Challenging the Construct Validity of Bribery in Experimental Economics*

Desafiando la Validez de Constructo de Soborno en la Economía Experimental

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ABSTRACT

The bribery construct employed by experimental studies of corruption faces three inter-related challenges. First, the notion of trust used in the bribery construct reduces it to a mere calculation of risk. Second, and as a consequence of the above, the appropriate context of interaction is undetermined. Finally, the experiments show an insufficient clarification of the normative framework. In short, researchers on corruption should be mindful of the challenges of the construct they employ in the lab, and they should tackle the aforementioned issues in order not to compromise the validity of their results.

Keywords: bribery; construct validity; lab experiments; trust; norms.

RESUMEN

El constructo de soborno que emplean los estudios experimentales sobre corrupción enfrenta tres desafíos interrelacionados. En primer lugar, la noción de confianza empleada en el constructo de soborno reduce la misma a un mero cálculo de riesgo. En segundo lugar, y como consecuencia de lo anterior, el contexto apropiado de interacción se encuentra indeterminado. Por último, los experimentos presentan una insuficiente explicitación del marco normativo. En resumen, los investigadores sobre corrupción deben ser conscientes de los desafíos del constructo que emplean en el laboratorio y deben abordar los problemas antes mencionados para no comprometer la validez de sus resultados.

Keywords: soborno; validez de constructo; experimentos de laboratorio; confianza; normas.

1. Introduction

Economics has gone through a deep transformation regarding its interests and methods. While mainstream economics is mainly premised on the idea of economic rationality, behavioral and experimental economics have an enlarged set of underlying explanatory principles, such as heuristics (Kahneman & Tversky 1979), social norms (Bicchieri 2006), and social preferences (Fehr & Schmidt 1999), among others.

As a consequence of this augmented view of economics practitioners have felt the need to embrace different methodologies, such as experiments. Experimental work on corruption is an example of this enlarged vision of economics. It seeks to increase our understanding of corrupt practices by bringing experimental tests to the lab in which the exchange of favors can be measured and different factors that are thought to influence behavior can be varied, while holding others constant. The objective is to pinpoint specific causal factors that may intervene in the development and persistence of corruption.

In order to be able to study complex social behaviors such as 'corruption' in the lab, researchers resort to operationalizations of the construct. For instance, in the pioneer work done by Abbink et ál. (2002) bribery is characterized as containing three essential features which are represented in their so-called bribery game (BGs henceforth):

> First, there is the reciprocity feature: both firm and official can exchange benefits with one another. However, since bribery is illegal, enforceable contracts on corrupt acts cannot be made. The exchange of favors must rely on trust and reciprocation between briber and bribee. Second, corruption imposes serious negative externalities to the public. Third, bribe-giving and -taking is liable to severe penalties in case of discovery. Thus, corruption is inherently risky (Abbink et ál. 2002 430).

According to this operationalization, the enforcement of corrupt contracts piggybacks on evolved mechanisms such as trust and reciprocity.

The focus of this article is on the operationalization of the corruption concept, and it seeks to show how it falls short of providing a suitable model that can do justice to the complex real-world phenomenon of corruption. This deficit of the concept of corruption puts this work in the context of the discussion about the construct validity of socio-theoretical terms. According to Heukelom (2011) construct validity refers to "an assessment of the overlap between the scientific operationalization of a higher-order term (intelligence, academic performance, unemployment, and so on) and the meaning of this higher-order term in everyday language" (Heukelom 15-16).

Construct validity has only recently become a relevant issue for the practice of experimental economists. Certainly, that was not the case for first-generation experimental economists. Heukelom refers that Vernon Smith and colleagues eschewed incorporating the conceptual machinery already developed by psychologists to address methodological issues in lab experiments because "psychologists' way of dealing with validity risked creating a division between an inside world of the laboratory

and an outside 'real' world of the economy and its actors" (Heukelom 2011 19-20). This avoidance may seem tenable if we consider that Smith's first experiments dealt with variants of supply and demand markets that in some way do not differ much in the lab to what happens in daily-life (Smith 1991 157-158). However, experimental methods in economics have become pervasive, and they have extended beyond the study of markets and auctions, which were experiments' first targets, to more complex social-psychological constructs such as trust, reciprocity, justice, and corruption. This has recently brought philosophers of science to pick up the gauntlet to provide an adequate treatment of validity in experimental social science. For instance, Caamaño-Alegre and Camaño-Alegre (2019) argued for the specificity of the ontological structure of the social domain vis-a-vis the natural one, and stressed that construct validity issues are more pressing in the former domain since contrary to natural sciences, social ones normally lack a clear hierarchical nomological network (for an argument along the same lines see Borsboom et ál. 2009). Following them, we depart from recent scholarly attempts that stress that validity is an empirical challenge (see Guala 2005).

Instead, this article stresses the conceptual nature of validity, and focuses on construct validity issues in experimental research on corruption. A natural desideratum of any scientific enterprise is to maintain a close match between operations and constructs. As we all know this is not always possible, and mismatches between them are common. However, discrepancies between the two should not pertain to properties that are thought to be causally responsible for differences in the variable of interest. Otherwise, if the construct of interest is poorly represented, we would run the risk of buying a pig in a poke.

We will argue that researchers have hitherto not thoroughly considered a series of challenges that threaten the construct validity of corruption. First, the concept of corruption appears in the experimental literature as complexly integrated by other constructs, among them, trust. However, the notion of trust that appears as an essential component of the bribery construct is highly underdetermined. There are different conceptions of trust, and researchers seem to eschew the burden of making explicit which one underlies the bribery concept.

Experimentalists use exchange games in which one player offers an amount of money to the other player (bribe initiation in corruption games) with the hopes that this second player will reciprocate. The problem with this method is that the way in which the concept of 'bribe offering' is constructed amounts to reducing the 'trust' component of the bribery construct on a willingness to bet on the performance of the other person. Moreover, it reduces trust to a specific form of trust, namely calculative trust (Williamson 1993) in which people come to believe that they can rely on another party, based on the rational calculation of the payoffs and costs of doing business with that party. As a result, trust turns out to be indistinguishable from risk assessment. Moreover, it simplifies trust to what Nickel calls the Staking Account of trust, according to which 'it is rational to trust another person when the risk of that person's nonperformance is worth taking (where the risk is the likelihood times the cost), given the possible benefits of performance' (Nickel 2009 350). On this calculative notion, in which people come to have confidence that they can rely on another party, based on the rational calculation of benefits and costs, trust turns out to be indistinguishable from risk assessment. Alexandrova and Heibron have recently argued for the addition of another dimension that must be taken into account in validation, which the authors call normative validity, and which they understand as follows: a M measure is normatively valid if it respects what is important about construct C (Alexandrova & Heibron 2016 9). So, a measure of trust is relevant for bribery if it respects to the extent to which trust matters to bribery relations. Is the notion represented by the Staking Account of trust what really matters to bribery?

