Structure of personal values and corruption: An experimental analysis of decisions leading to accepting or rejecting bribery

Eric Roth[1] Guillermo Sahonero[2] Andrés Rodríguez[1]

Universidad Católica Boliviana - La Paz

[1] Experimental Research Unit - UCB
[2] Center for Research, Development and Innovation in Mechatronics Engineering - UCB

ABSTRACT

Corruption is a legal and moral contravention that generates great concern among nations due to its erosive effects on economic growth, democracy, governance, social equity and the integrity of culture. Therefore, it is necessary to know more about the multiple variables that produce and maintain this phenomenon. This article reports the results of an experimental investigation that sought to provide elements of judgment on the influence of the structure of personal values on the willingness to bribe. For this, 12 couples of young university students of both sexes interacted through a game that simulated a relationship between a corrupter and a corruptible agent, with the help of a real-time communication system, mediated by an online platform, which allowed instant and bidirectional interaction. The couples were randomly constituted and played with each other under double blind. However, the interacting members of the dyad could share values or vary in their axiological structure in such a way that, while one of them could manifest anti-corruption principles, the other's commitment was not so obvious. The results confirm the importance of the axiological structure of people in the facilitation or containment of the corrupt behavior. This article also reflects on the theoretical connotations of the relationships shown.
Keywords: Corruption, bribery, personal values, corrupt relationship

INTRODUCTION

Corruption in a general way is understood as the abuse of power for personal gain (Goodman, 1974). It can be classified according to Transparency International, in political corruption, great corruption and minor corruption. The first one is expressed in the "manipulation of policies, institutions and rules of procedure, in the allocation of resources and financing by policy makers, who abuse their position to maintain their power, status and wealth". The great corruption implies the commission of acts at high governmental levels that also distort state policies or functioning, allowing bureaucrats, and through other people, to benefit at the expense of public goods. Finally, minor corruption refers to the daily abuse of power entrusted to public officials of medium and low hierarchical levels, in their interactions with

[1]eroth@ucb.edu.bo

ordinary citizens, who often try to access basic goods or services in different state departments (see https: / /www.transparency.org/what-is-corruption#define).

Throughout the world and Bolivia is no exception, corruption is a major concern due to its clear erosive effects on the economic growth of nations (Mauro, 1995, 1997, 1998) on the health of its democratic institutions (Blake & Morris , 2009), in governance (Bailey, 2006; Moreno, 2003), in social equity (Gupta, Davoodi, & Alonso, 2002) and in the integrity of culture (Hooker, 2009).

Although most of the studies on corruption and its effects have been documented from sociology, political, legal and economics sciences (see Judge, McNatt & Xu, 2011), there are also, to a lesser extent, mentions to the links between corruption and certain psychological variables. For example, Tavits (2008) demonstrated in a study carried on in 68 countries, the existence of higher levels of subjective well-being when their governments show less relative corruption. Connelly & Ones (2008) studied the relationship between national personality in terms of Hofstede's cultural dimensions, and the perception of corruption. Countries that scored low in the variable neuroticism and high in extraversion, also reported lower levels of corruption.

Balafoutas (2011), explored, through game theory, the role of beliefs and the effect of fault aversion in corruption situations in public administration; and Shawa, Vásquez, & LeClair (2013), demonstrated that high intelligence quotients were associated with the lower tendency to display bribery behavior. Other authors focused on the regulations and norms to try to explain the corrupt behavior; for example, Köbis, Iragorri-Carter & Starke (2018), conducted a comparative investigation with the support of developmental psychological theory, which strengthens the existing explanation about the normativity-corruption relationship. In the context of the theory of social influence, Dong, Dulleck, & Torgler, (2011), demonstrated that the willingness to engage in corrupt acts would be influenced by corrupt activities perceived in other people.

Values and corruption.

O'Connor and Fischer (2011), in a sociological orientation study, carried out a follow-up for 28 years, comparing the effect of social health and political values on corruption, in 59 countries. The results indicated that the expression of these values, as well as the size of the government, allow differentiating high from less corrupt countries.

In the same direction, Shafer, Fukukawa & Lee (2007), conducted a comparative study between two countries based on values of self-transcendence. The authors found significant differences in two of the three dimensions of the Perceived Role of Ethics and Social Responsibility (PRESOR) scale.

On the other hand, Seleim & Bontis (2009) led an investigation on the relationship between the cultural dimensions of social values and practices, and the Corruption Perception Index (ICP). The authors concluded that certain values that avoid uncertainty and promote typically human practices of a collectivist type, can affect corruption when educational and economic factors are controlled. Likewise, Abraham & Pane (2014), in Indonesia, also showed positive predictive correlations between collectivism and the absence of corruption.

Kravtsova, Oshchepkov & Welzel (2016), based on the World Values Survey conducted in several countries around the world, studied multiple levels in the relationships between post-materialistic values and tolerance to bribery. The results showed that people tend to justify corruption (bribery) to a greater extent when they also express greater post-materialist values.

