. The study was administered over a period of 13 months, from February 2013 to March 2014. Study materials for the die task and survey questions were translated into the native languages of our five countries of interest using a forward–backward translation procedure. To ensure consistency in administration, one of the authors (XGR) traveled to each country to train experimenters in the standardized experimental protocol, and to oversee the administration of the study (see Text S1 for the experimenter script.) The study was advertised as a decision-making study where participants could earn money within a fixed range. Participants in the student samples were recruited from public universities in major cities via posters and flyers distributed in person (China, Colombia, the United States) or through an online sign-up system (Germany, Portugal). Participants in the general public samples were recruited in various coffee shops from the same cities. An experimenter briefly described the study and asked the patron whether he or she would be interested in participating in a research study.

The experimenter introduced the task using a demonstration iPad, including example trials to ensure that participants understood the task and how their payment would be determined. Student participants completed the task in a quiet testing room with five to eight participant stations, which were separated from one another and facing the walls. Public participants completed the task independently from their seat in the coffee shop. Participants in both samples were instructed not to communicate with others while completing the study and to raise their hand to call the experimenter in case they had questions. Procedures and materials were almost identical in both settings, with the main exception that participants in coffee shops completed the study in a social environment (surrounded by other individuals).

Following the task, all participants completed a 10- to 15-min survey, which, for half of the participants, involved indicating how likely they would be to engage in specific dishonest actions across various domains of life. Results of this survey are primarily the focus of another related article (Garcia-Rada et al., 2016). Last, all participants answered demographic questions and were then paid the amount they earned on the die task and thanked for participating. Our demographics of interest for this study were gender, age, ethnic minority status, relative earnings ("Compared to other people in your country, would you say your household earns less or more money than the most?" from 0 "far less money" to 10 "far more money"), religiosity ("How religious are you?" from 0 "not at all religious" to 10 "very religious"), and lack of trust ("Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" from 0 "most people can be trusted" to 10 "you can't be too careful in dealing with people"). These trust questions were adapted from the World Value Survey, which has been used widely in comparing levels of generalized trust across nations.

Prediction Study

Participants. A separate sample of participants was recruited to predict the results of the cross-cultural dishonesty study. Participants in the prediction study (hereafter referred to as predictors) were recruited from our five countries of interest using online platforms (MTurk, uSamp, and Clickworker) and were paid a fixed fee for completing a 5-min survey. The study was distributed to 150 Americans and 125 participants from each other country of interest. We excluded respondents who were not native residents of the country of interest (5.9%), who reported not understanding the task (7.5%), or who left questions unanswered (0.5%). Our final cross-national

sample included 120 Chinese, 108 Colombians, 96 Germans, 108 Portuguese, and 141 Americans, for a total of 573 predictors. All survey materials were translated into the native language of the predictor sample using a forward–backward translation procedure.

Survey and procedure. Predictors were instructed that they would be reading about a research study and making predictions about the results. The details of the cross-cultural research study and die task were then explained in detail, with accompanying screen shots from the die task. A comprehension question assessed whether predictors fully understood the study and task (those who did not were excluded). Predictors were then asked to estimate the level of dishonesty in each of the 10 participant samples in the cross-cultural study, using slider scales ranging from 50% (perfectly honest) to 100% (perfectly dishonest). Finally, predictors indicated their country of birth and country of residence, among other demographic measures.

Results

To assess dishonesty on the die task, we computed the proportion of rolls in which the favorable side (i.e., the side with the higher earnings) was chosen for each participant and compared this variable with what would be expected by chance. Figure 1 shows the observed distributions of the proportion of favorable rolls for participants in every sample compared with the expected chance distribution. For all 10 participant samples, the mean proportion of favorable reports on the die task was significantly above chance (all p values $\leq .005$). However, when we compared the results of the cross-cultural study with the results that were predicted by a separate, cross-national sample of participants in the prediction study, we found that participants in the cross-cultural study were substantially *less* dishonest than people predicted (mean observed proportion of favorable reports = 0.58; mean predicted proportion of favorable reports = 0.70). Observed dishonesty was lower than predicted dishonesty for all samples, suggesting that people overestimate the extent to which others will behave dishonestly on a novel task. Thus, in line with the theory of self-concept maintenance (Mazar et al., 2008), dishonesty was evident in all participant samples, but quite limited in magnitude. Additional information for observed and predicted levels of dishonesty is included in Figures S1 and S2.