Another compromising aspect of the bribery construct is its context dependence. The laboratory allows abstraction from contextual characteristics that are normally taken to be relevant in corrupt exchanges. As has been frequently emphasized, corruption is a highly contextual behavior. The same act may be deemed as corrupt in a society that values generalized trust and universal meritocratic rules, but it may be considered appropriate and even mandatory in communities that value reciprocity and personal ties. We will argue that the conditions of anonymity and artificiality that are implemented in the lab threatens the experimenter's intended situational context. Of course, anonymity and neutrally described instructions are designed to

control for the hurly-burly of daily interactions. But this could not mean that people do not have a previous experience and idiosyncrasies that they bring to the lab. This is especially worrisome not only due to the threat to the experiment's external validity, but mainly because it obstructs the association of bribery with a relevant notion of trust. As a solution to these challenges we offer some clues concerning the infusion of normative information in bribery games. Finally, a third drawback of the experimental construct of corruption concerns what may be called the normative irrelevance of the operationalization of corruption in the lab, since the methods used so far to signal normative transgression are, at best, ambiguous.

Our contention is that the sum of these conceptually relevant disanalogies between the operationalization and the target application undermines experiments' psychological realism, and thus prevents their results from being extrapolated without reservation to daily-life situations.

The plan of the article is as follows: the next section provides a brief overview of validity; the third section discusses the operationalized concept of bribery used by experimenters; the fourth section briefly reviews canonical bribery lab experiments, followed by a fifth section in which the concept of the 'bribery construct' is explored. Subsections 5.1 to 5.4 describe the aforementioned drawbacks of the bribery construct that need to be taken into account in order to increase the validity of the experiments. The final section concludes and mentions avenues for further research.

2. VALIDITY IN SOCIAL SCIENCES

The concept of validity has a long standing in the psychological literature of test validity. Kelley (1927 14) understood that 'the problem of validity is that of whether a test really measures what it purports to measure'. Validity is therefore concerned with the reliability of causal inferences from attributes to measurement outcomes. It was first introduced by psychologists in relation to psychological tests, and then transferred as a methodological concept to psychological experiments.

Notwithstanding its long lineage in psychological research, it was only recently that validity became the subject of debate in experimentation in the social sciences (see Guala 2005). Campbell (1957) was one of the first to propose a distinction between internal and external validity.[1] Later in their handbook *Quasi-Experimentation, Design & Analysis Issues for Field Settings* (1979) Campbell and Cook considered construct validity to be the main factor of external validity.

The classic reference to construct validity was provided by Cronbach and Meehl (1955). There the authors stated that "Construct validity must be investigated whenever no criterion or universe of content is accepted as entirely adequate to define the quality to be measured" (176). Cronbach and Meehl's notion was philosophically informed by logical positivists' 'received view of science' (Suppe 1974). As is well-known logical positivists were suspicious about theoretical terms and therefore they eschewed talking about the reference of constructs. For them, the meaning of a construct was determined by its connections to other theoretical terms in a network of lawful relations, but not by its reference to reality. The classic example coming from physics is Newton's second law according to which F=ma (force equals mass times acceleration). Empirical support for a construct is given by a hierarchical structure of laws, theoretical terms and observation sentences, not only from within a single theory, but also from auxiliary or independent theories that form the empirical basis of the theory.

However, this empiricist view of scientific practice turned out to be unsuccessful since the kinds of nomological networks empiricists had in mind are almost non-existent. Especially for social sciences, in which functional laws such as Newton's second law of motion are seldom (or never) identified (see how this discussion bear on psychology in Borsboom 2006).

Many notions of validity have been proposed, which has resulted in various taxonomies that partially overlap. There are many other terms that appear in the

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[1]   Following Julian Reiss (2019) we can think of the external validity as the problem of 'making a reliable inference about target systems of interest when, for whatever reason, the target system isn't studied directly but indirectly by examining a model system or sets of model systems' (3105).

literature and could be considered sub-types of construct validity such as content validity, criterion validity, concurrent and predictive validity, among others (Barron et ál. 2008). We follow here the one proposed by Shadish, Cook and Campbell (2002), who extended the use of construct validity to experiments, which they characterized as comprising units or persons, treatments, settings and observations. They grouped validity into four major areas: construct, external, internal, and statistical conclusion validity. Construct validity is concerned with how accurately the constructs or variables under scrutiny are represented by the study. More precisely, a study would be strong in construct validity if its operationalizations represent with accuracy the higher-order construct to which they refer. Therefore, construct validity is a generalization from research operations to constructs (Shadish, Cook & Campbell 2002 20), while external validity could be understood as a generalization of the causal relationship from the particular instances of the experiment to persons, settings, treatment, and measurement variables (Shadish, Cook & Campbell 2002 20).

There are many recognized threats to construct validity (for an overview see Shadish, Cook & Campbell 2002 78). The most important threats to construct validity are 'construct underrepresentation' and 'construct-irrelevant variance' (see Messick 1994). The former implies that the construct is too narrowly theorized and does not include features that are deemed relevant for its meaning, while according to the latter the variable of interest is too wide, and it includes too much variance due to confounding with other constructs.

3. Defining Bribery Operationally

Experimental studies on corruption attempt at understanding the factors, either behavioral or institutional, that influence the development and persistence of corruption. Moreover, an important thread of research in this area tends to identify institutional remedies and test them in the lab (see for a review Abbink & Serra 2012). Since, due to its illicit nature, corruption is hard to study observationally; experimental methods provide a particularly valuable tool in this area of research.

The experimental literature generally expresses a debt to institutional economics of corruption (Lambsdorff 2007; Della Porta & Vannuci 1999), with its emphasis on transaction costs and externalities in the analysis of corruption. Since corruption is an illegal activity, and therefore not legally enforceable, parties to a corrupt transaction have to rely on extra-legal enforcement mechanisms such as trust and reciprocity to secure their 'corrupt deals' (see for instance Abbink, Irlenbusch & Renner 2002; Lambsdorff 2002, 2007; Rothstein & Uslaner 2005; Barr & Serra 2009). Besides, the experimental literature is mainly premised on what has been called the 'received view of corruption', which puts emphasis on an office-based notion of corruption (see Warren 2006). Therefore, it typically features an interaction between Public Officials (POs henceforth) and other members of society (such as Firms or citizens) in which an exchange of favors takes place. The first mover can choose to 'trust' and to offer a transfer (a 'bribe') to an associated participant, who can either accept it and reciprocate, or reject it and not favor the former player. A key element of the game is that the exchange of favors, when successful, generates a net monetary cost upon a third party (other members of society). This feature attempts to mimic negative externalities associated to corruption (Abbink, Irlenbusch & Renner 2002; Barr & Serra 2009; Alatas et ál. 2009; for a review see Bobkova & Egbert 2012). The exchange of favors sustains reciprocity relations in the lab. This implies a trade-off between reciprocity and fairness: collaboration in the lab entails the violation of a norm of fairness and comes at the expense of a third party.