Other authors turned to religious values to study their relationships with unethical behavior. As an example, consider the research of Ullah & Shah, (2013) and Marquette (2011), carried out in India and Nigeria. The first one, unlike other studies, evaluated the impact of corruption on the perception of religious values. It was found that knowledge of religion tended to be significantly associated with the perception of corruption. Thus, it emerged as an alternative value that deteriorated and replaced all positive social values. The second one explored attitudes towards corruption and how they can be shaped by religion; both of them concluded that religious values have very little impact on corrupt behavior. Other studies mainly interested in psychological variables, such as Damodar & Rooplekha (2010), showed that personal values considered as dominant and consistent, lead to a decrease in unethical practices and benefit alternative behavior. Pande & Jain (2014), in India, insisted on the need for a values-based bureaucracy to curb the growing corruption. This clamor arises from the verification of a clear relationship between certain personal values and the permissiveness of corruption at the individual level. Despite of this, it is clear that the theory of corruption still lacks of sufficient empirical evidence to establish a strong connection between these two variables.

Roth and Acosta (2016) carried out an investigation to analyze the variables that predispose bribery from a situational or contextual perspective. The results showed, in the first place, that the willingness to offer bribery is expressed with different forces in each context, influenced primarily by the greater or lesser need for results. Second, certain sociodemographic variables studied interacted with different contextual situations to determine a particular willingness to bribe. Thirdly, the contextual circumstances that favor bribery facilitate the momentary withdrawal of the participants, from the norms and principles that regulate their moral conduct through two mechanisms: moral justification and advantageous comparison.

Finally, it was evident that possessing values that orient the individual towards the search for power and pleasure, are predictors of corrupt behavior. Similarly, Napal (2006) showed that in certain contexts, bribery is accepted and justified according to the benefits it offers to the corruptible individual and to the moral relativism of society's values.

There are also at least two initiatives that studied more directly the link between morality and corrupt behavior: the investigations of Abraham and Pea (2018), which establish the prediction basis for the corrupt act, from moral emotions such as guilt and shame, mediated by ethical judgment; and that of Abraham, Suleeman and Takwin (2019), which analyzed the prediction of the moral disengagement of counterfeiting as a predictor in an ethical context.

Finally, due to the inherent and understandable difficulties faced by field studies or other on social perceptions (Olken, 2009), carried out under natural conditions with conventional means, it is also possible to find investigations that study corruption in laboratory settings. The advantages of laboratory studies are, according to Dusek, Ortmann & Lizal (2005), the following: a) they allow the control of the participants behavior in such a way that it is not possible to do it in a field study; b) allows to systematically manipulate the context, in order to analyze changes in behavior, verifying causal relationships; and c) are less expensive than field studies. Dusek et al (2005), identified the most conspicuous investigations carried out before 2005. Among them, the so-called profit-sharing games stand out, in which corruption is resolved between a proponent and an operator, who behave in based on trust and reciprocity. The research of Abbink (2002), Abbink, Irlenbusch & Renner (2000), Abbink, Hennig-Schmidt (2002), Abbink, Irlenbusch & Renner (2002), are good examples of this approach.

In summary, the psychological investigation of corruption is relatively recent in the concert of social and behavioral sciences, and as it has been seen, it is studied from very different points of view. Sometimes, despite corruption being a multidimensional process, much of the research described seeks only to study simple relationships; nevertheless, others try to formulate complex multivariate models that allow their prediction. In any case, today there is an acceptable information of good quality that offers adequate guidance for future research.

The present investigation has been designed in response to the following question: how does the structure of personal values influence the willingness to get involved in a corrupt relationship, defined by a bribery situation?

In order to answer this question, the study seeks to obtain information on the following relationships: a) the structure of personal values and the willingness to offer a bribe; b) the structure of personal values and the willingness to accept a bribe; c) the structure of personal values and the magnitude of the amounts offered and received, and d) the structure of personal values and the type of future relationship established between the corrupter and the corruption agent.

Consequently, the following assumptions were proposed as hypothesis:

Hypothesis 1. When the personal axiological structure indicates the pre-existence of anti-corruption values of those who play the role of corrupter (P1), then the willingness to propose a corrupt arrangement will be less than when a pro-corruption value structure is possessed.

Hypothesis 2. When the personal axiological structure indicates the pre-existence of anti-corruption values of those who play in the role of corruptive agent (P2), then the willingness to accept a corrupt arrangement will be less than when a pro-corruption value structure is possessed.

Hypothesis 3. When the axiological structure of a person who plays as a project corruptive agent (P2), indicates the pre-existence of anti-corruption values, then his willingness to accept the transfer of monetary resources to allow a corrupt settlement will be less than when he possesses pro-corruption values.

Hypothesis 4. When anti-corruption values dominate in people who play the role of corruptive agent (P2), then their willingness to choose and maintain a medium- and long-term corrupt relationship in favor of the corrupter will be less than when they express pro-corruption values.

METHOD

Participants.