Does Dishonesty Vary Across Countries and Cohorts?

Figure 2 shows the means for observed dishonesty and predicted dishonesty across the 10 participant samples in the behavioral study. Because we observed differences in predictions made by predictors native to the country of interest and predictors from other countries (described in more detail later), the means for these groups of predictors are plotted separately.

Prediction study. We first examined how dishonesty predictions varied across countries and across cohorts within countries for all predictors by entering all predictions into a 5 (country) × 2 (cohort: students vs. public) repeated-measures ANOVA. This analysis revealed wide variation in predicted dishonesty based on country, $F(4, 2,288) = 71.70$, $p < .001$, $\eta^2_p = .11$. Overall, predictions of dishonesty on the die task were greatest for Colombians (mean predicted proportion of favorable reports = 0.73) and Americans (mean predicted proportion of favorable reports = 0.73), and least for Germans (mean predicted proportion of favorable reports = 0.66), with predictions for Portuguese (mean predicted proportion of favorable reports = 0.70) and Chinese (mean predicted proportion of favorable reports = 0.69) falling between these bounds.

In addition, predictors expected greater dishonesty among members of the general public than students, although the effect size was small relative to the country effect, $F(1, 572) = 19.24$, $p < .001$, $\eta^2_p = .033$. A significant interaction, $F(4, 2,288) = 4.41$, $p = .002$, $\eta^2_p = .008$, and post hoc
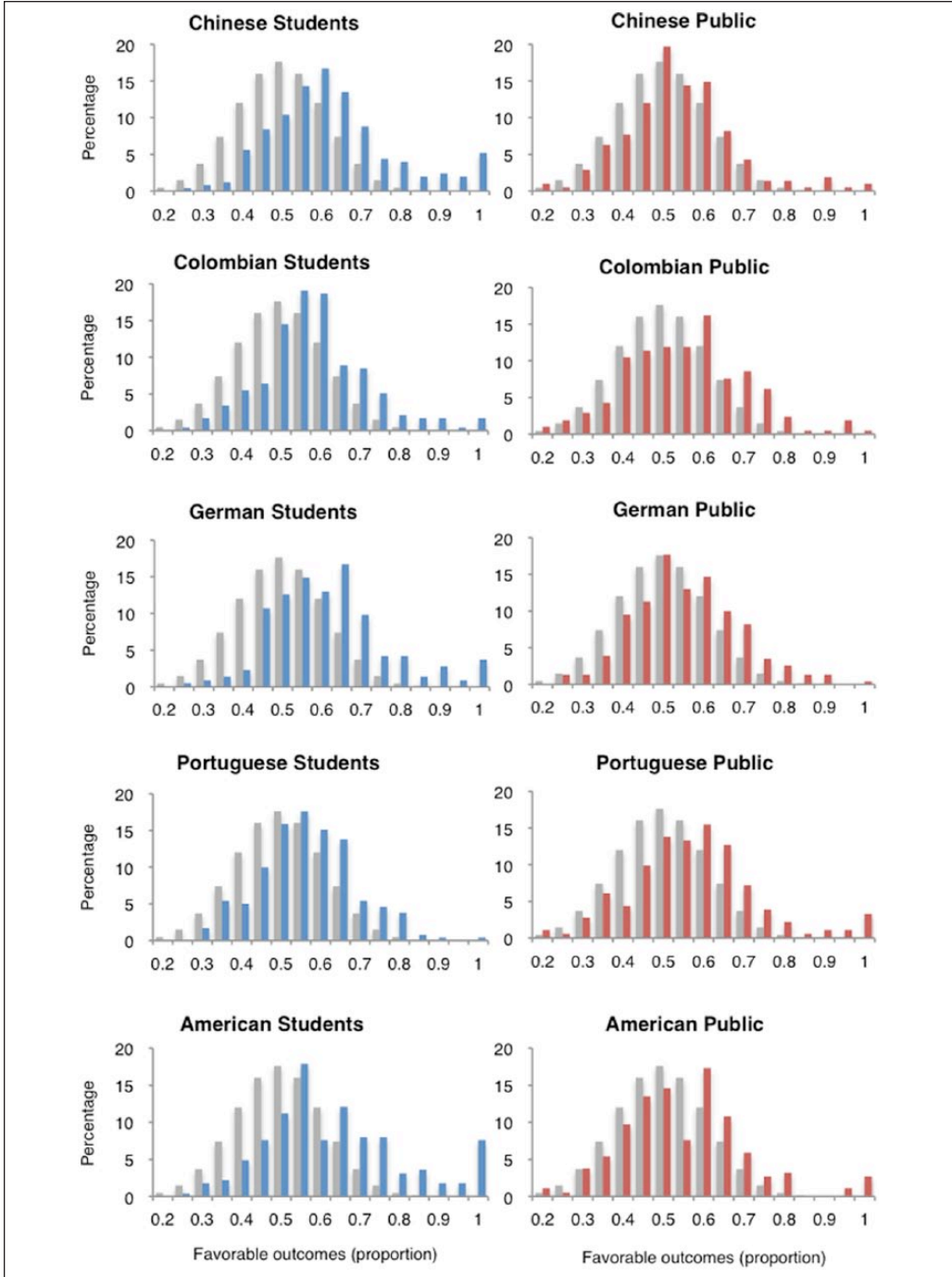