4. A Brief Overview at Corruption Games

There are a number of studies centered on the issue of trust and reciprocity and that rely on gift-exchange games (Abbink et ál. 2000, 2002; Barr & Serra 2009, Lambsdorff & Frank 2010; Jacquemet 2012). Precisely, the study of Abbink, Irlenbusch and Renner (2002) provides an example of this approach. In their bribery game there are two players: "a firm" and "a public official." The Firm applies for a permission to "build a factory". Together with an administrative cost, the firm could

send a "private payment" (i.e., a bribe) to the public official, which in turn could accept the bribe or refuse it. In case the PO accepts, the bribe is deducted from the firm's account, tripled and added to the official's account. Finally, regardless of whether the bribe was offered or not, the PO decides whether to grant the firm the permission or not. Favoring the firm was indicative of reciprocity from the PO both because it involved a higher payoff for the firm, while accepting the bribe and not granting the corrupt service was the maximizing option for the public official. The main result was that trust and reciprocity developed in all treatments, meaning that bribery was significant, and that higher bribes were associated with an increased probability of POs favoring the Firm.

Similar patterns regarding the effect of trust and reciprocity were also found in other studies that relied on the same setup (Abbink 2004 ; Abbink & Henning-Schmidt 2006) and others with not so analogous setups (Armantier & Boly 2011; Frank & Schulze 2000, 2003; Schulze and Frank 2003). In contrast to the null effect of externalities reported by Abbink et ál. (2002) other researchers with slightly different protocols did find that damage to third parties decreases bribery (Barr & Serra 2009; Senci et ál. 2019).

In turn, and not surprisingly, since it elevates the risks, it has been found that the severity of the potential punishment lowers bribery (Abbink et ál. 2002; Barr & Serra 2009; Schulze & Frank 2003).

Early on it was recognized that bribery experiments included social components that are difficult to implement in the laboratory, and that could hinder the possibility that their results were generalizable to naturally occurring situations. Another strand of research tackled this issue using evocative framings to increase ecological validity. These framings include the use of words explicitly associated with the intended context, such as "bribe". There are advantages to the use of framed instructions, since they avoid that participants frame the experiment in their own way. However, framings do not always unambiguously fix the intended context nor they change participants' responses in comparison to a neutral treatment (see Abbink & Hennig-Schmidt 2006; Banerjee 2016).

5. Challenges to the Construct Validity Of Bribery

In what follows we develop the argument that corruption experiments face a construct validity problem since they lack the appropriate measures they purport to have, with reference to three interrelated issues that jeopardize the external validity of lab experiments in corruption. Evidently relevant differences between model and target will always be obtained, which is why we try to learn about the target of interest indirectly by making an experiment on the model in the first place. So, the minimum requirement for a model to be informative is that the causal inferences that are held in the target are not different from those that are held in the model, at least in the relevant aspects under consideration. Our main contention is that typical experimental models of corruption fall short of providing reliable causal inferences from the model to the "bribery construct" which theoretically undergirds it.[2] In other words, by showing that the operationalized concept is not a good translation of the theoretical concept or daily-life understanding of corruption, we show that it cannot guarantee its generalization from operations to constructs.

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[2] Note that external validity issues in experimental studies of corruption research have been addressed in a very different way. For instance, following Guala (2005), Armantier and Boly (2011) claim that external validity is an empirical issue, and therefore in principle it could be assessed empirically. The strategy they employ consisted in trying to show that data produced by lab experiments are similar to data one can find in similar field studies. So, for them it is sufficient to show that there exists some kind of parallelism between the lab and the field. We will not go into details regarding this proposal, which we find productive, but once issues of construct validity have been thoroughly tackled. Here we emphasize that external validity is also a very deep conceptual issue, let alone an empirical one, and that it cannot be tackled solely empirically. Precisely, construct validity represents a main threat to external validity, since an inadequate operationalization can jeopardize a meaningful generalization from the lab to a naturally-occurring situation.

5.1. Trust is Confounded

Here we deploy the argument that typical BGs run the risk of confounding trust with risk assessment.[3] BGs implicitly rely on measures of trust of so called 'trust games", which are simple exchange games in which the player who trusts does it in the hopes that the other party will follow suit, that is, will reciprocate (Berg, Dickhaut & McCabe 1995). This restricted account of trust implies that these experiments would only be suitable for the study of certain types of bribery, those based on a bet on the likelihood that the other party will behave as expected. Robert Klitgaard once said that corruption is not a crime of passion, but of calculation (Klitgaard 1996). That may be true of certain types of corruption, perhaps "white collar" crimes. But as have been shown by Coleman (1987) even white-collar criminals rely on a safety network of accomplices in which trust plays a crucial role. Once the corrupt exchange is stripped of its entire social context through anonymization of the decision-making procedure (typical in lab experiments) bribe offering seems only compatible only with a calculative account of trust.

Experimenters' bribery construct seems to boil down to plain risk assessment, and therefore it would be subject to the same well-known biases that distort risk assessment such as loss aversion (Kahneman & Tversky 1979), mental accounting (Thaler 1999), overconfidence (Hoffrage 2004), among others. To the best of our knowledge there is a lack of studies offering any in-depth insight on whether any of these biases interfere with bribery in the lab. The fact that there is only one empirical indicator of trust in BGs (transferring money) leaves too much leeway for construct-irrelevance variance. This is so because trust and bribery may be related in different ways. A possible way to think of trust-bribery relations is that the more

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[3] Risk refers to an undesirable or harmful event that may or may not occur, that is, it is uncertain (see Hansson 2018). Depending on the context, it is sometimes useful to use the language of decision theory, and define risk as the expected disutility of an undesirable or harmful event to occur. Risk perception concerns not only cognitive states such as fear, but also social components such as expectations and attitudes (Sjöberg 2000).

trust between parties, the more bribery (as measured by the BG), which gives a natural and straightforward way to interpret reciprocity: the higher the amount of money sent by one player, the higher the reciprocity between parties. This is indeed how Abbink et ál. (2002) interpreted their results. Moreover, insights from these results were used to offer anti-bribery measures (such as staff rotation) designed to block or hamper reciprocity relations between public officials and citizens (Abbink 2004). The rationale for favoring the use of this measure is straightforward: constantly removing POs of their positions would likely have the effect of weakening the development of reciprocity between them and potential bribers.

