



Honesty and Social Norms Disparities in Formal and Informal Workers: An Experimental Approach

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Submitted as a requirement to opt for the degree of
Master in Economics

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Bogotá - Colombia
2023

Honesty and Social Norms Disparities in Formal and Informal Workers: An Experimental Approach ¹

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May, 2023

¹Thanks to Mariana Blanco, Diego Aycinena and Sebastian Ramírez for comments and suggestions, as well as audiences at Brown Bag Seminar. We thank John Jairo Pérez, Dayana López, Ferley Rincón, Liliana Estupiñan, and Emperatriz Bohorquez for their disinterested and essential help in recruiting subjects. We thank Alianza EFI-Colombia Científica grant with code 60185 and FP44842-220-2018.

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Abstract

Informality has been seen as a temporary solution to unemployment, but it poses important challenges for the government due to its negative impact on tax collection and welfare indicators. It is not solely a short-term problem since these individuals are expected to eventually shift to a formal job, but what if that doesn't happen? Is informality more than an escape valve an optimal decision from evasion? What role do social perspectives play in this decision? In this study, we review with an experimental approach whether there is a relationship between informality and dishonesty from the perspective of social norms. The evidence shows that at the intensive margin, stricter social and civic norms significantly explain the dishonest behaviors of these workers, and they rationalize their unfair practices with their perceived actions of others, which means that building strictly social and civic norms in a context of illicit behavior encourages individuals to behave aligned with their beliefs.

Keywords: Social Norms, Informal Workers, Dishonesty, Colombia, Taxes, Informality.

JEL Codes: C92, J24, J46

1 Introduction

In Latin America and the Caribbean, there are at least 158 million people working in the informal sector¹, and around 70 percent of the jobs generated after COVID-19 are occupations under the same conditions. This problem is fundamental, so much so that in the last years informal occupations have been leading the partial recovery of employment in the area (Maurizio 2021).

Informal occupations have often arisen as an escape valve for the least educated individuals in society at a time when unemployment rates are high, or as a result of inheriting a job from family members (Calderon et al. 2020), but it is not structurally ruled out that individuals may decide to belong to the sector regardless of their sociodemographic characteristics, and more as an optimal strategy to increase their income by evading taxes and not to correspond to government rules (De Soto 1989). In the same way, these works are characterized by not having legal or institutional protection, as well as non-compliance with social benefits (Alonso et al. 1989), which goes in line with wages below the “vital minimum” and with a significant part of this population below the poverty lines, so it would not be surprising to mention that it is related with levels under the potential of GDP per capita, wages, productivity, and, in general, social welfare.

One of the biggest problems is that the informal sector deprives governments of significant taxes that could be used to improve basic public services. Among them, the industry and commerce tax -ICA stand out (which is imposed by the commercialization of any kind of product), without forgetting the actions of not paying royalties and/or selling smuggling items. In particular, one of the countries that has more than 50% of the labor force in informal conditions is Colombia, where this phenomenon is heterogeneous and significant (Fernández and Villar 2016).

In this study, it is examined whether these actions related to the sector measured by dishonesty could be explained by the strength of the individual’s social norms². Moreover, social norms have also been proven to be essential in explaining both antisocial and pro-social behavior. Studies from Krupka and Weber (2013); Bicchieri and Xiao (2009); Bicchieri et al. (2021); Kimbrough and Vostroknutov (2016); Bursztyn et al. (2020) have shown that there is an important and positive relationship between social norms and pro-social behavior. Therefore, we analyze whether a relationship exists between working in the informal sector and engaging in more dishonest behaviors and

¹The informal sector is considered as a group of production units that, according to the definitions and classifications of the United Nations System of National Accounts (Rev. 4), “form part of the household sector as household enterprises (i.e. unincorporated household-owned businesses). Within the household sector, the informal sector comprises i) “informal enterprises of self-employed persons”; and ii) an additional component, constituted by the “businesses of informal employers” (United Nations 2018).

²Social norms are rules of behavior. They inform group members how to construe a given situation, feel about it, and behave in it. They exert social influence on group members by prescribing which reactions are appropriate, and which are not (Abrams et al. 1990).

how it is related to the strength of social norms in the controlled environment of the laboratory in Colombia.

We use the experimental design of [Aycinena et al. \(2022\)](#) to test the relationship between social norms and dishonesty in two samples of workers as well as their database for Colombian students in order to contrast results. They suggest that very strict norms can have a perverse negative relationship with pro-social behavior by doing a lab experiment using the rolling task by [Fischbacher and Föllmi-Heusi \(2013\)](#) as a measure of dishonesty. Basically, the study *“highlights the importance of not only focusing on the Dichotomous separation between complying with and violating norms (the extensive margin) but also considering the heterogeneity in perceptions of norms regarding the scope (or consequences) of violations of norms (the intensive margin)”* ([Aycinena et al. 2022](#), p. 3).

We also investigate the impact on social acceptability of actions performed by familiar individuals in various situations, following the methodology proposed by [Krupka and Weber \(2013\)](#). Our rationale for this inquiry is based on the observation that a significant proportion of workers in this sector have inherited their jobs from their parents ([Calderon et al. 2020](#)).

In this sense, the study aims to contribute to the literature on social norms in economics and pro-social behavior providing a perspective directed towards the informal sector in the laboratory. findings from [Cojoc and Stoian \(2014\)](#) have shown that past violations of social norms numb one’s conscience, leading to more antisocial behavior. And papers from [Boonmanunt et al. \(2020\)](#) have shown throughout an experiment with Thailand’s low-income rice farmers that poverty does not affect willingness to cheat.

In addition, several studies find no effect of poverty or lower social class on cheating, giving, or cooperating [Aksoy and Palma \(2019\)](#); [Andreoni et al. \(2017\)](#); [Gächter and Schulz \(2016\)](#), also, an experimental study conducted with 500 women workers in Colombia did not find effects between being part of the informal sector and tax evasion and/or dishonesty ([Calderon et al. 2020](#)), and studies from [Glaeser et al. \(2000\)](#); [Shalvi \(2016\)](#) find that, in contrast, poor or lower-social-class individuals are less trusting, less trustworthy, less intrinsically motivated, more likely to behave antisocially, and less likely to enforce sharing.

As ([Calderon et al. 2020](#)), we find in the extensive margin that belonging to the informal sector is not significantly associated with higher levels of dishonesty than our contrast samples or people who are in principle not familiar with the sector, but in the intensive margin, this effect is linked to people who have no strict social norms, since people who punish small faults in the same way as large ones are much less likely to be honest. On the other hand, we find that those informal workers who had stricter civic attitudes in the sense of tax evasion are less likely to be dishonest to the greatest degree possible. This suggests that people in constant contact with tax evasion acts, who then build strict social norms, perform actions that are more consistent with their

beliefs.

We also find that descriptive social norms are a fundamental factor in explaining the levels of honesty of the informal worker population, those who believe that more people cheat are more likely to behave in that way, which does not apply to our non-worker sample. This shows us the importance of the externalities of not following regulations (or the perceptions of the majority in the network doing it).

Finally, our study revealed a protective instinct to refrain from reporting actions committed by a relative to authorities. However, we did not observe a greater tendency among informal workers to forgive actions committed by a family member compared to those committed by a stranger. This implies that the practice of job inheritance within the sector can arise from the lack of opportunities and unfavorable socioeconomic conditions, rather than a normalization of illegal activities in the network. These findings highlight the complex interplay between familial loyalty and social norms.

2 Methodology

The experimental design in [Aycinena et al. \(2022\)](#) was used. This study uses the methodology of [Fischbacher and Föllmi-Heusi \(2013\)](#) to capture dishonesty and cheating in the participants, this task consisted in reporting the value of a die thrown by the subject himself. Depending on the reported value, they were paid an additional value for answering an initial questionnaire, which was corresponding in Monetary Units (MU) to the reported value, but if they reported 6 they earned nothing. Table 12 in Supplementary Information (SI) resumes the payoffs.

Additionally, and in line with [Aycinena et al. \(2022\)](#), we elicit perceived descriptive norms³. Specifically, participants were asked to estimate the reported die values of 10 randomly selected individuals, without including themselves. This approach was intended to gauge the expected distribution of dishonest behavior among individuals in the session. Please see SI, section 2 for more details.

We also measure their personal and individual perceptions of injunctive norms⁴ individually, to classify them among **Consequentialists** (Participants who differentiate between the extent of one lie in terms of social acceptability), **Deontists** (Participants who perceive norms such that any lie is socially unacceptable and that the norms do not differentiate between the extent of the lie) and **Normative egoists** (Subjects that perceived injunctive norms such that it is more acceptable to lie than tell the truth) according to the strength of social norms and following [Aycinena et al. \(2022\)](#). Broadly, for Deontists an action such as lying is either right or wrong independent of the severity

³One participant’s beliefs about the dishonest behavior of the other participants in their experimental session.

⁴People’s individual beliefs about what constitutes socially acceptable actions.

of the consequences. Consequentialists, however, will consider the severity of a lie when assessing the corresponding morality. The methodology of classification from [Aycinena et al. \(2022\)](#) is set out in SI, section 3.