Figure 1. Histograms representing expected distributions of outcomes on the die task (gray bars) whether participants were perfectly honest and observed distributions among student samples (blue bars) and public samples (red bars). The average proportion of favorable outcomes was significantly above chance (*p* values < .005) for all 10 participant samples. Figure S1 plots the proportions of reports for individual roll outcomes across samples.
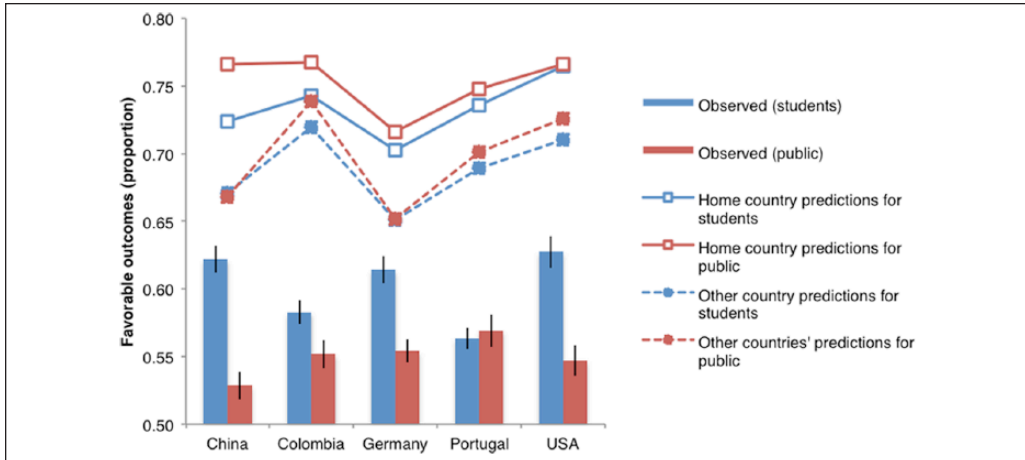
Figure 2. Observed and predicted dishonesty across the 10 participant samples.
Note. We observed greater differences in dishonesty between student and public samples within countries, $F(1, 2,169) = 65.70$, $p < .001$, $\eta^2_p = .029$, than between countries, $F(4, 2,169) = 1.76$, $p = .13$, $\eta^2_p = .003$. A separate pool of participants predicted higher levels of dishonesty than we observed. For each country of interest, predicted dishonesty was greater among survey predictors from that same country than for survey predictors from other countries. Error bars represent ± 1 standard error of the mean.

analyses indicated that differences in predicted cheating between public and student samples were significant for some countries (Colombia, Portugal, the United States), but not for others (China, Germany).

Behavioral study. We next looked at whether dishonesty varied across countries and cohorts for participants who completed the die task. Entering our cross-cultural data into a 5 (country) × 2 (cohort) between-participants ANOVA with die task performance entered as the dependent variable revealed a significant main effect of cohort, $F(1, 2,169) = 65.70$, $p < .001$, $\eta^2_p = .029$. In contrast with predictions from our independent samples, however, student samples were more dishonest than public samples; this effect was evident for all countries except Portugal, where student and public cheating did not differ (Portugal $p > .25$; all other countries $p < .03$).