However, this parallelism between reciprocity and bribery does not seem to hold water, at least not unreservedly. The search for a justification of a causal mechanism, namely that bribery is driven by reciprocity, is underdetermined by data, since an increase in "bribery" may be accounted for by other explanations. Trust may grease the wheels of bribery, but not necessarily because parties to a corrupt transaction hold each other more trustworthy. Quite on the contrary, a higher bribe may indicate that the briber is less confident that she can rely on reciprocation from the other party, and therefore that a bigger "incentive" is in need. This may happen because the briber could not be certain and can only guess about the behavioral dispositions of the POs. So, the bribe amount may largely depend on the belief the briber has about the PO's social preferences. If negative externalities are involved (as we assume should be the case in a BG) then the briber would be in a better situation by having an accurate mental representation of the PO's preferences. Concretely she would have to assess whether the PO is disposed to accept a bribe despite harming passive thirds. For a PO with other-regarding preferences (with a sense of civic values), accepting a bribe and harming others may imply greater psychological costs, and therefore should be seen as a riskier partner by the briber than would a self-regarding PO.[4]

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[4]   Conceptual relationships between risk and trust are complex. According to Nickel and Vaesen (2012 862) there seems to be two broad principles that may explain how they relate to each other:

However, as we have already said, there is no way for the briber to assess this, unless the game is played repeatedly, or the involved individuals have information on each other. So, how can the briber estimate whether the PO is more or less willing to accept a bribe? Degrees of freedom to interpret the briber's behavior are huge in this case. The same pattern of data can be generated by many alternative distributions of preferences and beliefs, what constitutes an identification problem (Manski 2002). Experimentalists should provide diverse empirical indicators in order to discriminate between rival hypotheses.

Different contexts may elicit riskier or more conservative behavior. For instance, in a market framing, in which people seem to be more tolerant to negative externalities (Falk & Szech 2013), riskier behavior from the briber would be expected. Since negative externalities are more tolerated in a market framing, it seems less likely that a PO would refuse a bribe because it implies harming others. In a context like that bribe offering would be perceived as less risky and therefore more justified. So, the context may tilt the balance toward more "trusting" behavior. This example makes explicit the need to work out in detail the context of interaction, since it may affect beliefs, and ultimately behavior.

If the notion of trust is not only of a calculative nature, then the corruption literature would need to specify what notion of trust theoretically undergirds its research. If experiments were performed in the "anonymity" mode, it would be difficult to justify that the trust component that is measured is different from a calculative notion of trust.

'on the one hand, extensive risk evaluation makes trust less relevant; on the other hand, when the risks are greater, trust is more difficult to justify.' According to the former, the more we try to be certain about the risks we face, the less we need to trust. The latter implies that increasing stakes make trust become less justifiable: we turn ourselves more vulnerable when there is more at stake. In our context, bribery should be more or less justifiable for the briber depending on how certain she could be about the trustworthiness of the bribee. However, as we already mentioned, in BGs there are normally no available tools for the briber to evaluate the other party. Thus, trust and risk relations are normally not manipulated, and therefore, it turns out to be difficult to pinpoint causal dependencies between them.

5.2. Specificity of Trust Relations

Note that according to recent scholarly treatments of trust relations, trust involves two core notions: uncertainty and vulnerability. Following Heimer (2001), trust relations can be characterized by the simultaneous presence or absence of four features: vulnerability, uncertainty, trustees' willingness to listen to trustors' complaints about their vulnerability or uncertainty, and trustors' right to influence trustees.[5] She then proposes four possible combinations out of which four ideal types of trust relationships emerge: faith, confidence, legal trust and trust/distrust. In all trust relations people are vulnerable to others. In faith relations, people are vulnerable, but they have no uncertainty. In confidence relations trustors do not have the possibility to raise complaints to trustees about the relationship, and also do not have the right to try to influence the relationship. Legal trust has all the preceding features except the last one: trustors do not have the right to influence trustees. And finally, a trust/distrust relation is characterized by the presence of all the features.

As has been pointed out by Heimer "what form uncertainty and vulnerability take varies a good deal with the substance of the relationship and although the canonical strategies involve decreasing uncertainty or reducing vulnerability, participants' choices about which strategy or mix of strategies to adopt typically are constrained by the features of their social worlds" (2001 43). However, it seems that BGs seem to account for bribery relations as a mixture between what Heimer calls "faith" and "confidence". In case people engage in a bribery relation vulnerability turns out to be complete: bribers are completely at the expense of the other party, there is no prior negotiation, they have no means to assess their competence or intentions prior to

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[5]   According to Heimer: "uncertainty is the impossibility or inability to predict the outcome of an event because he or she lacks information about the intentions and competence of another actor who directly controls this outcome', while 'vulnerability has to do with the amount of risk and actor incurs by engaging in a particular interaction and is a function (nonlinear and increasing) of the proportion of the actor's assets that are at stake in the interaction" (2000 43-44).

the game or have any instance to complaint in case of a breach of the agreement. It appears as highly unrealistic that real-life occurring bribery works along this type of uncertainty-vulnerability relationships. These relationships of trust can, at best, be at the basis of certain forms of petty corruption. But then, researchers should appropriately define and limit the type of phenomena they intend to represent.

Within the strict lab conditions, bribery amounts to a situation of complete uncertainty and vulnerability to the briber, with almost no tools to reduce them. However, in real-life occurring bribery there are multiple and sometimes co-existing measures to make corrupt agreements safer. Some of the mechanisms adopted by parties to a corrupt transaction involve the use of "hostages", that is, valuable assets given by someone who can profit from opportunistic behavior (see Williamson 1983; Lambsdorff 2002). Hostages function like insurance: in the case one of the parties is cheated she can keep the hostage. Other enforcing mechanisms of corrupt agreements include reputation, repetition, vertical integration, and social embeddedness (for a treatment of these mechanisms see Lambsdorff 2002). In general, these mechanisms protect the informal property rights of corrupt parties from being exploited.

In the absence of legal enforcement parties to a bribery transaction may rely on a widespread network of middlemen that act as third-party guarantors of the contract fulfillment (see della Porta & Vanucci 2004). Middlemen also provide a "cushion" between business people and corrupt officials which allow them to employ deniability strategies to protect themselves against possible denouncements (Bray 2004). Bribery relations through middlemen could be an instance of Heimer's "trust/distrust" relations in which parties could be uncertain about others' intentions and/or abilities and may direct their concerns to middlemen to assess others' trustworthiness or competence and to negotiate with them in case of necessity.

This extensive discussion of trust relations reflects that experimenters have neglected relevant aspects that should be taken into account in an adequate operationalization of the concept. This entails that experimenters are relying on an underrepresentation of the concept of bribery, which would lead to distorted measurements, and ultimately to the invalidity of outcomes.

Bribery, such as other forms of corruption, is a context-sensitive phenomenon, and it cannot be explained without taking into account the normative backdrop against which to interpret individuals' actions.