The classification approach consisted of asking the sample how socially appropriate it was to lie within the 20 actions that resulted in a profitable lie or tell the truth in the die task⁵. It was carried out in two moments, in the first moment we used the methodology of [Krupka and Weber \(2013\)](#) - **KW**, which consisted of an incentivized task in which subjects would receive an additional 5MU if they reported (on one of the 20 previously explained randomly selected actions) as most people in the session whether telling the truth or lying to a given degree is Very Socially Appropriate, Somewhat Socially Appropriate, Very Socially Unappropriated, or Somewhat Socially Unappropriated. The second methodology consisted in incentivizing them with a fixed payment of 4MU for answering the same questionnaire but not eliciting injunctive social norms, instead revealing their beliefs - **Personal Normative Beliefs**⁶. Hence, in the first one we measured the individual's expectations of how socially appropriate it was for the majority of people in the session to do a specific action, and with the second methodology, we measure how socially appropriate it is for an individual to do the action.

We also use [Krupka and Weber \(2013\)](#) to test whether people in this sector punish more illegal acts with which they are frequently related if they are carried out by a relative and not by a stranger as an explanation of inherited jobs. As a way to test this, we asked the subjects to state 7 situations that issued illegal actions with which they might be familiar on a daily basis (selling stolen cell phones, contraband clothing, fare dodging, stealing products, giving wrong change in their favor, giving benefits in contracting, and accepting bribes). In this part, we had a total of 30 actions about how socially appropriate is to perform an illegal action (7), allow it (7), tell the authorities(7), run away from it (2), and face the person who does it (7), varying between whether that person is a stranger or a relative of the person, this to notice if there is a difference between how much actions are punished given levels of closeness and if this could become an explanation of the jobs that are passed between generations of people in the informal sector.

In the questionnaires, we asked for socioeconomic controls such as age, gender, income relative, social stratum, number of children, educational levels, years working in the sector, a subjective rely measure from one to nine of how trustworthy their answers are, and a measure of Strict Civic Attitudes (SCA) using an indicator in line with [Aycinena et al. \(2022\)](#), to measure how justifiable it is to make fare dodging, claim government benefits, and don't pay taxes on a 10-point scale.

⁵E.g. getting 0 MU (get 6 by rolling the die) and reporting 0 MU, 1 MU, 2 MU, 3 MU, 4 MU, or 5 MU, getting 1 MU (get 1 by rolling the die) and reporting 1 MU, 2 MU, 3 MU, 4 MU, or 5 MU, getting 2 MU (get 2 by rolling the die) and reporting 2MU, 3MU, 4MU, or 5MU, and so on. Please refer to Section 2 of the Supplementary Information (SI) for details on how this aspect was presented.

⁶Have been shown as an explication for behavior in the literature of Pluralistic Ignorance- The privately held beliefs diverge from the perceived group norms.

2.1 Procedures

The informal workers subjects were recruited in the field, in the center of Bogotá, Colombia, an area with significant levels of informality, and according to [Gutierrez \(2019\)](#), this zone, unlike the areas of the portal of 80 and Las Américas avenue which both have high levels of informality, has ease of transportation, which in the long run can be translated into a representative sample of workers from different areas of the city ([Gutierrez 2019](#)). The informal⁷(n=102⁸) and formal (n=78⁹) worker population attended the experimental laboratory of Universidad del Rosario (REBEL¹⁰). We also employed [Aycinena et al. \(2022\)](#) data set for students in Colombia (n=106) as a benchmark.

The recruitment and development of the sessions spanned slightly over six months for informal workers (August 2022 to January 2023) and nearly two months for formal workers (January to February 2023¹¹). The experimental sessions were conducted in zTree ([Fischbacher 2007](#)), made up of three experimental parts and two questionnaires, the details of which can be found in the supplementary material, section 1 and 2. They lasted approximately 110 minutes, had an average payment of (43,000 Colombian pesos, or 21.5 Monetary Units MU), and given the type of population, were mostly held at 5 pm.

3 Results

Overall, the worker samples were balanced regarding key socioeconomic variables, including age, gender, social stratum, number of children, number of years working in related activities, and level of education. Notably, the formal worker population exhibited a higher proportion of individuals with labor contracts. Please refer to Table 1 in SI.

For the die task, we find the distribution shown in Figure 1. In absolute honesty, we would expect the percentage of participants who reported each of these values to be close to 16.6% (blue line), but as seen in the results, the values associated with higher MU payments are more frequent.

⁷To classify them we use the following characterization of informal employment: “*Social security contributions is a reasonable measure of informality as it is a good indicator that the individual has the entire package of benefits associated with formal employment*” [Bernal \(2009\)](#).

⁸We have a full sample of 122 observations, but given the type of population, sessions were long and we had to advance some of the participants to get a final sample of 102.

⁹We have a full sample of formal workers of 80.

¹⁰Rosario Experimental and Behavioural Economics Lab

¹¹In order to enhance comparability with informal workers, we recruited general service and surveillance workers from the Universidad del Rosario.

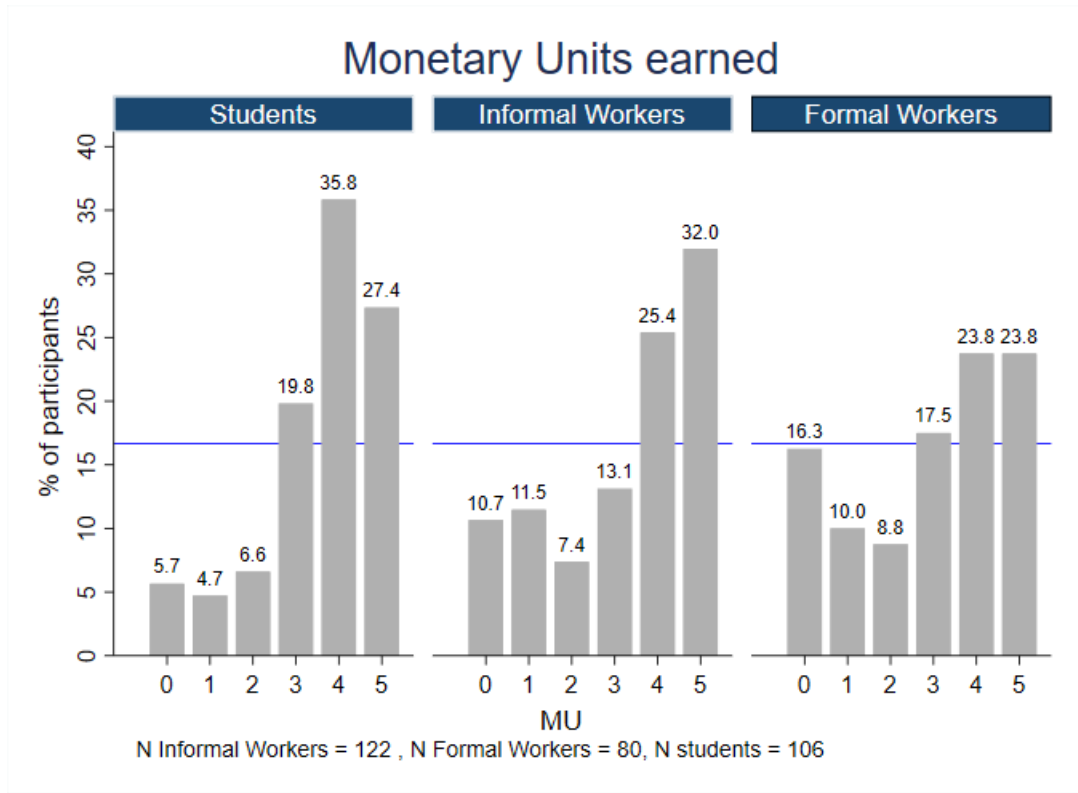


Figure 1: Reported die

We find limited dishonesty in this task, the mean reported value for informal workers is 3.28 MU, statistically different from the full honesty benchmark of 2.5 MU ($t = 4.9334$, $p - value < 0.00001$), for formal workers is 2.94 MU ($t = 2.1967$, $p - value = 0.031$), and for the student's sample is 3.58 MU ($t = 8.0250$, $p - value < 0.00001$) and all of them differ from the full dishonesty benchmark of 5MU ($|t| > 10$, $p - value < 0.00001$). Ultimately, a person χ^2 test does not reject the hypothesis of equality of distributions between the two worker samples ($\chi^2(5d.f) = 3.2020$, $p - value = 0.669$), we tested different means of measuring honesty between these two samples, but no differences were found (see SI table 2). Therefore, despite observing varying degrees of honesty across all samples, we cannot confidently conclude that informal workers exhibit a statistically significant higher level of dishonesty at an extensive margin.

In general, we find differences in the Mean Social Appropriateness (MSA) of telling the truth and lying in different degrees between samples. Table 1 shows this finding. We significantly find that working in an informal way is associated with a smaller MSA of telling the truth (for the Personal Normative Beliefs Methodology) with respect to contrast samples. On another side, we find that being in this sector is also associated with being more permissive in terms of dishonesty since in general the MSA of telling lies is bigger than our contrast samples but some effects are noisy.

Figure 3 summarizes the MSA of lying in different degrees using KW (See SI, Figure

Table 1: Mean Social Appropriateness of lying and telling the truth across samples.