In stark contrast to predictions from our independent samples, the main effect of country was not significant in the behavioral data set, $F(4, 2,169) = 1.76$, $p = .13$, $\eta^2_p = .003$. An interaction term between country and cohort was significant, $F(4, 2,169) = 7.67$, $p \leq .001$, $\eta^2_p = .014$, although the effect size was modest. Examination of the data indicated that the interaction was driven by the significant difference between student and public dishonesty in all countries except Portugal. We next conducted separate one-way ANOVAs for students and public with country entered as the between-participants factor; this revealed a significant effect of country across student samples, $F(4, 1,159) = 8.097$, $p < .001$, $\eta^2_p = .027$, but not across general public samples, $F(4, 1,010) = 1.924$, $p = .10$, $\eta^2_p = .008$. Closer examination of the student data revealed that the significant effect for students was driven primarily by differences in the proportions of individuals cheating at maximal or near-maximal levels (see Figure S3). Taken together, these findings suggest that on an abstract task assessing generalized dishonest behavior, individuals from different countries are remarkably consistent. The consistent and relatively low levels of dishonesty observed across countries are in line with the study by Pascual-Ezama and colleagues (2015), which found that nationality had little effect on willingness to lie about the result of coin flip in exchange for chocolate.

Is Dishonesty Related to Corruption and Cultural Values?

Prediction study. We next explored whether people's predictions about dishonest behavior on the die task were related to corruption and cultural values. Previous research by Vauclair and Fischer (2011) found that attitudes toward illegal issues were not directly related to cultural values. We hypothesized that predictors would generalize their knowledge of countries' varying corruption levels to their predictions about individual dishonesty on a novel task. Corruption scores for our five countries of interest were obtained from Transparency International's 2013 Corruption Perceptions Index (CPI) and reverse-coded so that 0 represented perceptions of no corruption and 100 represented perceptions of complete corruption. TSR values and SSE values were gleaned from Inglehart and Welzel (2012), with higher TSR scores representing more secular-rational values and higher SSE scores representing more self-expression values

Each predictor made 10 estimates of dishonesty, one for each of the five student samples, and one for each of the five public samples. To test whether predictions about dishonesty were related to country corruption scores, we ran separate multi-level regression models for predictions of student and public participant samples. The results of these analyses are summarized in Table 3. We first restructured the data such that each dishonesty estimate was entered on a separate row, with country corruption, TSR, and SSE scores as Level 2 predictor variables. Beginning with the student analysis, we first ran a basic linear model (Model 1), estimating the grand mean intercept and allowing participant intercepts to vary randomly. We then entered predictors' age and gender as fixed effect Level 1 variables (Model 2); neither was found to have a significant effect on dishonesty predictions (*p* values > .40). Last, we entered country corruption scores, TSR scores, and SSE scores as fixed effect Level 2 predictor variables (Model 3). This analysis revealed that country corruption scores were significantly related to dishonesty predictions, with higher levels of dishonesty predicted in more corrupt countries ($b = .07$, standard error [SE] = .03), $t(2,284) = 2.22$, $p = .03$. In addition, dishonesty predictions for student samples were related to more traditional values ($b = -1.12$, $SE = .36$), $t(2,284) = -3.11$, $p = .002$, and greater self-expression values ($b = 1.40$, $SE = 0.55$), $t(2,284) = 2.56$, $p = .01$. Analyses for the general public predictions revealed a similar pattern of effects.

Behavioral study. When we entered means for observed die task dishonesty and corruption scores into correlation analyses, the resulting correlation coefficients were non-significant (for students, $r = -.25$, $p = .68$; for public, $r = -.42$, $p = .49$), suggesting no positive relationship between individual dishonesty and country-level corruption. Furthermore, when we examined relations between these two cultural dimensions and our primary cross-cultural data, correlation coefficients were inconsistent across student and public samples, $r_{(TSR Students)} = .56$, $p = .32$; $r_{(TSR Public)} = -.39$, $p = .51$; $r_{(SSE Students)} = .004$, $p = .99$; $r_{(SSE Public)} = .54$, $p = .35$, suggesting no meaningful relationship between these cultural dimensions and dishonesty on the die task.

Does Dishonesty Vary Based on Demographics?