5.3. CONTEXT SENSITIVITY

Experimenters' failure to specify the trust relationship that bribery implies leads us to consider the absence of context in the experiments. Experiments draw mainly on rational choice models, whose explanations based on the underlying axiom that people are rational utility maximizers seem insufficient: as we know from research in anthropology, psychology, or sociology, there are myriad motivations underlying human action. An important drawback of experimental protocols is that they leave the type of situation participants are in insufficiently characterized, with the unintended consequence that they tend to bring to the lab their own interpretations, and not the intended meaning the experimenter has in his/her mind. In this section we will argue that the type of situation in which participants interact should be made contextually sensitive in order to elicit from participants the kind of responses that are likely (allegedly) to be elicited in naturally-occurring situations.

Since corruption is highly contextual relevant norms to the type of bribery of interest would strongly depend on the type of situation or mode of coordination in which participants interact. Following Andvig, a mode of coordination "specifies a set of rules for the engagement between at least two persons, a decision-making, information, and motivational structure guiding the actions of the agents operating in that mode" (Andvig 2006 329), and also that "the (perceived) motivation of the other is part of the coordination device" (330). Trust does not occur in a social vacuum, nor does bribery. Second-order beliefs (about the motives of the other actors) play a crucial role in determining the kind of situation participants think they are in. They may also fail to "coordinate" their expectations around the intended context researchers may have in mind, since their implicit associations may starkly differ, and the removal of any kind of social relations in the lab makes it very difficult for

participants to interpret the lab situation as a situation involving specific roles, demands, or norms. As has been already pointed out participants may frame the same game in quite different ways according to their particular idiosyncrasies (Alekseev, Gary & Uri 2017). They may even have default dispositions which they bring to the lab (Engel & Rand 2014). Giving participants an explicit context may help in fixing for them the same normative associations that are theoretically hypothesized by researchers to be meaningful in the situation. In other words, the experimenters may gain experimental control through an elicitation of the appropriate context. This is in line with recent approaches norms (Bicchieri 2006; Brennan et ál. 2013) which emphasize the role of "scripts". Once a particular context gets activated by a behavioral process of cuing, there are norms that apply automatically. This process is sometimes described as the application of a script (see Bicchieri 2006 5). Scripts encode stereotypical behaviors that apply to social situations. Scripts do not probably map the empirical distribution of behaviors in those situations with complete accuracy, but they serve as a proxy for what has to be done under those circumstances, therefore helping to reduce uncertainty about proper behaviors. Then, framing an experiment may help to trigger the expected 'mapping' from contexts into specific interpretations. We believe this has been hardly convincingly achieved for bribery experiments.[6] Without context, it is difficult to know what are the norms that are transgressed, or the institutional goals that are betrayed by bribery.

Note that from the discussion of trust relations in the previous section we know that different combinations of vulnerability and uncertainty are likely to take

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[6]   Researchers have resorted to the use of evocative framings to provide a meaningful context to BGs. Unfortunately, these are sometimes introduced in a somewhat sloppy way. For instance, sometimes researchers include real-life words like 'bribe' (see for instance Banerjee 2016), but it is hardly the case that in a real-occurring instance of bribery one party would use the term 'bribe' in order to refer to an illegal payment. Most probably, people try to conceal the fact that they are doing something illegal through the use of indirect speech, which allows them to rationalize the offer and use plausible deniability strategies (see Pinker, Nowak & Lee 2008). Other alternative terms, such as 'private payment' seem to suffer from the same lack of realism (see Abbink et ál. 2002).

place according to the type of relationship in question. As noted by Heimer (2001), trust problems are managed differently depending on the context, "whereas in traditional societies people often can manage trust problems by reducing their uncertainty about the intentions and competence of others, reducing vulnerability becomes more important in modern societies" (p. 44). While traditional communities can control people's behavior, modern societies generate new dynamics in which interactions with strangers become increasingly frequent, and therefore uncertainty reduction is more difficult. Bribery is characterized by strategic and particularized as opposed to moralistic trust and generalized trust (we take these distinctions from Uslaner 2004). While generalized and moralistic trust presuppose faith in common values (i. e., that "we" belong to the same community) and that people are intrinsically trustworthy; strategic and particularized trust imply relying on another individual based on a previous assessment, i. e., it is calculative. As has been pointed out by Uslaner (2004) there are bidirectional associations between trust and corruption. On the one hand, higher levels of generalized trust imply less corruption. On the other hand, it is generally acknowledged that perceived high levels of corruption tend to decrease trust among citizens. How are these complex relations accounted for in BGs? In these experimental games a usual result is that higher trust induces higher levels of bribery (see Abbink et ál. 2002). However, expressed in that way, the statement seems to be quite confusing. What type of trust induces higher bribery? It could not be the case of strategic trust, since participants have no way of assessing the trust of others. Neither of particularized trust, since in the experiments participants do not know each other. The only alternative is that it is a "blind" form of trust, which seems highly detached from social reality.

In the context of western developed societies contact with strangers becomes usual, and it is widely recognized that societies that thrive develop high levels of generalized trust. The opposite tends to be true about societies in which particularism is the norm. Bribery in more traditional societies may be driven by what Banfield (1958) called "amoral familism", that is, out of reciprocal relations between family members or people who belong to close circles to the detriment of the public good. By contrast, in westernized societies bribery would probably be sustained by oth-

er mechanisms, in which particularized trust plays a minor role. These differences make clear the need to distinguish the type of trust that underlies each context. This could help determine the most likely form of bribery for that context. It is important to observe that according to the moralistic conception trust generates spaces free of "interpersonal risk", in which cooperative projects can be sustained, which is a notion radically different from "risk assessment". Noticeably, the lab is a social environment that has few to no hints as to what constitutes "right" or "appropriate" behavior, and in which social relations are reduced to a minimum. Therefore, the only "trust" relation represented in the lab seems to be one that is likely to be avoided in real life, especially between parties to a corrupt transaction.

According to what we have said so far it seems that without a careful embedding of a normative framework the only possible operationalization of trust in the lab would be the aforementioned "calculative" notion, in which one player, the trustor, entrusts an asset (normally monetary) to the trustee so that the latter can dispose of it at will. Note that this corresponds to a type of non-strategic trust hardly ever used in real life, much less when stakes are high, which is almost always the case when an illicit is involved.

Therefore, efforts must be made to associate to each situation a normative relevant backdrop against which to interpret all possible actions participants may be able to undertake. Indeed, when norms are made explicit behavior may change dramatically (for a defense of this strategy see Senci et ál. 2019).

5.4. THE NORMATIVE IRRELEVANCE OF CORRUPTION

Corruption is a normative-related phenomenon. This means that corrupt deeds can only be interpreted against the backdrop of the whole normative grammar in which they are embedded. What people think about what is right or wrong, that is, their normative commitments, largely depend on the type of situation they think they are in. However, even for the most basic definition of corruption as a strategic and self-interested deviation from formal norms (Nye 1967), we see that the operation-

alized concept of corruption tested in experiments does not adequately follow it (normally there are no "formal roles" defined within an experiment).