VARIABLES	MSA of Lie		MSA of tell the truth	
	(1) Krupka Weber Methodology	(2) Personal Normative Beliefs	(3) Krupka Weber Methodology	(4) Personal Normative Beliefs
<i>Students</i>	-0.475*** (0.099)	-0.274** (0.108)	0.233*** (0.080)	0.259*** (0.078)
<i>FormalW</i>	-0.065 (0.100)	-0.122 (0.102)	0.109 (0.069)	0.131* (0.070)
<i>Rely</i>	-0.016 (0.015)	-0.034** (0.016)	0.018* (0.011)	0.018* (0.011)
<i>MeanDepVar</i>	-0.045	-0.201	0.508	0.429
Controls	✓	✓	✓	✓
Observations	288	288	288	288
R-squared	0.152	0.096	0.100	0.079

Note: The dependent variables are the Mean Social Appropriateness of telling any degree of a lie (Columns 1 and 2) and the truth (Columns 3 and 4), varying across methodologies (Krupka Weber 1 and 3, and Personal Normative Beliefs 2 and 4). Informal workers is the omitted sample, and *Rely* is a subjective measure of how trustworthy the answers are (scale from 1 to 9). Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$)

1 for Personal Normative Beliefs methodology), which results in the categorization of types of individuals as follows: Consequentialist (96), Deontist (131) Egoists (40) and Others (31). This figure shows boxplots of the perceived injunctive norms by type of norms, over honest (navy blue boxplot), and dishonest reports given different extents of the lie (in monetary units, MU). Each boxplot shows the distribution of the social acceptability (SA) of each action, ranging from -1 (very socially inappropriate) to +1 (very socially appropriate).

90% of our samples were classified (33% were classified as Consequentialists, 44% as Deontists, and 13 % as Egoists ¹²), a person χ^2 test rejects the null hypothesis of equal distributions of norms classification between the three samples ($\chi^2(6d.f) = 48.5771$, $p - value = 0.0000$), but not between workers samples ($\chi^2(6d.f) = 5.2013$, $p - value = 0.158$)¹³. Figure 2 shows the distribution of the type of norms for both methodologies and by sample. We find that the proportion of consequentialist type norms is bigger for the students sample than the workers sample, and, although the others and egoists type norms have an important proportion in the Formal Workers sample in the [Krupka and Weber \(2013\)](#) methodology, they recede in the Personal Normative Beliefs methodology. A Pearson’s chi-squared test does not reject the null hypothesis that the distributions

¹²Using the Personal Normative Beliefs methodology, we also classified 90% of the sample using the methodology of ([Krupka and Weber 2013](#)), 31% are classified as consequentialists, 50% as Deontists, and 9% as Egoists.

¹³For Krupka Weber Methodology, for personal normative beliefs we get the same conclusions.

differ between methodologies for student and informal workers, but it does for formal workers ($\chi^2(3d.f.) = 7.4610, p\text{-value} = 0.059$).

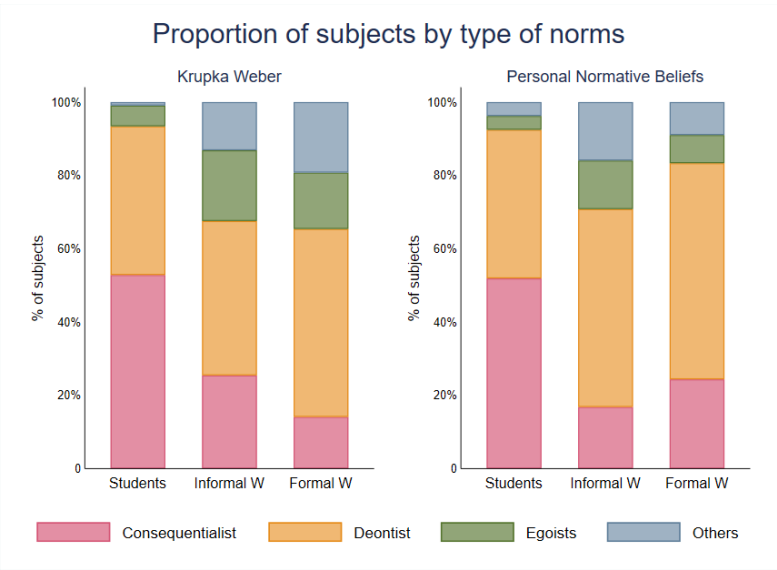


Figure 2: Proportion of subjects with Consequentialist, Deontist, Egoists, and others social norms by methodology.

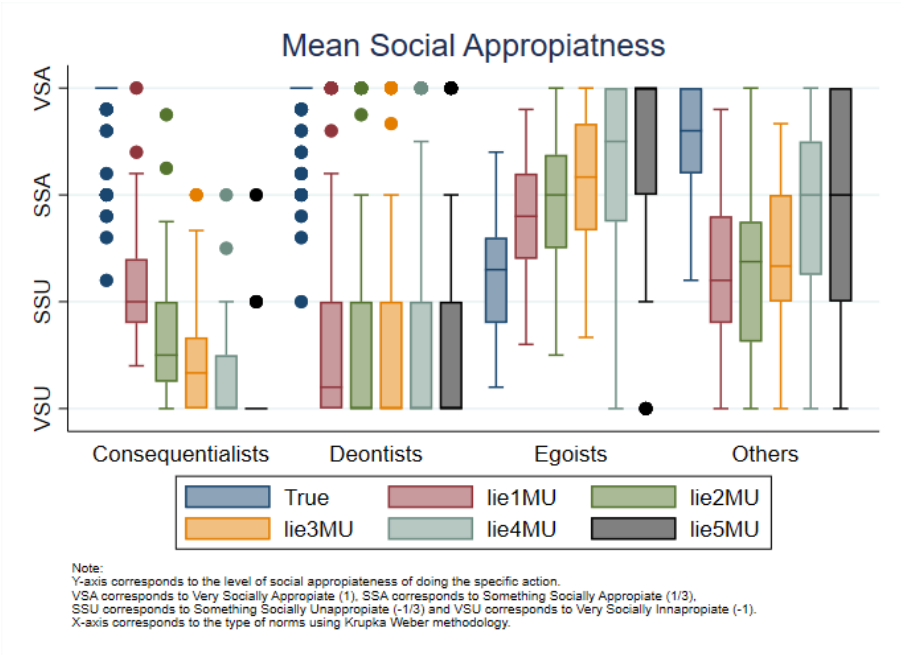


Figure 3: MSA of lying and telling the truth by type.

Now, it is important to see if there is a switch in the types of norms between these two methodologies. We find in the informal workers sample that 15 (52%) of the 29

consequentialists using KW methodology are also consequentialists in the personal normative beliefs, this proportion goes to 84% for the students and 46% for the formal workers (5 of 11). In terms of deontist type norms, 41 (85%) of the 48 formal workers with deontists type norms using KW are also deontist using personal normative beliefs, and this proportion turns to 82% for the students and 83% in the formal worker’s sample. In general, 19% of students have different type of norms in both methodologies, this proportion is set to 34% for informal workers and 39% for formal workers. Hence we find more switch proportion in these subjects with Consequentialist type norms and in our worker’s samples.

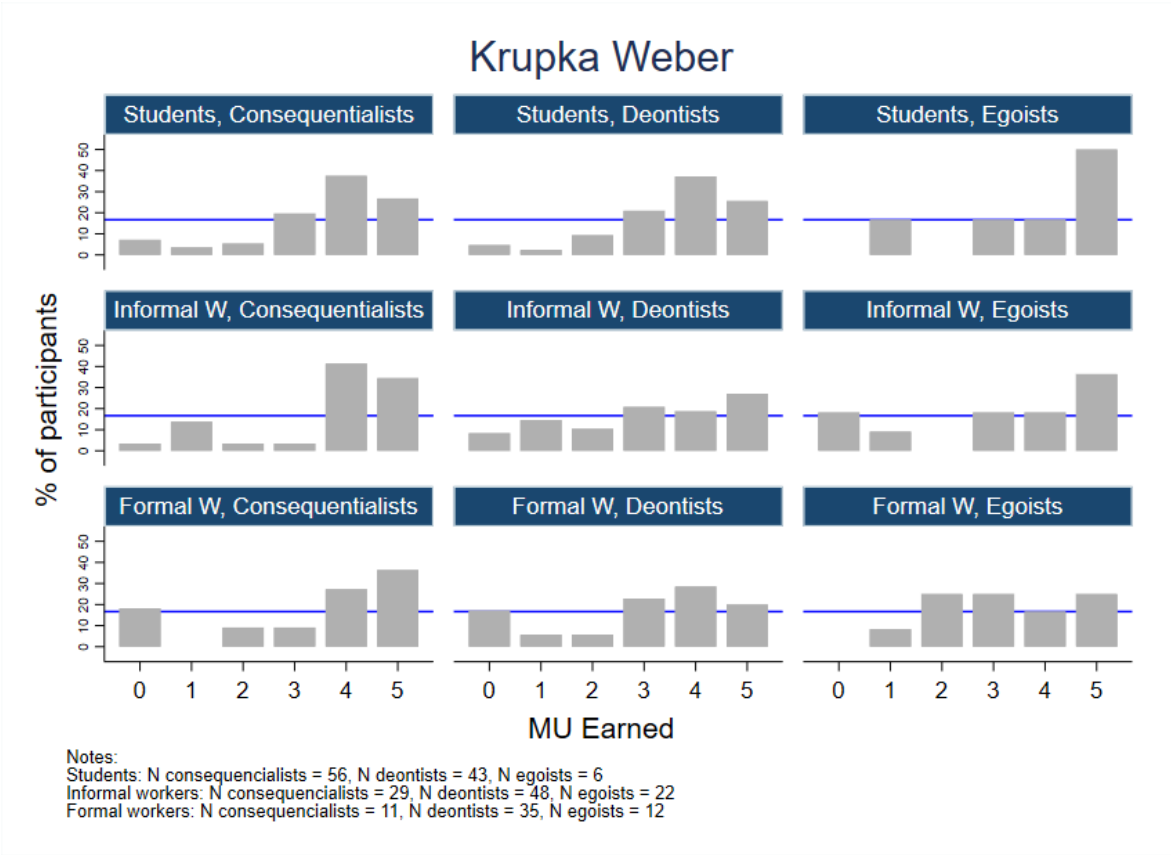


Figure 4: Reported die by KW methodology norms type.