Behavioral study. In addition, we ran separate linear regression analyses for student and public samples, with proportion of favorable reports on the die task entered as the dependent variable, countries entered as dummy variables, and with gender, age, ethnic minority status, relative earnings, religiosity, atheism (dummy coded), and lack of trust entered as independent variables (Tables S1A and S1B). For students (but not public), ethnic minority status was the only variable that significantly predicted dishonesty ($\beta = .061$, $p = .047$), such that individuals who were ethnic minorities were more likely to cheat. For public (but not students), lack of trust was the only variable that significantly predicted dishonesty ($\beta = .066$, $p = .038$), such that individuals who reported less trust in others were more dishonest on the die task. This finding is in line with other studies

Table 3. Multi-Level Regression Analyses for Predictions of Dishonest Behavior on the Die Task. Predictions for Students and General Public Were Analyzed Separately.

	Predictions for student samples			Predictions for public samples		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Grand M	69.74*** (179.01)	68.97*** (47.90)	65.18*** (32.37)	70.83*** (194.52)	70.42*** (52.33)	65.75*** (32.65)
Individual-level effects						
Gender		0.54 (0.68)	0.54 (0.68)		0.4 " (0.54)	0.4 (0.54)
Age		0.01 (0.36)	0.01 (0.37)		0.01 (0.15)	0.01 (0.15)
Country-level effects						
Corruption rating			0.07* (2.22)			0.08** (2.61)
TSR values rating			−1.12** (−3.11)			−1.48*** (−3.86)
SSE values rating			1.40* (2.56)			1.56** "(2.68)
Random effects						
Subject intercept	69.05***	69.30***	70.63***	55.06***	55.30***	57.39***

Note. TSR = traditional/secular-rational; SSE = survival/self-expression.
*p < .05. **p < .01. ***p < .001.

that have reported positive relationships between trust and honesty (Neville, 2012; Uslaner & Badescu, 2004).

Are Dishonesty Predictions Biased for Home Country Samples?

Prediction study. Finally, splitting the prediction study data based on predictors' home countries revealed an interesting bias. For every country sampled in our cross-cultural study, dishonesty predictions were *highest* among survey predictors from that same country. Entering the data into a 5(predictor country) × 5(country) × 2(cohort) mixed between–within participants ANOVA revealed that survey predictors from different countries varied in their estimations of cheating for different countries, $F(16, 2,272) = 19.349$, $p < .001$, but not in their estimations of students and public, $F(4, 568) = 1.758$, $p = .14$. Post hoc contrasts indicated that in every country, predictions of die task dishonesty were significantly inflated among home country predictors (p values < .01).

Discussion

A growing body of experimental evidence in economics and psychology has shown that dishonesty is common yet limited in magnitude. However, the extent to which basic tendencies toward dishonesty are influenced by individuals' social and cultural contexts has remained a mystery. To test whether macro-level indicators such as corruption and cultural values significantly affect generalized dishonesty, we administered a novel, de-contextualized dishonesty task to 10 participant samples in five countries. In contrast to predictions from separate groups of participants, our results revealed that the extent of dishonesty on the task was similar for individuals across the five countries. This finding suggests that the theory of self-concept maintenance proposed by Mazar et al. (2008) extends to individuals with different cultural backgrounds.

Our results suggest that country-level cultural variables have limited influence on generalized dishonesty. When we compared the proportion of high roll reports on the die task with country scores on corruption, TSR values, and SSE values, no clear relationships were observed for either student samples or public samples. Our findings are in line with recent cross-cultural research, such as work by Pascual-Ezama and colleagues (2015) who found no significant differences in dishonesty across 16 countries. In addition, Vauclair and Fischer (2011) found little variation in attitudes toward dishonest or illegal behavior across countries. Although others have shown that cultural variation matters for cooperation and punishment (Gächter et al., 2010; Henrich, Ensminger, et al., 2010; Henrich et al., 2006; Herrmann, Thöni, & Gächter, 2008), our data suggest that cross-national differences in dishonesty run only skin deep.

We do not suggest that culture and corruption have no impact on dishonesty. Rather, we suggest that culture influences dishonesty primarily by establishing norms for the acceptability of dishonest behavior in specific situations (e.g., bribing a police officer, music piracy, plagiarism). Survey data from our cross-cultural study support this explanation. Following the die task, half of the participants from each country indicated the likelihood that they would engage in dishonest behaviors across a range of specific situations. Extensive analysis of these data is reported in a related article (Garcia-Rada et al., 2016). However, for the present discussion, we note that differences between countries were significant (p values < .05) for 49 of 56 situations, while differences within countries were significant for 34 of 49 situations. These results suggest that culture might have more influence on context-specific dishonest behaviors. Furthermore, in a study examining the factors influencing Brazilian participants' intentions to engage in dishonest behavior, Fischer, Ferreira, Milfont, and Pilati (2014) found that dishonest intentions depended on both specific situational primes (general corruption or Malandro, a cultural symbol of someone outside the social order engaging in dishonesty) and degree of identification with Brazilian culture.