It has been shown elsewhere that adding normative information to bribery experiments produces dramatic changes in behavior (Senci et ál. 2019). This is consistent with a growing literature that shows that people have preferences for doing the "right thing" irrespective of economic consequences (Capraro & Rand 2018). However, these preferences are not elicited in BGs, since they fall short of providing a full-blown normative environment, akin to what happens in a real-occurring situation. BGs do not provide participants with explicit normative prescriptions as to how they should behave (Abbink et ál. 2002; Barr & Serra 2009; Alatas et ál. 2009; see Banerjee 2016 for an exception). This is in stark contrast to what happens in real-occurring situations, where obligations and rights are most of the time univocal. For instance, certain regulations, such as the Foreign Corrupt Practices Act of 1977 (FCPA) forbid private enterprises to offer gifts to POs that may influence their decisions (see Prentice 2017). The law is clear, to the extent that it univocally prescribes the appropriate behavior for both Officials and companies or citizens. As already said, most BGs lack this feature of a naturally occurring situation. At most, many BGs offer hints that may implicitly indicate the presence of prescriptive norms, such as evocative framing, negative externalities, and the risk of sanctions. However, as argued in Senci et ál. (2019) participants may not interpret these hints univocally.

Let's take a look at what happens in BGs. First, normally the only organization actually present in the lab is represented by the experimenters, who have a set of distinctive goals which are not known by the subjects (but may be guessed, giving rise to experimenter demand effects).[7] Second, there are no explicit rules about what constitutes appropriate or inappropriate behavior.

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[7]   Sometimes researchers have explicitly included other organizations, such as wildlife conservationist NGOs, as bearers of the negative externalities (see for an example Senci et ál. 2019). Participants are informed that researchers will donate an amount X of money to the NGO for each couple of participants. However, they will reduce the amount to donate each time participants offer or accept bribes. In those experiments, successful corruption damages the organization's goals (represented

Experimentalists often rely on externalities or punishment to signal that an action is inappropriate, or counter-normative according to the thesis of the expressive power of sanctions (McAdams 2017). However, it is far from clear that participants will interpret externalities in this sense, since there are many externalities-producing activities that are not counter-normative per se. Punishment may also fail to provide information about the underlying norms. However, the way in which punishment is implemented in experiments (as a discount of money) leads subjects to perceive it as a mere cost, that is, as a "price". The possibility of paying to transgress a norm transforms the situation into a market type transaction. In this specific case, the imposition of a "price" prevents the punishment from functioning by expressing a norm, rather, it obstructs that function by relocating the action from one mode of transaction to another by transforming it into merchandise: you can buy more "corruption" by paying the appropriate price. So, punishment may have unintended consequences that may run counter to what it is supposed to accomplish (see Gneezy & Rustichini 2000). Punishment, seen as a price, may crowd out intrinsic motivation to comply with norms (see Xiao 2018).

To summarize, while in naturally-occurring situations bribery is a phenomenon that involves social and moral norms, and that it possibly provokes strong emotional reactions in the actors, in the laboratory "bribery" is stripped of almost any moral or social connotations. As we have pointed out, many of the tools that the experimenters have used so far have the appearance of "artefacts" that simulate a characteristic that is allegedly present in real-life, but which can be doubted to fulfill the same function in the lab.

The infusion of normative information in the form of explicit rules and formal rights and duties may help to fill in this gap.

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by the amount the NGO will receive from the experimenters). This form of representing social damages may also not be adequate since participants may not agree with the organization's goals, or they may just nor care about them.

Conclusion

Researchers face several challenges to make the most of lab experiments on bribery. Here it was suggested that in order to design more suitable models experimentalists should be mindful of three interrelated challenges to the bribery construct, which we identified with the underlying notion of trust, the context of interaction, and the normative backdrop that provides meaning to subjects' actions.

A methodological solution we mentioned to this last challenge consists in the incorporation of normative information that may go from persuasive normative messages to more explicit norms. In line with Norm Focus Theory (Cialdini et ál. 1990) recent experimental literature shows that directing people´s attention to descriptive and prescriptive norms (common and socially approved behaviors, respectively) may tilt the balance towards more cooperative behavior (Capraro & Rand 2018). Moreover, it can contribute to endow the concept of bribery with greater construct validity by specifying more precisely what the normative expectations associated to each role in the lab are. Moreover, explicit norms can facilitate the connection of normative transgressions to formal roles within organizations. This, in turn, may allow researchers to account for organizational goals within an experiment.

Besides, experimenters employing BGs should carefully explain on what grounds they use the notion of trust that underlies their research, and how it connects to the type of bribery they are studying. There are many notions of trust, and BGs mainly rely on a reductive account of trust. This has consequences for the type of relations that may be implemented in the lab.

In order to get to core mechanisms of how corruption and bribery develop and become sticky, there is a need to understand not only what the monetary incentives are, but how people normalize and rationalize corrupt practices when it is in their advantage and when it is not. Further research may provide insights as to how to integrate the criticisms deployed in this article in a more complete fashion in protocols for lab experiments.

REFERENCES

Abbink, Klaus. "Staff Rotation as an Anti-corruption Policy: an Experimental Study". *Journal of European Political Economy* 20.4 (2004): 887-906. <https://doi.org/10.1016/j.ejpoleco.2003.10.008>

Abbink, Klaus., Irlenbusch, Bernd., and Renner, Elke. "The Moonlighting Game: An Experimental Study on Reciprocity and Retribution". *Journal of Economic Behavior & Organization* 42.2 2000: 265-277. <https://doi.org/10.1016/S0167-2681(00)00089-5>

_____. "An Experimental Bribery Game". *Journal of Law, Economics, & Organization* 18.2 (2002): 428-454. <https://doi.org/10.1093/jleo/18.2.428>

Abbink, Klaus., and Hennig-Schmidt, Heike. "Neutral Versus Loaded Instructions in a Bribery Experiment". *Experimental Economic*s 9.2 (2006): 103-121. <https://doi.org/10.1007/s10683-006-5385-z>

Abbink, Klaus., and Serra, Danila. "Anticorruption Policies: Lessons from the Lab". *New Advances in Experimental Research on Corruption (Research in Experimental Economics, Vol. 15.* Eds. Serra, Danila. and Wantchekon, Leonard. Bingley: Emerald Group Publishing Limited, 2012. 77-115. <https://doi.org/10.1108/S0193-2306(2012)0000015006>

Alatas, Vivi., Cameron, Lisa., Erkal, Nisvan., and Gangadharan, Lata. "Subject Pool Effects in a Corruption Experiment: A comparison of Indonesian Public Servants and Indonesian Students". *Experimental Economics* 12.1 (2009): 113-132. <https://doi.org/10.1007/s10683-008-9207-3>