Using this classification, it’s imperative to see the die-reported values for both samples and by classification. What we can interpret in figure 4 is that for the sample of workers, the classification seems to be crucial towards the disparity of the generally reported Monetary Units in the die task. Around 80 percent of the informal workers with consequentialist-type norms are between the two highest payments in terms of MU (with a mean reported value of 3.69 MU), and the sample of formal workers depict a similar behavior (with a mean reported value of 3.36 MU for consequentialist type norms) using KW methodology and personal normative beliefs methodology (See SI, Figure 2). Interestingly, this only happens in our worker’s sample; in the students

sample, we find that the classification does not seem to be distinctively crucial for the reported values of the die.

To test our hypothesis regarding inherited jobs within the informal sector and the tolerance of illegal behavior, we employed [Krupka and Weber \(2013\)](#). We find effects in the difference in MSA of telling the authorities that a familiar vs an unknown person committed an illegal action for all our worker’s samples. However, our analyses revealed no statistically significant differences in the remaining indicators of permissiveness (see SI, table 3). This finding reveals a straightforward rational outcome within the worker’s samples, which can ultimately be distilled to a tendency to prioritize the protection of those within their immediate social circle.

Now, as a parallel approximation of the strength of civic attitudes, we use an indicator obtained by asking participants how justifiable it is to commit actions that involve evading taxes, fare dodging, or committing government benefit fraud. In contrast to [Aycinena et al. \(2022\)](#) we find null effects of having Strict Civic Attitudes on the associated MU and on the probability of reporting the maximum possible value for all of our samples (see SI Table 4).

Table 2 presents a summary of the findings from our study that examined the impact of different approaches on the strength of social norms, as measured by the MU reported in the die task, and the probability of reporting the maximum payoff possible. The sample was divided into two groups: informal workers (Panel A) and formal workers (Panel B) (see SI, Table 5 for students).

Our results indicate that individuals who adopt a deontist type of norms, in contrast to a consequentialist approach, exhibit a significant negative impact on the probability of reporting the maximum payoff possible and the generally reported value of the die. This effect was not only important, robust, and statistically significant for both methodologies in our Informal Worker Sample, but also evident in our supplementary measures of honesty (refer to the SI, Table 6). Moreover, for the formal workers sample the effect was found to be stronger for Personal Normative Beliefs and with the same sign but noisy in the Krupka Weber Methodology¹⁴. This differential effect shows us the importance of injunctive norms in an informal work context.

¹⁴Despite observing a similar significant effect in the "Others" type of norms among formal workers, these results are based on a limited sample size of only seven participants, and therefore warrant further discussion and analysis.

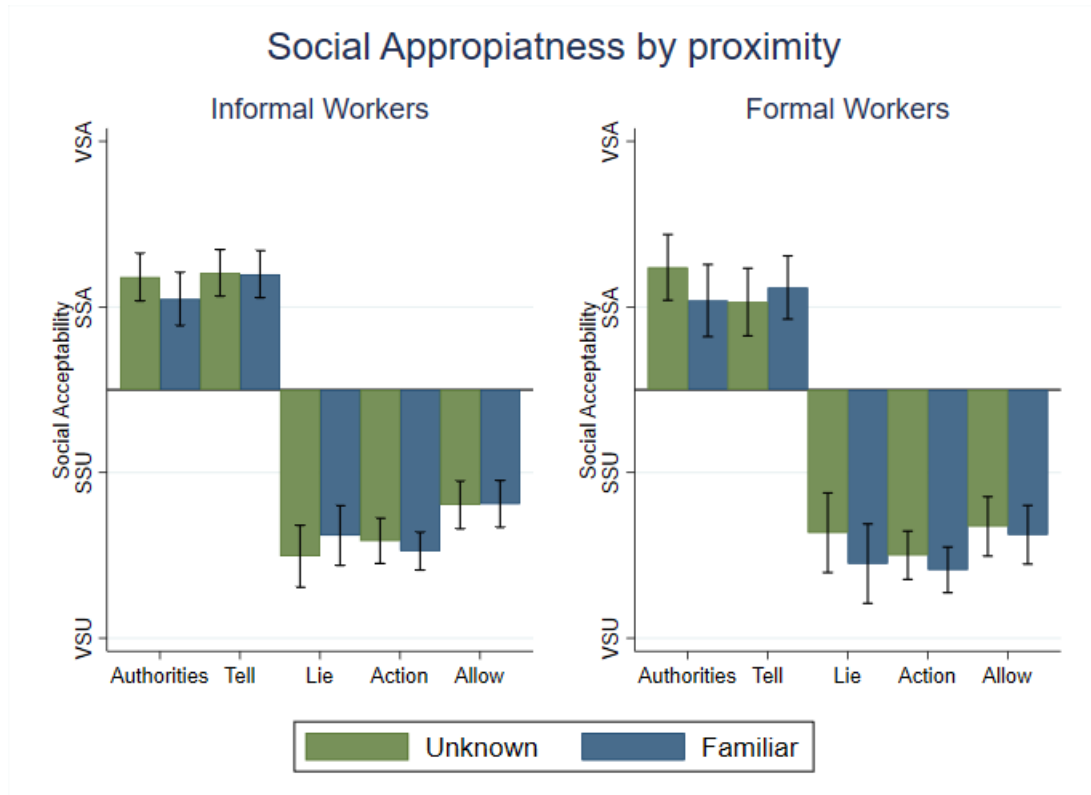


Figure 5: Mean social appropriateness by proximity using Krupkra and Weber (2013)

As a secondary finding, we observe that among those informal workers who exhibit consistency in their normative beliefs across both methodologies, adherence to deontological norms, as opposed to consequentialist norms, is associated with a 30% reduction in the likelihood of reporting the maximum value on the die, as well as a decrease in the reported value of 1.2 MU (see Table 9). Notably, these results are specific to the informal worker sample and more robust than those obtained from testing each methodology individually. These findings show us that stronger social norms, which are more widely shared and adhered to, are associated with greater rule compliance and reduced levels of dishonesty, particularly within the context of informal labor.

In spite of these results, and as Calderon et al. (2020) exposed, we do not find that working in an informality context is related to more dishonest behavior. Informal workers who have stricter norms injunctive and/or personal, are less likely to behave antisocially. In contrast to Aycinena et al. (2022), who state that students with a deontist type of norms are on average more likely to display dishonest behavior than those with a consequentialist type; our study yielded the opposite result, we find that for our samples (workers) who do not differentiate between degrees of lies regarding social acceptability consistently act under their beliefs and are more likely to behave pro socially.

Table 2: Effects of social and civic norms in the reported value of the dice

	Report Maximum Value			General Reported Value		
	(1) Personal Belief	(2) Krupka Weber Methodology	(3) Civic Attitudes	(4) Personal Belief	(5) Krupka Weber Methodology	(6) Civic Attitudes
Panel A: Informal Workers Sample						
<i>Deontist</i>	-0.261** (0.129)	-0.045 (0.125)		-0.792** (0.371)	-0.792** (0.364)	
<i>Egoist</i>	0.067 (0.180)	0.176 (0.161)		0.660 (0.532)	0.003 (0.557)	
<i>Other</i>	-0.033 (0.166)	0.089 (0.164)		-0.391 (0.536)	-0.524 (0.569)	
<i>SCA</i>			-0.056 (0.122)			0.069 (0.445)
<i>Civic</i>			-0.027 (0.028)			-0.025 (0.110)
<i>PDN₅</i>	0.118** (0.057)	0.140** (0.058)	0.138** (0.057)	0.875*** (0.213)	0.903*** (0.224)	0.871*** (0.226)
<i>Rely</i>	0.038* (0.019)	0.038** (0.019)	0.038** (0.019)	0.091 (0.069)	0.071 (0.075)	0.031 (0.069)
<i>MeanDepVar</i>	-0.673	-0.880	-0.663	-4.519*	-4.223*	-3.494
Observations	102	102	100	102	102	100
R-squared	0.188	0.147	0.125	0.296	0.268	0.220
Panel B: Formal Workers Sample						
<i>Deontist</i>	-0.229* (0.119)	-0.191 (0.148)		-0.831* (0.449)	-0.437 (0.574)	
<i>Egoist</i>	-0.236 (0.142)	-0.183 (0.164)		-0.488 (0.637)	0.039 (0.671)	
<i>Other</i>	-0.350* (0.187)	-0.205 (0.175)		-0.814 (0.957)	-0.881 (0.750)	
<i>SCA</i>			-0.020 (0.140)			0.822 (0.545)
<i>Civic</i>			-0.041 (0.037)			-0.316*** (0.115)
<i>PDN₅</i>	0.107*** (0.027)	0.090*** (0.024)	0.088*** (0.025)	0.427* (0.236)	0.391 (0.241)	0.346 (0.232)
<i>Rely</i>	-0.003 (0.015)	-0.003 (0.017)	0.003 (0.015)	-0.020 (0.070)	-0.014 (0.077)	-0.009 (0.067)
<i>MeanDepVar</i>	0.101	0.277	0.285	0.965	1.407	3.057
Observations	78	78	78	78	78	78
R-squared	0.318	0.276	0.288	0.211	0.199	0.235