The selection process of the participants had two phases. In the first phase, a convenient group of 116 voluntary university students were invited to respond to a short version of *Portrait Value Questionnaire (PVQ) de Schwartz (1992)*, in order to identify the characteristics of their axiological structure. In a second phase, once the group values were identified, 24 young people were randomly selected; 12 of them with anti-corruption values and 12 with pro-corruption values. Subsequently, with the chosen group, also at random, dyads or couples were organized as follows: a) both participants with anti-corruption values; b) both participants with pro-corruption values; c) one participant (in the role of corrupter) with anti-corruption values, and the other (in the role of corrupt agent) with pro-corruption values;

and d) one participant (in the role of corruptor) with pro-corruption values and the other (in the role of corrupt agent) with anti-corruption values.

The election in dyads should allow each couple to play for 20 rounds, a simulation that involved a corrupt arrangement (bribery). However, no member of the dyad could identify the couple with whom he should interact. Also, it should be noted that two of the 12 couples, following the rules of the game, were eliminated because they were discovered trying to make corruption.

The group of people who participated in the laboratory experiment, as already mentioned, were university students of both sexes (6 men, 30% and 14 women, 70%) and aged between 18 and 24 years, with an average age of 20,350 and a standard deviation of 1,843. All participants were of medium socioeconomic extraction, urban residents of La Paz, Bolivia.

Study variables

The direction of the decisions taken by both, the corrupter and the corrupt operator in the different phases of the interaction, were the dependent variables of the present study. These were measured during 20 consecutive rounds of the same game (see Table 1).

Table 1 Dependent variables measured in the present investigation.

Variable	Description
1	Proposal of the player representing the role of corruptor (P1)
2	Acceptance of the player J2 (corrupt operator) from the proposal of P1 (Corruptor)
3	Amounts transferred by the player P1 (corruptor) to P2 (corrupt operator)
4	Acceptance of transfers from the player P2 (corrupt operator)
5	Type of relationship between the parties, chosen by the player P2 (corrupt operator)

On the other hand, the value structure of each player, expressed in anti-corruption and pro-corruption values, was treated as the causal or independent variable. In this way, the design included manipulations of the variable 'personal values' in the constitution of the dyads, so that, the type of decisions were recorded when the corrupter and the operator shared a similar structure of values, or when both differed in their axiological organization.

Measurement system

Instruments. A bounded version of the Portrait Value Questionnaire (PVQ) by Schwartz (1992) was applied, consisting of 13 items extracted from the Universalism, Conformity, Power, Achievement, Self-Direction, and Stimulation sub-scales. These sub-scales were

chosen because their items measured values that approximated to what we could qualify as moral values oriented towards pro-corruption and anti-corruption. Table 2 summarizes the sub-scales and the chosen items.

Table 2 Description of the items, subscales and type of values considered in the Personal Values Measurement System

Type of Values	Sub-escales	Description	Items
Anti-corruption values	Universalism	Look for tolerance and social justice	3, 8 y 19
	Conformity	Complies with social and respect standards, avoiding affecting the status of others	7 y 16
Pro-corruption values	Power	Seek social power, authority and wealth	2 y 17
	Logro	Search for personal success at all costs	4 y 13
	Self-Direction	Seek independence, freedom of action and new experiences	1 y 11
	Estimulation	Look for novelty and new challenges	6 y 15

Examples of items chosen to measure anti-corruption values were: “He believes that people should do what they are told to do. He thinks that people should always follow the rules, even when no one is observing them, “or “It is important for him to always behave appropriately, avoid doing anything that people might consider wrong”.

Some items aimed at measuring pro-corruption were, for example: “It is important for him to be rich. He wants to have a lot of money and expensive things, “or “He likes to take risks. He is always looking for stimulating experiences”.

This bounded scale Likert type, built with 6 response options, extracted from the PVQ, showed a reliability of .725 obtained by means of Cronbach's Alpha. Its construct validity, through the Exploratory Factor Analysis (AFE), with the Varimax component extraction and rotation method, yielded a bi-factorial structure (anti-corruption and pro-corruption), explaining 43.85 percent of the variance with saturation rates above .532.

Software. The interaction between the participating couples was carried out through a real-time chat system developed specifically for the experiment. The platform was built using the Socket.io and NodeJS framework to allow instant two-way communication via the web under the HTTPS protocol.

The server implements procedures that allow asynchronous transmission of messages corresponding to established partners. On the other hand, the data corresponding to the messages emitted by the actors of the experiment were stored in a database using MariaDB and considering an information scheme according to Table 3.

Table 3. Characteristics of the connections that allowed for the real-time bidirectional communication platform.

Attribute	Description
MSG	The message that comes from the chat
ID	The identification of each subject of the couple
ROOM	The virtual room where the subjects of each couple are chatting
STATE	Conversation status that comes from the finite state machine, defined for the conversation flow
COUNTER	Auxiliary variable to identify the options that the subject chooses
ROUND	Round number
SEX	Sex of the subject in the couple
AGE	Age of the subject in the couple
TIMESTAMP	Timestamp to know when the answer was given

The logic of the conversation between the players was modeled as a finite state machine based on the variables "state" and "counter" (see Figure 1). Each state corresponds to the presentation of a message and options to be chosen by the subject differentiated by their role (Player 1 or Player 2). The correspondence between states, messages and options is presented continuously in the next section. The coding of the logic was developed in a generic way in front-end and differentiated in back-end, so that the players could not know the predefined texts or logical structure of the experiment by inspection of the source code of the website of the experiment.