Alekseev, Aleksandr., Gary Charness., and Uri Gneezy. "Experimental Methods: When and Why Contextual Instructions Are Important". *Journal of Economic Behavior & Organization* 134.1 (2017): 48-59. <https://doi.org/10.1016/j.jebo.2016.12.005>

Alexandrova, Ana., and Daniel M, Heibron. "Is Construct Validation Valid?" *Philosophy of Science* 83.5 (2016): 1098-1109. <https://doi.org/10.1086/687941>

Andvig, Jens Chr. "Corruption and Fast Change". *World Development* 34.2 (2006): 328-340. <https://doi.org/10.1016/j.worlddev.2005.03.007>

Armantier, Oliver., and Amadou, Boly. "A Controlled Field Experiment on Corruption". *European Economic Review*, 55.8 (2011): 1072–1082. <https://doi.org/10.1016/j.euroecorev.2011.04.007>

Banerjee, Ritwik. "On the Interpretation of Bribery in a Laboratory Corruption Game: Moral Frames and Social Norms". *Experimental Economics* 19.1 (2016): 240–267. <https://doi.org/10.1007/s10683-015-9436-1>

Banfield, Edward C. "The Moral Basis of a Backward Society". Glencoe: IL: The Free Press, 1958.

Barr, Abigail., and Danila, Serra. "The Effects of Externalities and Framing on Bribery in a Petty Corruption Experiment". *Experimental Economics* 12.4 (2009): 488-503. <https://doi.org/10.1007/s10683-009-9225-9>

Barron, Kenneth., Allison R. Brown., Christopher R. Gesualdi., Kimberly A. Marchuk., and Theresa E. Egan. "Validity". *21st Century Psychology: A Reference Handbook.* Eds. Davis, Stephen F., and Buskist, William. Thousand Oaks, California: Sage, 2008. 55–64. <http://dx.doi.org/10.4135/9781412956321.n7>

Berg, Joyce., Dickhaut, John., and McCabe, Kevin. "Trust, Reciprocity, and Social History". *Games and Economic Behavior* 10.1 (1995): 122-142. <https://doi.org/10.1006/game.1995.1027>

Bicchieri, Cristina. "The Grammar of Society: The Nature and Dynamics of Social Norms". Cambridge: *Cambridge University Press*, 2006.

Borsboom, Denny. "Measuring the Mind". Cambridge: Cambridge University Press, 2006. <https://doi.org/10.1017/cbo9780511490026>

Borsboom, Denny., Cramer, Angélique., Kievit, Rogier A., Franić, Sanja., and Scholten, Annemarie Zand. "The End of Construct Validity". *The Concept of Validity: Revisions, New Directions, and Applications.* Ed. Lissitz, Robert W. Charlotte, NC: Information Age Publishing, 2009. 135-170.

Bray, John. "The Use of Intermediaries and Other 'Alternatives' to Bribery". *The New Institutional Economics of Corruption.* Eds. Johann Graf Lambsdorff, Markus Taube and Matthias Schramm. London: Routledge, 2004. 112-137.

Brennan, Geoffrey., Lina Eriksson, Brennan., Robert E. Goodin, and Nicholas Southwood. "*Explaining Norms*". Oxford: Oxford University Press, 2013.

Bobkova, Nina., y Egbert, Henrik. "Corruption investigated in the lab: A Survey of the Experimental Literature". *International Journal of Latest Trends in Finance and Economic Sciences* 2.4 (2012): 337-349. <https://EconPapers.repec.org/RePEc:pra:mprapa:38163>

Camaño-Alegre, María. and Camaño-Alegre, José. "From Ontological Traits to Validity Challenges in Social Science: The Cases of Economic Experiments and Research Questionnaires". *International Studies in the Philosophy of Science* 32.2 (2019): 101-127. <https://doi.org/10.1080/02698595.2019.1682773>

Campbell, Donald T. "Factors Relevant to the Validity of Experiments in Social Settings". Psychological Bulletin 54.4 (1957): 297–312. <https://doi.org/10.1037/h0040950>

Campbell Donald T., and Cook Thomas D. "Quasi-Experimentation: Design and Analysis Issues for Field Settings". Dallas, Ill.: Houghton Mifflin, 1979.

Capraro, Valerio. and Rand, David G. "Do the Right Thing: Experimental Evidence that Preferences for Moral Behavior, Rather than Equity and Efficiency Per Se, Drive Human Prosociality". *Judgment and Decision Making* 13.1 (2018): 99-111.

Cialdini, R.B., Reno, R.R., and Kallgren C.A. "A Focus Theory of Normative conduct: Recycling the Concept of Norms to Reduce Littering in Public Places". *Journal of Personality and Social Psychology* 58.6 (1990): 1015–1026. <https://doi.org/10.1037/0022-3514.58.6.1015>

Coleman, James William. "Toward an Integrated Theory of White-Collar Crime". *American Journal of Sociology* 93.2 (1987): 406-439. <https://doi.org/10.1086/228750>

Cronbach, Lee J., and Meehl, Paul E. "Construct Validity in Psychological Tests". *Psychological Bulletin* 52.4 (1955): 281-302. <https://doi.org/10.1037/h0040957>

Della Porta, Donnatella., and Vannuci, Alberto. "Corrupt Exchanges: Actors, Resources, and Mechanisms of Political Corruption". New York: Aldine De Gruyter, 1999. <https://doi.org/10.4324/9781315080284>

Engel, Christoph., and Rand, David G. "What does 'Clean' Really Mean? the Implicit Framing of Decontextualized Experiments". *Economic Letters* 122.3 (2014): 386-389. <https://doi.org/10.1016/j.econlet.2013.12.020>

Falk, Armin., and Czech, Nora. "Morals and Markets". *Science* 340.6133 (2013): 707-711. <https://doi.org/10.1126/science.1231566>

Fehr, Ernst., and Schmidt, Klaus M. "A Theory of Fairness, Competition, and Cooperation". *The Quarterly Journal of Economics* 114.3 (1999): 817–868. <https://doi.org/10.1162/003355399556151>

Frank, Björn. and Schulze, Günther G. "Does Economics make Citizens Corrupt?". *Journal of Economic Behavior & Organization* 43.1 (2000): 101-113. <https://doi.org/10.1016/S0167-2681(00)00111-6>

Gneezy, Uri., and Rustichini, Aldo. "A Fine Is a Price". *The Journal of Legal Studies* 29.1 (2000): 1-17. <https://doi.org/10.1086/468061>

Guala, Francesco. "The Methodology of Experimental Economics". Cambridge: Cambridge University Press, 2005. <https://doi.org/10.1017/cbo9780511614651>

Hansson, Sven O. "Risk". *The Stanford Encyclopedia of Philosophy.* Ed. Edward N. Zalta, 2018. <https://plato.stanford.edu/archives/fall2018/entries/risk/>

Heimer, Carol A. "Solving the Problem of Trust". *Trust in Society.* Ed. Karen S. Cook. Russell Sage Foundation, 2001. 40-88

Heukelom, F. "How Validity Travelled to Economic Experimenting". *Journal of Economic Methodology* 18.1 (2011): 13-28. <https://doi.org/10.1080/1350178x.2011.556435>

Hoffrage, Ulrich. "Overconfidence". *Cognitive Illusions: a Handbook on Fallacies and Biases in Thinking, Judgement and Memory.* Ed. Pohl, Rüdiger. Dove and New York: Psychology Press, 2004. 235-254.