This suggests that situational factors may be more important than general cultural explanations when it comes to understanding dishonesty, even in contexts with widespread corruption.

In addition, individuals who were asked to predict the results of our cross-cultural study not only over-estimated dishonesty, but made estimates that were related to country-level corruption and cultural values. Predictors appeared to over-generalize their knowledge about country-level variables to the behavior of ordinary citizens. More specifically, predictors estimated that dishonesty on the die task would be higher in countries with higher corruption ratings, more traditional values, and stronger self-expression values. Although our behavioral data suggest that dishonesty in novel contexts is relatively immune to cultural influences, further research is needed to better understand the relationships between country corruption, cultural values, and dishonesty in everyday situations. Previous research by O'Connor and Fischer (2011) found that across countries, country wealth, self-expression values, and government size were related to lower corruption, as measured by Transparency International's CPI. However, within countries, only increases in wealth led to decreases in corruption over time. In our analyses, there was no observed relationship between participants' earnings (relative to others in their societies) and their dishonesty on the die task.

The discrepancies between predicted and observed dishonesty are in line with those of Terracciano and colleagues (2005), who found that perceptions of national character, although robust across raters, did not converge with cross-national personality assessments. If institutions and governments hold similar stereotypes about the dishonesty of ordinary citizens, diminished trust in citizens is likely to encourage corruption and weaken institutions (Algan & Cahuc, 2013; Uslaner, 2008). Notably, we also observed a home country dishonesty prediction bias, where dishonesty predictions were inflated for individuals from one's own country. We expect that this bias reflects the salience with which dishonest actions occurring at home come to mind, illustrating an availability heuristic (Tversky & Kahneman, 1973). Previous research with Brazilian participants has found that individuals believe dishonest behaviors to be more characteristic of their fellow citizens than themselves (Ferreira, Fischer, Porto, Pilati, & Milfont, 2012).

Limitations

Our research should be qualified in light of a few limitations. First, our observations were limited to five countries selected to represent modern, large-scale societies, so it is unclear whether results would hold in smaller scale societies. Second, although we endeavored to keep the experimental procedure as similar as possible between our two sample types (students and general public), differences in recruitment, the test environment (laboratory vs. coffee shops), or participants' mind-sets could have affected dishonesty. However, the differences we found between student and public samples are in line with Abeler and colleagues' work, which shows that dishonesty levels are slightly higher in laboratory settings compared with phone interviews (Abeler, Becker, & Falk, 2014). Further research is therefore needed to determine whether within-country differences in generalized dishonesty are most likely to reflect sociocultural differences, demographic differences, or differences in the test environment. Despite this method limitation, our research points to a pattern of dishonesty that is unexpectedly similar across individuals from different countries with disparate cultural backgrounds.

Conclusion

The present research revealed little variation in generalized dishonesty across countries. We found that individuals from five countries varying in corruption and cultural values were similarly dishonest on a de-contextualized task that allowed for cheating. In all countries except Portugal, student participants cheated more than general public participants, suggesting

that differences in dishonesty within countries exceed differences across countries. Our findings contrasted with lay people's predictions that dishonesty on a novel task would be influenced by country-level factors such as corruption and cultural values. At their core, people appear to be more similar in their tendencies toward dishonesty than they realize.

At a policy level, these findings suggest that programs aimed at promoting general morality are unlikely to have lasting effectiveness. Instead, programs aimed at establishing honesty norms for specific behaviors, such as Bogota Colombia's successful employment of mimes to theatrically shame traffic violators (Dundjerovic & Bateman, 2006) or the United Kingdom's introduction of a fair tax mark to reduce tax evasion (Fair Tax Mark, 2014), may be most effective for curbing dishonest behaviors. Of course, these conclusions are speculative, and field research is best suited to evaluate the effectiveness of particular programs or policies for curbing dishonesty. On the whole, however, our research suggests that although culture may influence norms for dishonesty in specific situations, it has limited impact on generalized dishonesty.

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