Note: Panel A corresponds to the results for our Informal Workers Sample, Panel B corresponds to the results for formal workers sample. The dependent variables are: the probability of reporting the maximal payout in the laboratory die task (Columns 1-3), and the Monetary Units reported (Columns 4-6). Columns 1, 2, 4, and 5 show the type of norms using the specific methodology, Columns 3 and 6 use the indicator of Strict Civic Attitudes. *Deontists* and *Egoists* are dummy variables that indicate the type of norms of people in the session. *Civic* is the mean value based on the justifiability of civic norm violations (not paying taxes/fare dodging/and committing benefit fraud) *Rely* is a measure of how much a participant believes their answers are trustworthy. All regressions are run with socioeconomic controls such as age, gender, relative income, and the Perceived Descriptive Norm *PDN* but we only show the *PDN* of reporting the maximum number of Monetary Units MU. Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Descriptive norms are also essential in explaining all of our measures of dishonesty; individuals who perceive a higher prevalence of dishonest behavior are more prone to engage in such conduct themselves. This may be the case because they rationalize their actions through the beliefs of what other people did in the session, or can happen as a result of a consensus effect. Importantly this more significantly happens in the Informal worker’s sample (see SI Table 5 for students¹⁵). This explains the externalities that the sector could have that would imply that a person is more likely not to follow regulations if they think that people in their network do not do so.

In terms of Civic Norms, in spite of not finding the effects of having strict civic attitudes, we additionally tested the three measures individually (see SI, table 11), and we find that stricter civic attitudes toward taxes have a negative impact on the probability of lying to the maximum extent possible for our informal worker sample. People who consider such actions less justifiable report a lower maximum payoff from the die task. This is consistent with our previous results, where stricter norms have a significant effect on honesty.

In contrast, our analysis did not reveal similar effects concerning taxes in our comparative samples. Nevertheless, we observed a positive effect of having a stricter attitude towards fare dodging in the student sample and making government benefit fraud in the formal worker sample, on the participants’ probability of reporting the maximum value of the die. We interpret this finding as suggestive, since individuals frequently exposed to illicit acts in specific areas and hold stricter attitudes towards them have higher levels of associated honesty. Further research could explore the underlying mechanisms driving this relationship and its generalizability to other contexts.

4 Conclusions

The relationship between working in the informal sector and dishonest behavior is a complex and multifaceted issue. Our study presents empirical evidence indicating that, on an extensive margin, there is no significant difference in honesty between individuals who belong to the informal sector and those who do not. This finding aligns with the results of previous studies conducted by [Calderon et al. \(2020\)](#); [Boonmanunt et al. \(2020\)](#); [Aksoy and Palma \(2019\)](#); [Andreoni et al. \(2017\)](#); [Gächter and Schulz \(2016\)](#), this suggests that the decision to enter the informal sector may be driven more by limited attractive job opportunities, flexible working hours, and socioeconomic factors, rather than an optimal decision to evade taxes and regulations imposed by the government.

At the intensive margin, however, we find that stricter norms regarding the differentiation of degrees of lies had a significant and robust effect on dishonest behavior.

¹⁵We find a significant coefficient associated with the Perceived Descriptive Norm of report 4 (most frequent reported value) in the probability of lie in the maximum degree possible, but has a negative sign.

Specifically, individuals who hold stricter attitudes toward lying are less likely to engage in dishonest behavior. Interestingly, for formal workers this effect was predominantly observed within the personal beliefs methodology; for informal workers when both methodologies (personal beliefs and injunctive norms) were aligned in the type of norms, they were highly more relevant than their own isolated tests. This interposes the results of [Aycinena et al. \(2022\)](#) for students in different societies but goes in line with results from [Bicchieri et al. \(2021\)](#); [Krupka and Weber \(2013\)](#); [Bicchieri and Xiao \(2009\)](#); [Kimbrough and Vostroknutov \(2016\)](#).

Although our study did not find a relationship between having strict civic attitudes and engaging in more or less dishonest behavior as [Aycinena et al. \(2022\)](#) exposed, we did observe a significant relationship between holding stricter civic norms related to tax compliance and engaging in less dishonest behavior. This finding is particularly noteworthy within the context of the informal sector. Interestingly, we also find a similar pattern for students and formal workers, with stricter attitudes towards paying public transport fares and receiving government benefits, respectively associated with less dishonest behavior. This opens the discussion of the importance of specific civic norms in a variety of contexts, and the search for new mechanisms to test their effects.

In addition, perceived descriptive norms are found to be a significant predictor of behavior and rule-following for individuals within the informal sector with a lower effect observed among formal workers; unlike the student sample, for which this type of norms showed almost null effects. This suggests that individuals rationalize their unethical actions based on their expectations of the same behavior from others.

Upon analyzing the results of our worker samples, we saw a pattern in their behavior when it came to reporting unethical actions. Specifically, our findings suggest that workers are more likely to tolerate misconduct by family members than by strangers when it comes to reporting such actions to authorities. This result challenges our initial hypothesis that labor inheritance is a normative practice within the informal sector and/or that unethical behavior is socially acceptable or normalized. Instead, it suggests that workers' decisions to inherit jobs arise from a complex interplay of socioeconomic factors and cultural values that prioritize family ties, and arise from socioeconomic deficiencies and a lack of employment opportunities.

In conclusion, our study suggests that belonging to the informal sector and adhering to stricter social norms is associated with lower levels of dishonesty. Conversely, those who remain in an environment of norm violations and perceive it as such are more likely to take actions that do not align with pro-social behavior. Therefore, strengthening social and civic norms may effectively reduce dishonest behavior in the informal sector, which could have significant policy implications not only in Colombia, with an important proportion of informal workers, but also in other developing countries.

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Supplementary Information

Table 1: Balance Table

	Students	Informal Workers	Formal Workers	t - Workers
% Female	0.53	0.53	0.53	0.03
Age	20.07	38.37	36.55	0.88
% Urban	0.62	0.55	0.49	0.79
% Middle Class	0.92	0.65	0.51	2.00*
Stratum	3.54	2.21	2.09	1.11
# of Childrens	.	1.47	1.74	-1.15
Schooling index	3.00	2.14	2.04	1.22
% with labor contract	.	0.08	0.93	-20.95***
# Years working	.	10.88	10.61	0.16
% Change Work	.	0.53	0.65	-1.68
Plenitude	7	7.44	8.49	-3.24**
Rely	8.58	7.89	6.91	2.28*

Note: t-Workers is the t-test associated with the differences of the indicator between both samples of workers. *Fulfillment* and *Rely* are subjective measures of how fulfilled the people feel (scale from 1 to 10), and how trustworthy the answers are (scale from 1 to 9).

Table 2: Honesty levels by samples

	(1) Reported Value	(2) Maximum Value	(3) Bigger Values	(4) Minimum Value	(5) Lower Values
<i>Students</i>	0.142 (0.277)	-0.068 (0.085)	0.002 (0.086)	-0.049 (0.047)	-0.064 (0.062)
<i>FormalW</i>	-0.360 (0.258)	-0.101 (0.066)	-0.105 (0.075)	0.061 (0.050)	0.046 (0.064)
<i>Rely</i>	-0.009 (0.041)	-0.002 (0.011)	-0.008 (0.012)	-0.000 (0.007)	-0.003 (0.010)
<i>Constant</i>	3.583*** (0.504)	0.373*** (0.142)	0.721*** (0.152)	0.107 (0.093)	0.157 (0.118)
<i>Controls</i>	✓	✓	✓	✓	✓
<i>Observations</i>	293	293	293	293	293
<i>R – squared</i>	0.028	0.026	0.026	0.020	0.033

Note: Informal workers is the omitted sample, *Rely* is a subjective measure of how trustworthy the answers are (scale from 1 to 9). Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Mean Social Appropriateness of telling the truth and lying in different degrees for Personal Normative Beliefs Methodology:

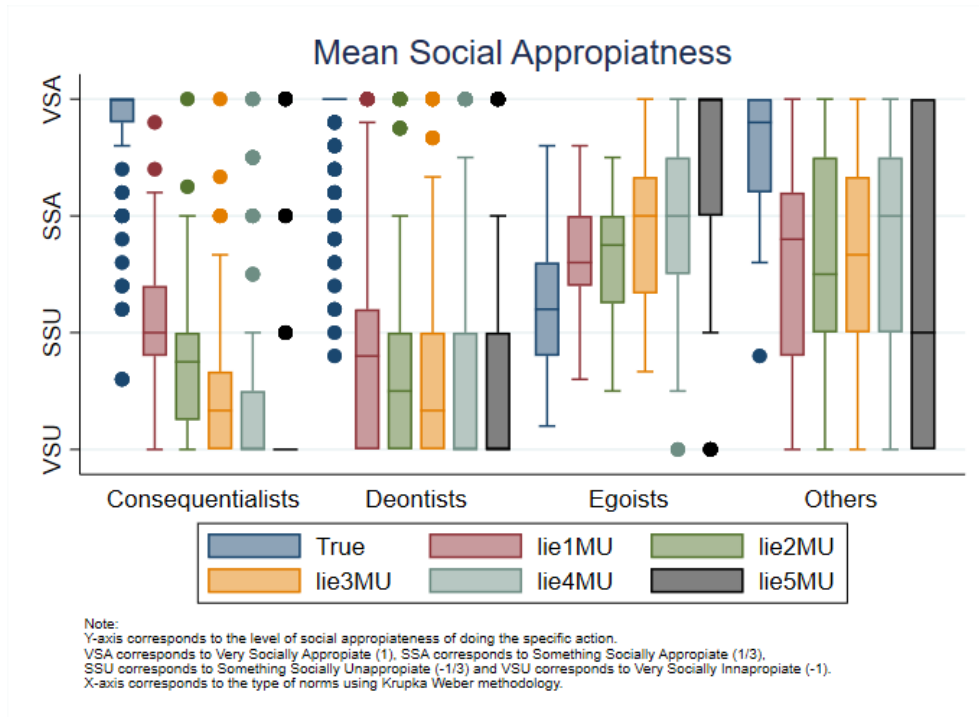


Figure 1: MSA of lying and telling the truth by Personal Normative Type

Reported die values by Personal Normative Beliefs norms:

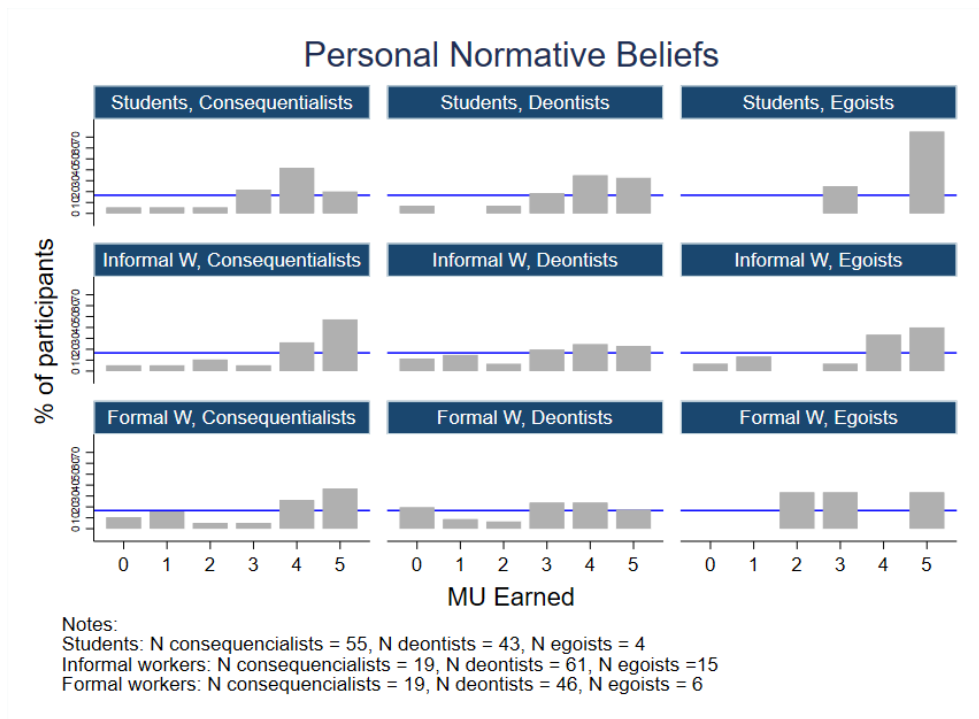


Figure 2: Reported die by Personal Normative Belief norms type.

Table 3: Mean Social Appropriateness by sample and proximity

	(1)	(2)	(3)	(4)	(5)
	Action	Allow	Lie	Authorities	Tell
Informal Worker	0.039 (0.056)	0.106 (0.064)	-0.097 (0.106)	-0.041 (0.070)	0.107 (0.070)
Relative	-0.059 (0.055)	-0.034 (0.069)	-0.124 (0.113)	-0.133* (0.080)	0.059 (0.077)
InformalXRelative	0.017 (0.073)	0.009 (0.090)	0.188 (0.146)	0.024 (0.103)	-0.054 (0.097)
Constant	-0.607*** (0.085)	-0.345*** (0.099)	-0.773*** (0.147)	0.218** (0.106)	0.194* (0.109)
Observations	371	371	277	371	371
R-squared	0.012	0.032	0.030	0.058	0.033
F-test Ho	0.377	0.673	0.478	0.0939	0.940

Note: The Action column shows the MSA of making an illegal action, Tell shows the MSA of confronting the subject and telling them that taking that action is wrong, Authorities shows the MSA of reporting to authorities, Allow is the MSA stops doing the action and Lie shows the lie MSA to the authorities. Relative is a dummy variable that indicates wheater the MSA corresponds to an action shown for a relative, Informal is a dummy variable that indicates wheater the subject is from the informal worker sample, F-test Ho tests if being in the informal sector is associated with a different MSA in the specific column. Robust standard errors in parentheses (** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$)

Table 4: Effects of Civic Attitudes in the reported value of the dice

	(1)	(2)
	Reported Maximum Value	General Reported Value
<i>Students</i>	-0.062 (0.092)	0.225 (0.304)
<i>FormalW</i>	-0.065 (0.090)	-0.144 (0.337)
<i>SCAxStudents</i>	-0.029 (0.100)	0.066 (0.312)
<i>SCAxInformalW</i>	-0.014 (0.105)	0.469 (0.365)
<i>SCAxFormalW</i>	-0.052 (0.099)	0.356 (0.432)
<i>Civic</i>	-0.025 (0.019)	-0.133* (0.072)
<i>PDN₅</i>	0.082*** (0.022)	0.487*** (0.186)
<i>MeanDepVar</i>	0.290	0.917
<i>Controls</i>	✓	✓
<i>Observations</i>	284	284
<i>R - squared</i>	0.155	0.172

Note: The dependent variables are the probability of reporting the maximum value (Column 1) and the general reported value (Column 2). Informal workers is the omitted sample, *Civic* is the mean value based on the justifiably of civic norm violations (not paying taxes/fare/and getting benefits that don't correspond to you), *SCA* is a Dummy Variable that indicates Strict Civic Attitudes, and *Rely* is a subjective measure of how trustworthy the answers are (scale from 1 to 9). All regressions have socioeconomic controls such as age, gender, and relative income. We add the Perceived Descriptive Norms *PDN* but we only show the *PDN* of reporting the maximum value. Robust standard errors in parentheses (** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$)

Table 5: Effects of social and civic norms in the reported value of the dice for Students Sample

	Report Maximum Value			General Reported Value		
	(1) Personal Belief	(2) Krupka Weber Methodology	(3) Civic Attitudes	(4) Personal Belief	(5) Krupka Weber Methodology	(6) Civic Attitudes
<i>Deontist</i>	0.108 (0.089)	0.030 (0.085)		0.253 (0.275)	0.174 (0.281)	
<i>Egoist</i>	0.513** (0.208)	0.289 (0.182)		1.129** (0.530)	0.494 (0.605)	
<i>Other</i>	-0.012 (0.156)	-0.249*** (0.074)		-1.160* (0.693)	-2.573*** (0.209)	
<i>SCA</i>			0.003 (0.126)			0.305 (0.378)
<i>Civic</i>			-0.034 (0.033)			-0.241** (0.100)
<i>PDN₄</i>	-0.129* (0.072)	-0.135* (0.076)	-0.127* (0.076)	0.104 (0.388)	0.106 (0.393)	0.161 (0.387)
<i>Rely</i>	-0.074*** (0.026)	-0.077*** (0.027)	-0.077*** (0.027)	-0.093 (0.119)	-0.095 (0.121)	-0.096 (0.114)
<i>MeanDepVar</i>	1.598	1.614	1.773	3.851	3.722	5.193
<i>Observations</i>	106	106	106	106	106	106
<i>R - squared</i>	0.288	0.261	0.244	0.212	0.198	0.189

Note: The dependent variables are the probability of reporting the maximal payout in the laboratory dice task (Columns 1-3), and the generally reported value (Columns 4-6). Columns 1, 2, 4, and 5 show the type of norms using the specific methodology, and Columns 3 and 6 use our indicator of Strict Civic Attitudes. *Deontists* and *Egoists* are dummy variables that indicate the type of norms of people in the session. Since the sum of participants with *Egoists* and *Others* type of norms is 7 in KW and 8 in PNB we didn't show this finding in the main text, but we open the discussion for further research. *Civic* is the mean value based on the justifiability of civic norm violations (not paying taxes/fare/and getting benefits that don't correspond to you). *Rely* is a measure of how much a participant believes their answers are trustworthy (on a scale from 1 to 9). All regressions have socioeconomic controls such as age, gender, and relative income. We add the Perceived Descriptive Norms *PDN* but we only show the *PDN* of reporting the more frequent value in terms of MU. Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1

Additional Approach to honesty measures:

Table 6: Additional honesty measures in the informal worker's sample

	Report Minimum Value			Report big Value		
	(1) Personal Belief	(2) Krupka Weber Methodology	(3) Civic Attitudes	(4) Personal Belief	(5) Krupka Weber Methodology	(6) Civic Attitudes
<i>Deontist</i>	0.064 (0.066)	0.104** (0.052)		-0.228* (0.122)	-0.331*** (0.112)	
<i>Egoist</i>	-0.047 (0.109)	0.137 (0.088)		0.247* (0.139)	-0.049 (0.156)	
<i>Other</i>	0.094 (0.105)	0.173 (0.106)		-0.069 (0.150)	-0.142 (0.156)	
<i>SCA</i>			-0.067 (0.078)			0.057 (0.131)
<i>Civic</i>			0.018 (0.018)			0.003 (0.032)
<i>PDN₅</i>	-0.172*** (0.049)	-0.162*** (0.049)	-0.176*** (0.052)	0.205*** (0.051)	0.216*** (0.050)	0.197*** (0.055)
<i>Rely</i>	-0.002 (0.010)	0.003 (0.010)	-0.003 (0.011)	0.020 (0.019)	0.013 (0.021)	-0.003 (0.021)
<i>MeanDepVar</i>	1.779	1.587	1.703	-1.112	-0.976	-0.751
<i>Observations</i>	102	102	100	102	102	100
<i>R - squared</i>	0.226	0.240	0.214	0.298	0.291	0.209

Note: The dependent variables are: the probability of reporting the minimal payout in the laboratory dice task (Columns 1-4), and the probability of report the two biggest values (Columns 5-8). Columns 1, 2, 5, and 6 show the type of norms using the specific methodology, Columns 3 and 7 use our indicator of Strict Civic Attitudes, and Columns 4 and 5 tests the effects of Social Acceptability of an illicit action done by a familiar. *Deontists* and *Egoists* are dummy variables that indicate the type of norms of people in the session. *Civic* is the mean value based on the justifiability of civic norm violations (not paying taxes/fare/and getting benefits that don't correspond to you). *Rely* is a measure of how much a participant believes their answers are trustworthy (on a scale from 1 to 9). All regressions are run with socioeconomic controls such as age, gender, and relative income. We add the Perceived Descriptive Norm *PDN* but we only show the *PDN* of reporting the maximum number of Monetary Units MU. Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1

Table 7: Additional honesty measures in the Formal worker's sample

	Report Minimum Value			Report big Value		
	(1)	(2)	(3)	(4)	(5)	(6)
	Personal Belief	Krupka Weber Methodology	Civic Attitudes	Personal Belief	Krupka Weber Methodology	Civic Attitudes
<i>Deontist</i>	0.125 (0.097)	-0.068 (0.134)		-0.284** (0.123)	-0.220 (0.167)	
<i>Egoist</i>	-0.104 (0.105)	-0.298** (0.139)		-0.364* (0.191)	-0.277 (0.205)	
<i>Other</i>	0.085 (0.219)	-0.048 (0.193)		-0.170 (0.235)	-0.308 (0.208)	
<i>SCA</i>			-0.148 (0.116)			0.129 (0.151)
<i>Civic</i>			0.065** (0.024)			-0.043 (0.034)
<i>PDN₅</i>	-0.060 (0.051)	-0.062 (0.053)	-0.053 (0.050)	0.078 (0.058)	0.057 (0.059)	0.051 (0.059)
<i>Rely</i>	-0.008 (0.014)	-0.015 (0.015)	-0.011 (0.014)	-0.023 (0.020)	-0.027 (0.021)	-0.023 (0.020)
<i>MeanDepVar</i>	0.813	1.051	0.372	0.519	0.899	0.810
<i>Observations</i>	78	78	78	78	78	78
<i>R - squared</i>	0.163	0.180	0.185	0.207	0.178	0.165

Note: The dependent variables are: the probability of reporting the minimal payout in the laboratory dice task (Columns 1-4), and the Monetary Units reported (Columns 5-8). Columns 1, 2, 5, and 6 show the type of norms using the specific methodology, Columns 3 and 7 use our indicator of Strict Civic Attitudes, and Columns 4 and 5 tests the effects of Social Acceptability of an illicit action done by a familiar. *Deontists* and *Egoists* are dummy variables that indicate the type of norms of people in the session. *Civic* is the mean value based on the justifiably of civic norm violations (not paying taxes/fare/and getting benefits that don't correspond to you). *Action, Allow, Authorities* are the Mean Social Appropriateness MSA of doing an illegal action, allowing it, and telling authorities if done by a familiar. *Rely* is a measure of how much a participant believes their answers are trustworthy (in a scale from 1 to 9). All regressions are run with socioeconomic controls such as age, gender, and relative income. We add the Perceived Descriptive Norm *PDN* but we only show the *PDN* of reporting the maximum number of Monetary Units MU. Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Table 8: Additional honesty measures in the students sample

	Report Maximum Value			General Reported Value		
	(1)	(2)	(3)	(4)	(5)	(6)
	Personal Belief	Krupka Weber Methodology	Civic Attitudes	Personal Belief	Krupka Weber Methodology	Civic Attitudes
<i>Deontist</i>	0.004 (0.052)	-0.036 (0.054)		0.081 (0.092)	0.055 (0.092)	
<i>Egoist</i>	-0.057 (0.052)	-0.064 (0.045)		0.240 (0.240)	0.155 (0.186)	
<i>Other</i>	-0.043 (0.048)	-0.068* (0.036)		-0.214 (0.183)	-0.662*** (0.079)	
<i>SCA</i>			-0.097 (0.069)			-0.065 (0.119)
<i>Civic</i>			0.036** (0.018)			-0.045 (0.034)
<i>PDN₄</i>	-0.091 (0.081)	-0.090 (0.080)	-0.099 (0.080)	0.082 (0.098)	0.081 (0.099)	0.089 (0.102)
<i>Rely</i>	0.014* (0.008)	0.015* (0.008)	0.014* (0.008)	-0.016 (0.031)	-0.017 (0.032)	-0.018 (0.033)
<i>MeanDepVar</i>	0.752	0.758	0.497	0.793	0.776	0.963
<i>Observations</i>	106	106	106	106	106	106
<i>R - squared</i>	0.065	0.070	0.094	0.289	0.293	0.289

Note: The dependent variables are the probability of reporting the minimal payout in the laboratory dice task (Columns 1-3), and the probability of reporting the two biggest values (Columns 4-6). Columns 1, 2, 4, and 5 show the type of norms using the specific methodology, and Columns 3 and 6 use our indicator of Strict Civic Attitudes. *Deontists* and *Egoists* are dummy variables that indicate the type of norms of people in the session. *Civic* is the mean value based on the justifiably of civic norm violations (not paying taxes/fare/and getting benefits that don't correspond to you). *Rely* is a measure of how much a participant believes their answers are trustworthy (on a scale from 1 to 9). All regressions are run with socioeconomic controls such as age, gender, and relative income. We add the Perceived Descriptive Norm *PDN* but we only show the *PDN* of reporting the number 4 (since was the more frequent reported value, but the *PDN₅* was not significant). Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Table 9: Consistency of type of norms and the reported value of the die

	Report Maximum			General Reported		
	Value			Value		
	(1)	(2)	(3)	(4)	(5)	(6)
	Students	Informal Workers	Formal Workers	Students	Informal Workers	Formal Workers
<i>Deontist</i>	0.087 (0.097)	-0.298** (0.135)	-0.124 (0.168)	0.281 (0.301)	-1.180** (0.469)	0.480 (0.864)
<i>Egoist</i>	0.501** (0.221)	0.155 (0.190)	-0.300 (0.240)	1.104 (0.685)	0.356 (0.661)	0.272 (1.232)
<i>Other</i>		-0.247 (0.205)	-0.336 (0.249)		-1.854** (0.715)	0.323 (1.280)
<i>PDN₅</i>	-0.021 (0.085)	0.193*** (0.066)	-0.011 (0.062)	0.219 (0.263)	0.986*** (0.230)	0.435 (0.320)
<i>Rely</i>	-0.059* (0.035)	0.040* (0.022)	-0.051** (0.019)	-0.030 (0.109)	-0.012 (0.078)	-0.116 (0.098)
<i>MeanDepVar</i>	1.936	-1.049	0.786	3.395	-3.211	-2.781
<i>Controls</i>	✓	✓	✓	✓	✓	✓
<i>Observations</i>	86	66	47	86	66	47
<i>R – squared</i>	0.270	0.399	0.282	0.180	0.502	0.291

Note: The dependent variables are: the probability of reporting the maximal payout in the laboratory dice task (Columns 1-3), and the Monetary Units reported (Columns 4-5). Columns vary across the samples (students 1 and 4, Informal Workers 2 and 5 and Formal Workers 3 and 6). *Deontists* and *Egoists* are dummy variables that indicate staying in the specific type of norms in both methodologies. *Rely* is a measure of how much a participant believes their answers are trustworthy. All regressions are run with socioeconomic controls such as age, gender, relative income, and the Perceived Descriptive Norm PDN but we only show the PDN of reporting the maximum number of Monetary Units MU. Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Table 10: Consistency of type of norms in the additional honesty measures (Secondary approach to norms)