In parallel, considering that the internet connection could become unstable at certain times, a simple reconnection methodology was incorporated, so that, if the disconnection was detected, the reconnection involved sending the status of the couple's conversation to return it

to the virtual room. This arrangement allowed keeping the communication fluid and consistent.

Finally, following the scheme of data used, it was possible to identify the decisions taken during the conversation between the players. However, since the data was stored in a database, it was necessary to export the information to a CSV file for later statistical analysis.

Procedure

The procedure followed in the present investigation was inspired by the work of Abbink et al (2000) with some variants. The protocol was as follows: Once the dyads were randomly determined, each of the participants received a code that included, encrypted, his/her relevant information (age, sex, and acronyms that identified its value structure and the role it should play in the dyad). Then the 24 participants were invited to move into a laboratory where 24 computers were arranged, and to occupy a place in front of one of them. Each computer screen was waiting for the entry of each participant's personal code.

The experiment began when the experimenter projected, with the help of a data display, the instructions that should be read by all the participants (see annex). Subsequently, the instruction was given to enter in the computer, the personal code to get all the participants their respective chat rooms, some as players 1 (P1) and others as players 2 (P2).

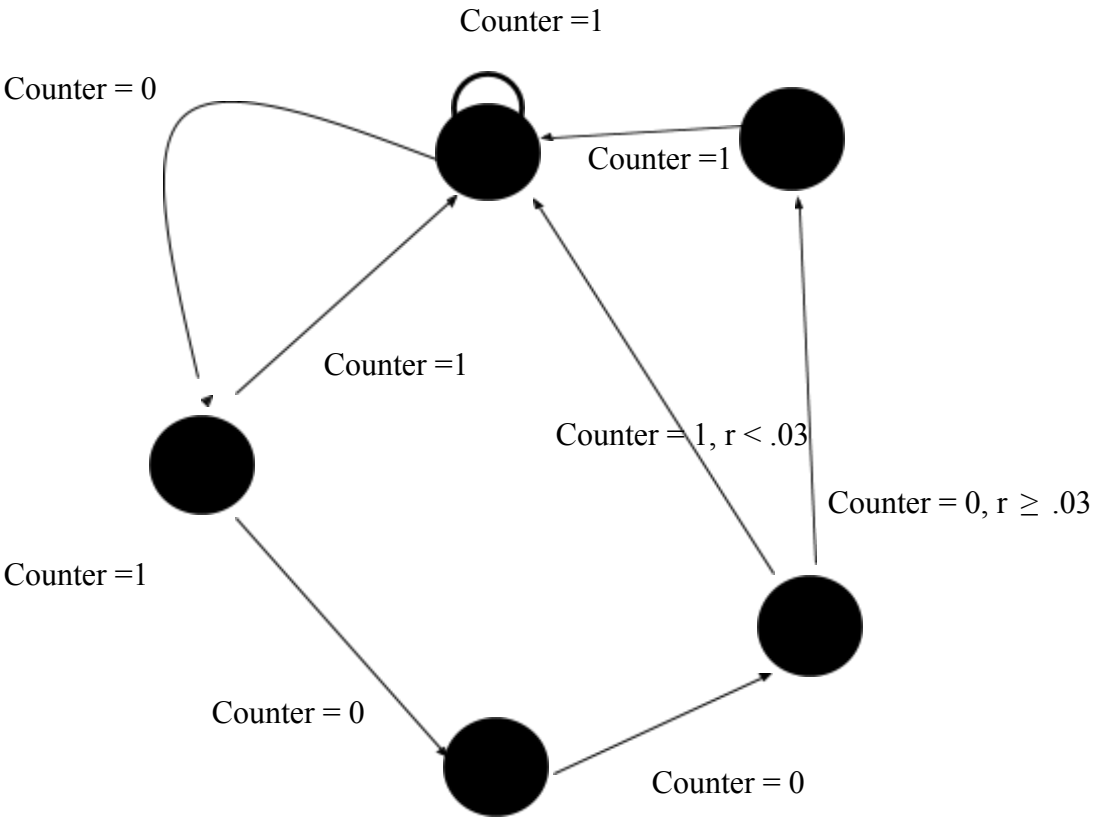

Figure 1 Finite state machine corresponding to the predefined conversation logic.

The outstanding aspects disclosed in the instructions were those that had to do with the roles of each player: the problem that should be expressed by player 1, the dynamics of the game that was organized by 20 rounds, the type of decisions that should be taken in each round and when a round and the game was over. Likewise, participants were informed that at the start of the game there would be a calculated probability of 3 percent that they were discovered attempting the transaction and that this would mean their elimination from the game as a penalty.

The entire game was based on a hypothetical situation that raises the conditions for a particular relationship between both players. This situation was expressed to all the participants in their respective screens as follows:

P1 (corruptor) is a manager of a company that manufactures agricultural chemicals.