Jacquemet, Nicholas. "Corruption as betrayal: Experimental Evidence on Corruption Under Delegatio". GATE *Groupe d'Analyse et de Théorie Économique* (2012) <https://halshs.archives-ouvertes.fr/halshs-00180044>

Kahneman, Daniel., and Tversky, Amos. "Prospect Theory: An Analysis of Decision Under Risk". *Econometrica* 47.1 (1979): 263-291. <https://doi.org/10.21236/ada045771>

Klitgaard, Robert E. *Controlling Corruption*. Berkeley: University of California Press, 1996.

Lambsdorff, Johann G. "Making Corrupt Deals: Contracting in the Shadow of the Law". *Journal of Economic Behavior & Organization* 48.3 (2002): 221–241. <https://doi.org/10.1016/s0167-2681(01)00217-7>

_____."The Institutional Economics of Corruption and Reform". Cambridge: Cambridge University Press, 2007. <https://doi.org/10.1017/cbo9780511492617>

Lambsdorff, J. G. and Teksoz, S. U. "Corrupt relational contracting". *The New Institutional Economics of Corruption.* Eds. Johann Graf Lambsdorff, Markus Taube, Matthias Schramm. London: Routledge, 2004. 138-151. <https://doi.org/10.1017/cbo9780511492617.010>

Lambsdorff, Johann G. and Frank, Björn. "Bribing versus Gift-Giving: An Experiment". *Journal of Economic Psychology* 31.3 (2010): 347–357. <https://doi.org/10.1016/j.joep.2010.01.004>

McAdams, Richard H. "The Expressive Powers of Law: Theories and Limits". Boston, MA: Harvard University Press, 2017.

Manski, Charles. "Identification of Decision Rules in Experiments on Simple Games of Proposal and Response". *European Economic Review* 46.1 (2002): 880-891.

Messick, Samuel. "Validity of Psychological Assessment: Validation of Inferences from Persons' Responses and Performances as Scientific Inquiry into Score Meaning". New Jersey: Educational Testing ServicePrinceton, Research Report Series 1994. i-28. <https://Doi.org/10.1002/j.23338504.1994.tb01618.x>

Nickel, Philip J. "Trust, Staking, and Expectations". *Journal for the Theory of Social Behaviour* 39.2 (2009): 345-362. <https://doi.org/10.1111/j.1468-5914.2009.00407.x>

Nickel, Philip J. and Vaesen, Krist. "Trust and Risk". *Handbook of Risk Theory: Epistemology, Decision Theory, Ethics and Social Implications of Risk.* Eds.

Roeser, Sabine., Hillerbrand, Rafaela., Sandin, Per. and Peterson, Martín. Berlin: Springer, 2012. 857-876. <https://doi.org/10.1007/978-94-007-1433-5_34>

Nye, J. S. "Corruption and Political Development: A Cost-Benefit Analysis". *The American Political Science Review* 61.2 (1967): 417-27. <https://doi.org/10.2307/1953254>

Pinker, Steven., Nowak, Martín A., and Lee, James. "The Logic of Indirect Speech". *Proceedings of the National Academy of Sciences* 105.3 (2008): 833-838. <https://doi.org/10.1073/pnas.0707192105>

Prentice, R. A. "Moral Norms, Behavioral Ethics and Bribery Activity". *Thinking about Bribery: Neuroscience, Moral Cognition and the Psychology of Bribery.* Eds. Nichols, Philip., and Diana, Robertson. Cambridge: Cambridge University Press, 2017. <https://doi.org/10.1017/9781316450765>

Reiss, J. "Against External Validity". *Synthese* 196.8 (2019): 3103-3121. <https://doi.org/10.1007/s11229-018-1796-6>

Rothstein, Bo., and Uslaner, Eric. "All for All. Equality, Corruption, and Social Trust". *World Politics* 58.1 (2005): 41-72. <https://doi.org/10.1353/wp.2006.0022>

Schulze, Günther G., and Frank, Björn. "Deterrence versus Intrinsic Motivation: Experimental evidence on the Determinants of Corruptibility". *Econ Gov* 4.1 (2003): 143–160. <https://doi.org/10.1007/s101010200059>

Senci, Carlos Maximiliano; Hasrun, Hipolito Manuel; Moro, Rodrigo; Freidin, Esteban. "The Influence of Prescriptive Norms and Negative Externalities on Bribery Decisions in the Lab". *Rationality and Society* 31.3 (2019): 287-312. <https://doi.org/10.1177/1043463119853893>

Shadish, William R., Thomas D. Cook., and Donald T., Campbell. "Experimental and Quasi experimental Designs for Generalized Causal Inference". Boston, MA: Houghton Mifflin, 2002.

Smith, Vernon. "Papers in Experimental Economics". Cambridge: Cambridge University Press, 1991. <https://doi.org/10.1017/cbo9780511528354>

Sjöberg, Lennart. "The Methodology of Risk Perception Research". *Quality & Quantity* 34 (2000): 407-418. <https://doi.org/10.1023/A:1004838806793>

Suppe, Frederick. "The Search for Philosophic Understanding of Scientific Theories". *The Structure of Scientific Theories.* Ed. Frederick Suppe. Urbana: University of Illinois Press, 1974. 1-241.

Thaler, Richard H. "Mental Accounting Matters". *Journal of Behavioral Decision Making* 12.3 (1999): 183-206.

Uslaner, Eric M. "Trust and Corruption". *Corruption and the New Institutional Economics.* Eds. J. G. Lambsdorf, M. Taube, and M. Schramm. London: Routledge, 2004. 76-92. <https://doi.org/10.4324/9780203413920>

Xiao, Erte. "Punishment, Social Norms and Cooperation". *Research Handbook on Behavioral Law and Economics.* Eds. Joshua C. Teitelbaum and Kathryn Zeiler. Elgar Publishing, 2018. <https://doi.org/10.4337/9781849805681.00014>

Warren, M. "Political Corruption as Duplicitous Exclusion". *Political Science & Politics* 39.4 (2006): 803-807. <https://doi.org/10.1017/s1049096506060975>

Williamson, Oliver E. "Calculativeness, Trust, and Economic Organization". *The Journal of Law & Economics* 36.1 (1993): 453-486. <https://doi.org/10.1086/467284>