For months he has tried to obtain consent from the Ministry of Environment to produce and sell a new fertilizer. However, because of its alleged toxicity and because the company does not offer environmental mitigation actions during the fertilizer production and marketing process, the ministry has refused to grant the operation.

P2 (corruption agent) is a project officer of the Ministry of Environment, responsible for assessing the conditions of the company to grant or reject the approval request.

Currently, the firm's manager (P1) is looking for a contact with P2 to achieve, with his help, an agreement to obtain somehow the permission to produce the fertilizer, without necessarily complying with the formal requirements. Throughout the game, both players maintain their roles.

The first round of the game starts when P1 (the manager) decides whether or not to make a proposal to P2 (Project Officer). Then decide, through the chat, to send (or not send) the following automated message (first step of the relationship):

> *"As you know, our company has tried many times, without success, to obtain the operating license to produce our product. The obstacles are only bureaucratic because our product meets the minimum safety standards. Because we could not obtain favorable response from the Vice Ministry, we are able to offer you a private agreement to help us obtain such authorization. In recognition of your favor, we are able to offer you a payment for your services. Would you be willing to accept our agreement? "*

As a first step, the corrupting manager (P1) should express his agreement or disagreement with sending this proposal to the project officer (P2). If the manager agrees to make the proposal, P2 (project officer) receives it in his chat and the round continues. If P1 does not wish to make the proposal, P2 receives in his chat the following notification: “P1 has decided not to send any proposal”, which means that round 1 is terminated and round 2 begins with the same initial proposal of P1. This procedure is performed throughout all 20 rounds.

In the event that round 1 continues with the manager's proposal, P2 receives the message and must make the decision to accept or not such a proposal, by choosing one of the options on its

screen: a) Yes, I accept, or b) I do not accept. If P2 accepts the manager's proposal, the round continues. If P2 does not accept the proposal, the round is terminated and a new one is initiated with the same procedure.

The acceptance of the proposal by the project officer (P2) is known by the manager, who must then make a second decision: to offer or not to offer an amount of money to reward the good disposition of P2. If P1 decides to bid, he must choose an amount between 1 (as the lowest amount) and 9 (as the highest amount), which is communicated to the project officer. If the manager finally backs down and decides not to offer, the round ends and a new one should start. When sending an offer, the round continues and the amount is considered by the project officer. At this time, P2 must make a second option and decide whether or not to accept the amount offered by the manager. Similar to the previous decisions, if P2 does not accept the amount, the round ends and a new one begins. If the project officer accepts the amount, the system forces a new decision for the project officer, who has to choose between maintaining a more stable relationship with the company on better terms for it (option Y), or conditioning his / her relationship with the company improving his / her personal benefits (option X).

This procedure was used by Abbink et al (2002), to study reciprocity in the corrupt relationship. Whatever the election, the round ends and the next one begins. This same procedure was valid for each and every one of the remaining 19 rounds.

The transaction established between the two players - as noted in the instructions - could be subject to penalty if discovered. In order to establish the probability of sanction, the system was programmed in such a way that, at the time the project officer accepts the proposal, a random number program was automatically run. If a number less than 30 out of 999 (3% probability) was obtained, the sanction would occur. In this case, both players were penalized with their elimination from the game.

Analysis decisions

Due to the nature and characteristics of the present study, the available information came mostly from the collection of dichotomous data and related samples, measured with a nominal scale. Therefore, a good part of the analysis was carried out with the help of the McNemar test. This test allowed establishing differences between the effects of two variables or two values of the same variable, each participant being taken as their own control when measured repeatedly many times (Siegel, 1980). Occasionally, rank correlation measures (Kendall τ and Spearman *rs*) were also applied to analyze independent ordinal data sets.

RESULTS

The results obtained will be presented following the same logic of the game. That is, the results obtained during the first decision taken by the managers (P1) of each dyad, will be presented under the influence of their personal value structure. Secondly, the reaction of the project officers (P2) to the proposal of P1 will be examined taking into account the values exhibited by them.

Subsequently, the emerging results of the economic proposal made by managers and its effects on the mood of the project officers will be described, always considering the differences in the value structure exhibited by the respective participants. We will also explore the possible effects that the magnitude of the resources transferred by the manager may have on the acceptance or rejection by the project officer, and their reactions. Finally, the

disposition of P2 to establish or not a lasting and trustful relationship with the company will be analyzed, beyond the risk that this entails.

It is important to point out for greater clarity in the lecture of the products that, as a consequence of the interactive dynamics of the game, the decisions of one and another player of the dyad are conditioned to the previous choices made by both. For example, if, given the initial proposal made by the manager, P2 refuses the relationship; the corresponding round is finalized, thereby suspending any decision that could be made in case P2 agrees to continue playing. This situation logically leads to the introduction of a "not applicable" code, when subsequent decisions must be specified (the acceptance of P2; the magnitude of the transfer decided by P1; the acceptance by P2 of the amount transferred by P1; as well as the degree of future collaboration chosen by P2), since the earlier decision makes the following unfeasible. This caused a large amount of data obtained during the twenty rounds of the game to remain logically, out of the analysis.

The beginning of the corrupt relationship. The characteristic of the game defines as a starting point, a proposal made by the company manager, motivated by the urgency of solving a problem that interferes with its business objectives. This problem, as we have seen, is due to a limitation of the company that seeks to solve a private problem through an extrajudicial means, trying to buy favors from the public body that has refused to do so by legal means.

Table 4A presents the attempts made by P1 to agree with the project officer for the benefit of his company, throughout 20 rounds of play. However, whether or not he / she tries to propose an agreement may depend on P1's conviction of the moral relevance of the decision. Therefore, the data were distributed according to the personal value structure of P1. As can be seen, of the total decisions made by those with high moral values (anti-corruption values), 35 (29.16%) were proposed to initiate a corrupt relationship. However, among those who showed insufficient personal values (pro-corruption values), 72 (90%) decided to propose such a relationship. Logically, most of the decisions for refraining from making the proposal correspond to those who proved to have higher values (70.83%). The comparison of the frequencies with which P1 does / does not communicate to P2 the intention of initiating a corrupt relationship in 20 rounds and 4 subjects with low moral values and 6 with high ones, made a notable difference. This would mean that those who assume the role of managers and exhibit higher moral values tend to manifest less intention to initiate a corrupt relationship than those who show less anti-corruption values. This relationship was statistically significant ($\chi^2 = 15.72$; $p < .001$).

The project officer decides on the proposal of the Manager. The second step in the development of the game is to allow P2 (the project officer) to make the decision to accept or reject the proposal made by P1 (manager). If the proposal is accepted, the game continues and both participants of the dyad would be expected to make additional decisions later. However, if P2 rejects the proposal, the round ends and any decision is suspended until the next one. Table 4B presents the decisions obtained in the form of dichotomous frequencies, ordered by acceptance or rejection and according to whether P2 presents personal anti-corruption or pro-corruption values. In Table 3B we can specify the following salient aspects: Of the total decisions coming from individuals with high moral values, 66.66% rejected the proposal of the firm's representative. On the other hand, of all the decisions made by individuals with low personal values, 92.59% accepted the proposal. These already evident differences were contrasted by the McNemar test, confirming the expected results ($\chi^2 = 6.8571$; $p < .01$).

The project officer accepts the money transfer from the manager. Once the manager (J1) receives acceptance from the project officer (P2), the manager makes a transfer of funds to the

P2 account. This transfer in the game is represented with a value ranging between 1 and 9 and the definition of the transferred value is a unilateral decision of the manager. Consequently, once the amount transferred has been received, the project officer must judge the relevance of the amount committed and decide whether to accept or reject it. Next, in Table 4C, the data of acceptance and rejection of the transfer of resources are presented, according to the structure of the values of P2.

Table 4 Contrast of frequencies corresponding to the decisions taken by players P1 and P2, during dyadic interactions (A, B, C and D), according to their personal values structure, obtained throughout the 20 rounds of the game

McNemar Test		Frequences		Total	χ^2
		P1 proposes	P1 does not propose		
A.	High Values P1	35	85	120	15.72***
	Low Values P1	72	8	80	
	Totals	107	93	200	
		P2 Accept	P2 does not accept		
B.	High Values P2	17	34	51	6.857**
	Low Values P2	50	4	52	
	Totals	67	38	105	
		P2 Accept$	P2 does not accept$		
C.	High Values P2	8	5	13	4.00*
	Low Values P2	32	17	49	
	Totals	40	22	62	
		P2 choose X	P2 choose Y		
D.	High Values P2	3	6	9	16.96**
	Low Values P2	9	23	32	
	Totals	12	29	41	

*** $p < .001$
** $p < .01$
* $p < .05$

As can be seen, the results obtained allow us to reject, at a level of significance of 5 percent ($p < .05$), the null hypothesis of the lack of relationship between the value structure of P2 and the willingness to accept or not, the transfer made by P1. It should also be taken into account that, although there are no significant differences between accepting and not accepting transfers, when it comes to personal anti-corruption values, most decisions for the acceptance of the payment suggested by P1 (N = 32, 65.30 %) are clearly associated with a poor value structure. In addition, the correlation between the total amounts transferred by the manager and the decisions to accept them by the project officer, regardless of the structure of personal values, proved to be positive and highly significant ($\tau = .758$, $p < .01$), which means that the greater

the amount transferred by P1, the greater its acceptance, which demonstrates the motivational strength of money.

The project officer decides on the future conditions of the relationship with the company. At a time during the game, once the relationship between the two players is established, the project officer is forced to make a decision to maintain his relationship with the company, so that it obtains the greatest benefit in the medium term, or rethink mutual benefits, improving their own situation *vis-à-vis* the company, while reducing the risk of the relationship. In this way, if the project officer (P2) chose Y, he/she benefited the company; if he/she chose X, he/she positioned himself better in front of it, improving his own benefits. It was therefore interesting to inquire whether the choice of P2 was related to the characteristics of his/her value structure. Abbink et al. (2002) believe that bribery corruption can be explained through the reciprocity established between the project officer and the company. These authors calculated this reciprocity by relating the average of the transfers offered by the company and the average of the elections for option Y. In the present study, we verified this relationship by correlating the average of the transfers made by the company with the average of the decisions Y by P2, in 20 rounds. Table 5 presents the correlated values.

Table 5 Average transfers made by P1 and the "Y" options made by P2, in a total of 20 rounds.

P1	Promedio Transferido	P2	Average of Y selections
04-V-B	1.40	03-V-A	.05
06-V-B	.70	05-V-A	00
14-V-A	1.40	13-V-A	.20
22-V-B	4.85	21-V-B	.30
18-V-A	.00	17-V-A	00
16-V-A	1.15	15-V-A	.05
12-V-A	.40	11-V-B	.05
30-V-A	1.35	29-V-B	.20
26-V-B	4.40	25-V-B	.45
28-V-A	1.30	27-V-B	.15
	Mean: 1.695		Mean: .1450
	SD: 1.611		SD: .1461

The correlation obtained was high and positive (rs = .851, p <.01, bilateral), which confirms that reciprocity consolidates corrupt relationships when the project officer consistently receives high bribes and in compensation chooses to benefit the company in a permanent way. It has also been evident that the type of election made by P2 is related to his/her value structure. The Table 4D summarizes the data of such relationship obtained with an N of 41 decisions over 20 rounds played.

As you can see, those who express low personal values have a greater tendency to make decisions to maintain an enduring relationship with the company (78.04%). However, these decisions registered among those with higher personal values are significantly lower (21.96%). In this way, decisions that benefit the company, seeking an enduring relationship with it based on corruption, are strongly associated with a poor structure of moral personal values ($\chi 2 = 16.96$, p <.01).

Figure 2 visually summarizes the average transfers offered by the company throughout the 20 rounds of play.

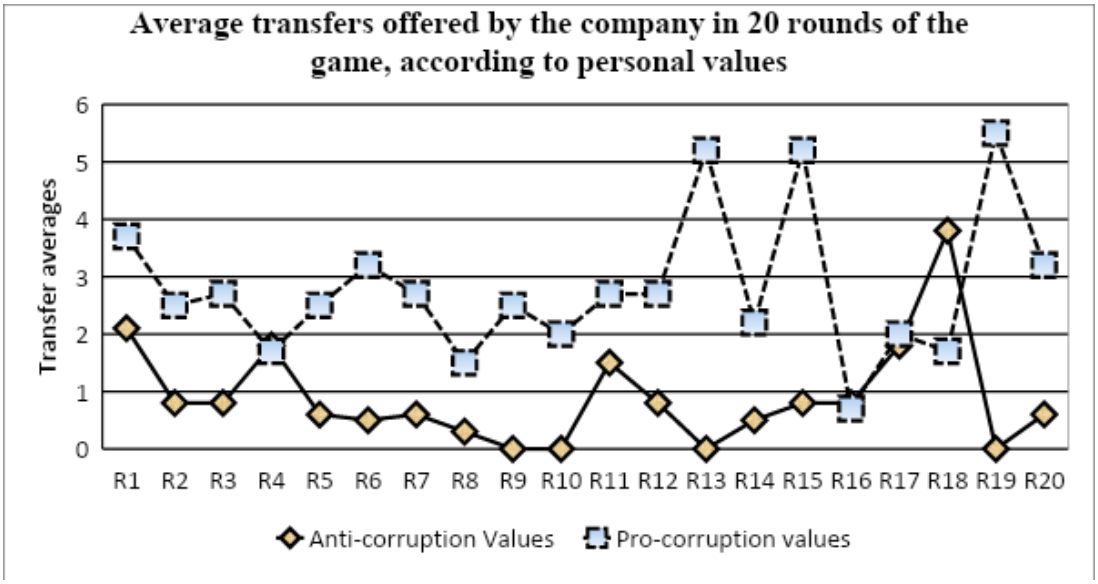

Figure 2 Average transfers of players representing the role of managers, with high and low personal values.

As can be seen, there is a clear difference in the average transfers (amounts transferred) by P1 when comparing participants with high and low quality personal values. Note that those who exhibited values oriented towards the common good, in general, tended to restrict the amounts transferred.

DISCUSSION

The psychological sense of corruption. Without any doubt, corruption is a multidimensional phenomenon to which legal, social, economic, political and cultural factors contribute. However, as human behavior, it is also a problem determined by precise psychological variables whose importance should not be overlooked. Despite the limited scientific literature that supports it, there are reasons to think that the axiological structure of a person, as

understood by Schwartz and Bilsky (1987), may be related to the acceptance or rejection of being involved in a corrupt event (Pande & Jain, 2014). It is possible that the fundamental moral principles that are acquired and consolidated throughout life, affect and direct in some way, human behavior, forming lifestyles compatible or incompatible with certain legal and social coexistence norms. Some people value these principles and become guiding elements of their lives by conditioning their perceptions, beliefs and behaviors. Social justice, respecting others and their property, honesty, compliance with the norm, are examples of some of these positive moral principles that induce decision making in favor of a prosocial life. On the contrary, the attachment to power, authoritarianism and wealth at all costs, to the over-estimation of personal success and consequently to the search for useless challenges, are also values that have negative moral connotations. In the present investigation, we postulate that the former can be considered anti-corruption values, while the latter are identified as pro-corruption values.

The emphasis of this study on the influence of personal values on corruption underlies the conviction that it - as Dion (2010) pointed out - is not only a social construction or just a cultural phenomenon, but constitutes also a fundamental part of the ethical reasoning, intimately linked to human action and its psychological determinants that distract individuals from their moral obligations.

The present study confirmed the relationship between the structure of personal values and the willingness to commit bribery in circumstances that simulate corrupt interactions. The results show consistent indicators that support the proposed hypotheses. The results of this research are compatible with those reported in the introduction of this work and other writings (Kreikebaum, 2008, Manz, Joshi & Anand, 2005, Manz, Anand, Joshi & Manz, 2008). All of them discuss the relevance of personal values in corruption and their relationship with moral standards, arriving at similar conclusions and suggesting deepening the study of the nature and characteristics of this relationship.

The logic of the corruption under the light of the present experience. A second reflection that arises from the results of the present investigation has to do with the very conceptualization of corrupt behavior. While Abbink et al. (2000), stated that reciprocity would be a component that contributes to the explanation of bribery, here we argue that to specify the definition of corrupt behavior, it is also necessary to make considerations about other elements that precede it and that, without constituting corrupt acts by themselves, increase the probability of its occurrence. For example, we do not say that when the corrupting manager makes an attempt to get the collaboration of the ministry's project officer, to help him solve a problem in his company, a corrupt act is being committed. A proposal is not enough to define it. Nor can we identify a corrupt act when the officer agrees, in principle, to collaborate with the firm. It is not even a corrupt act when the manager proposes a payment for the services of the project officer. In all these cases it is only possible to verify one or more intentions of one or both parties to establish an illegal or morally questionable relationship.

As we saw throughout the development of the game, both players in the dyad could take a step in the direction of the corrupt act, but subsequently they could also check their position by refusing to continue. Thus, the player in the role of manager could, at times, make a proposal, but after the acceptance of the official, he could retract the money transfer. Likewise, the project officer could accept the initial proposal of the manager, but after the announcement of the economic offer, he decided not to continue with the process. Therefore, the corrupt act was not committed while the relationship was not consummated; that is, while

the project officer does not voluntarily and objectively accepts the amount transferred by the manager.

Note that following this logic, we can define corrupt behavior as the moral decision that consolidates a *relationship* between people who violate the norm for their own benefit and for the relationship advantage. Note that following this logic, we can define corrupt behavior as the moral decision that consolidates a relationship between people who violate the norm for their own benefit and for relationship advantage. This assumes that manager and officer can incur bribery before reciprocity takes place. Reciprocity, in our opinion, contributes to the short, medium or long term support of the relationship established for illegal purposes and ensures the continuity of the agreement over time. Such a definition of corruption differs from others disclosed (see Cameron, Chaudhuri, Erkal & Gangadharan, 2005), in that the one offered here is mainly focused on the *relationship* that defines the behavior rather than the behavior itself. The emphasis on the relationship dissipates the individual responsibility of the people involved in the exchange and places it in the shared fact. From this notion, the corrupting - corrupted dichotomy loses meaning, which could have legal repercussions on the criminalization of corruption.

The scope of the investigation. The present research was inspired, as noted previously, in the studies of Abbink et al (2000) and Abbink, & Hennig-Schmidt (2002). However, our study differs from those in several ways. First, it has modified the original design to test the influence of the 'personal value' variable on the decision to establish a corrupt relationship. Second, the 'externality' variable was not considered although attention was paid to the type of future relationship established between the corrupting manager and the government official, without informing participants. Finally, the monetary incentive was eliminated because we considered that it could distort the sense of the relationship during the game. Due to the importance of third-party knowledge about the consequences of establishing a corrupt relationship and the role they play in the moral punishment of corruption, it is recommended that future studies place special emphasis on externalities and the punitive function of the corruption.

We also believe that future research should consider offering more realism to corrupt interaction. This could be achieved by taking perspective of the context of the protagonists of the corrupt act. This perspective can be elaborated according to virtual reality environments or through immersive scenarios of visual and auditory type of history.

It is also necessary to note that, due to the nature of the data produced in this investigation, most of them dichotomous and nominal, the robustness of the statistical results can be considered as a latent weakness, which should lead us to interpret cautiously our results.

Finally, Abraham et al (2018) has rightly pointed out that corruption is as unfair as it is urgent to be investigated from all possible angles. And it must be done because it weakens human potential, because it is contrary to ethics and virtue and because corrupt behavior reduces the moral capacity of the corrupter in all aspects of his life, eroding confidence in norms, dignity, pride and the competitiveness of nations.

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