	Report Minimum			Report big		
	Value			Value		
	(1)	(2)	(3)	(4)	(5)	(6)
	Students	Informal Workers	Formal Workers	Students	Informal Workers	Formal Workers
<i>Deontist</i>	-0.024 (0.056)	0.099 (0.100)	-0.206 (0.201)	0.085 (0.104)	-0.359** (0.137)	-0.007 (0.222)
<i>Egoist</i>	-0.071 (0.128)	0.015 (0.141)	-0.418 (0.286)	0.227 (0.235)	0.196 (0.193)	-0.401 (0.317)
<i>Other</i>		0.362** (0.153)	-0.417 (0.297)		-0.317 (0.209)	-0.062 (0.329)
<i>PDN₅</i>	-0.088* (0.049)	-0.179*** (0.049)	-0.156** (0.074)	0.037 (0.090)	0.241*** (0.067)	0.032 (0.082)
<i>Rely</i>	0.012 (0.020)	0.002 (0.017)	-0.006 (0.023)	-0.002 (0.038)	-0.002 (0.023)	-0.064** (0.025)
<i>MeanDepVar</i>	0.891	1.748	2.339	0.988	-0.918	-0.027
<i>Observations</i>	86	66	47	86	66	47
<i>R – squared</i>	0.078	0.321	0.366	0.249	0.462	0.358

Note: The dependent variables are: the probability of reporting the minimal payout in the laboratory dice task (Columns 1-3), and the probability of reporting the two biggest values (Columns 4-5). Columns vary across the samples (students 1 and 4, Informal Workers: 2 and 5, and formal workers: 3 and 6). *Deontists* and *Egoists* are dummy variables that indicate staying in the specific type of norms in both methodologies. *Rely* is a measure of how much a participant believes their answers are trustworthy on a scale from 1 to 9). All regressions are run with socioeconomic controls such as age, gender, relative income, and the Perceived Descriptive Norm PDN but we only show the PDN of reporting the maximum number of Monetary Units MU. Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)

Civic attitudes individually and honesty:

Table 11: Effects of individual civic norms

	Report Maximum Value								
	(1) Students	(2) Informal W	(3) Formal W	(4) Students	(5) Informal W	(6) Formal W	(7) Students	(8) Informal W	(9) Formal W
<i>Civic_{tax}</i>	-0.013 (0.025)	-0.039** (0.018)	-0.020 (0.022)						
<i>Civic_{fare}</i>				-0.046** (0.019)	-0.021 (0.015)	-0.036 (0.024)			
<i>Civic_{gov}</i>							0.011 (0.018)	-0.000 (0.017)	-0.041* (0.022)
<i>PDN₅</i>	-0.009 (0.072)	0.135** (0.056)	0.090*** (0.025)	0.014 (0.062)	0.128** (0.056)	0.086*** (0.025)	-0.011 (0.072)	0.120** (0.060)	0.092*** (0.024)
<i>Rely</i>	-0.077*** (0.028)	0.036* (0.021)	0.001 (0.015)	-0.078*** (0.028)	0.032* (0.018)	0.000 (0.014)	-0.077*** (0.028)	0.028 (0.019)	0.003 (0.015)
<i>MeanDepVar</i>	1.703*	-0.523	0.137	1.719**	-0.617	0.233	1.549*	-0.623	0.297
<i>Observations</i>	106	100	78	106	100	78	106	100	78
<i>R - squared</i>	0.237	0.141	0.264	0.272	0.119	0.285	0.238	0.104	0.294

Note: The dependent variable is the probability of reporting the maximal payout in the laboratory die task. The columns vary across samples, with students 1, 4, and 7; informal workers 2, 5, and 8; and formal workers 3, 6, and 9. Additionally, individual indicators called *Civic_{tax/fare/gov}* are used to measure participants' perceived justification for tax evasion, fare dodging, and lying about government benefits. *Rely* is a measure of how much a participant believes their answers are trustworthy on a scale from 1 to 9). All regressions are run with socioeconomic controls such as age, gender, relative income, and the Perceived Descriptive Norm PDN but we only show the PDN of reporting the maximum number of Monetary Units MU. Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

1 Planned Experimental Design

Experiments were conducted in zTree (Fischbacher 2007). And they are made up of 3 main tasks, an initial questionnaire and a post-experimental questionnaire. Hence, the general sequence of it is proposed as follows:

1.1 Die rolling task

The first task for the participants will be the widely-used die rolling task by (Fischbacher and Föllmi-Heusi 2013), in which subjects roll a die privately and report the outcome and the monetary payment of it. In this task the dominant strategy will be to report the outcome associated with the highest payout (which is independent of the result obtained when rolling the die) that is, to lie. On another side, the payoff for this task depends on the participant’s reported value when rolling the die and it is summarized in Table 12 in terms of Monetary Units (MU).

The interesting part of this task is that it allows us to create a simple and effective measure of dishonesty. The instructions are set out in Supplementary Information (SI), section 2.

Table 12: Payoffs in die rolling task

Reported Value	Payoff (MU)
1	1
2	2
3	3
4	4
5	5
6	0

1.2 First task

The first task will be an incentivized one when we will elicit the perceived descriptive norms of the die-rolling task. The incentivization followed (Fischbacher and Föllmi-Heusi 2013), in which subjects received 5 MU if they guessed the distribution of self-reported die-rolls of all subjects in their session correctly and were penalized linearly for deviations from the true distribution. This task will allow us to see and control the behavior of the participants who reported higher values based on the assumption (or as an excuse) that others behaved in that way. The manner in which the participants will respond to it is set out in SI, section ??.

1.3 Second task

In this part, we will elicit perceived (shared) normative expectations of the first task (Die rolling task) using (Krupka and Weber 2013). In this task, we will examine all 20 possible actions that involve usefully lying and telling the truth¹⁶. In this task, subjects will receive 5 MU if they choose the level of appropriateness which was chosen by the majority of people in session in a random action selected.

Importantly, this task allowed us to classify subjects among **Consequentialists** (Participants who differentiate between the extent of the lie in terms of social acceptability), **Deontists** (Participants who perceive norms such that any lie is socially unacceptable and that the norms do not differentiate between the extent of the lie) and **Normative egoists** (Subjects that perceive injunctive norms such that it is more acceptable to lie than tell the truth) according to the strength of social norms. Broadly, for Deontists an action such as lying is right or wrong independent of the severity of the consequences. Consequentialists, however, will consider the severity of a lie when assessing the corresponding morality. The manner in which the participants will respond to it and the methodology of classification are set out in SI, section 2 and 3.

1.4 Third task

This task was divided into two parts, part 3-A consisted of measuring in terms of shared norms whether people were more socially punitive if an illegal action was performed by a family member or by a stranger. In this task, Kupkra and Weber's methodology was used to measure shared norms in 7 situations (selling stolen cell phones, contraband clothing, fare dodging, stealing products, giving wrong change in their favor, giving benefits in contracting, and accepting bribes) for a total of 30 actions dealing with letting the action happen (**Allow**), making the action (**Action**), telling to the authorities (**Authorities**)/lying to the authorities (**Lie**) and facing the person who does it (**Tell**).

Part 3-B consisted of paying a fixed amount of 4 UM for answering what was asked in part two but with a methodology called Personal Normative Beliefs, which consisted of asking the same 20 actions that resulted from lying profitably on the die, but asking participants how socially appropriate it seems to **THEM** perform those actions. The manner in which the participants will respond to it is set out in SI, section 2.

¹⁶In the first task we have five sub-optimal situations - rolling 1,2,3,4 or 6-, if the participant gets six when rolling the die he can usefully lie in five ways (saying that he got 1, 2, 3, 4 or 5), if the participant obtained one he can usefully lie in four ways (saying that he got 2, 3, 4 or 5), if the participant obtained two he can usefully lie in three ways (saying that he got 3, 4 or 5), if the participant obtained three can lie in two ways (saying that he got 4 or 5) and if the participant obtained four he would only profitably lie if he says that he obtained a 5. The level of social norms of telling the truth in each of the five sub-optimal situations will also be measured.

1.5 Exit Questionnaire

By last, in the post-experimental survey, we will ask about age, gender, relative income, nationality, and economic activity. And importantly we will make questions associated with the Strict Civic Attitudes (SCA) using an indicator (in line with how justifiable is to make fare dodging, government benefits Corruption, and taxes on a 10-point scale), then, use this measure of the strength of the social norms and relate them to the dishonesty/cheating measure. The manner in which the participants will respond to it is set out in SI, section 2.

2 The Experiment

General Instructions

¡Bienvenido!

Está a punto de participar en un estudio de toma de decisiones. Es importante que no se comunique con ninguno de los otros participantes hasta que haya terminado. Sus respuestas serán completamente **anónimas**.

Por completar el estudio usted recibirá \$10.000 más los pagos adicionales por algunas decisiones que usted tome. En el caso en el que decida abandonarlo antes de finalizar, no recibirá nada.

Si tiene alguna pregunta, por favor levante su mano. Si está listo para continuar, por favor presione 'OK'.

Die task

Instrucciones cuestionario inicial

Por responder al siguiente cuestionario usted recibirá un pago adicional. Sin embargo, este pago no es igual para todos los participantes. Usted determinará su propio pago lanzando un dado dos veces cuando le sea indicado.

Su primer lanzamiento determinará cuánto va a recibir, su segundo lanzamiento solo tiene el propósito de que se asegure de que el dado está funcionando correctamente. Usted puede observar el pago exacto en la siguiente tabla. Esta tabla permanecerá en la pantalla hasta que usted haya ingresado el valor de su lanzamiento.

Número obtenido:	Pago (en pesos):
1	2000
2	4000
3	6000
4	8000
5	10000
6	0

Ahora por favor ingrese el número obtenido en su primer lanzamiento y el pago que recibe por reportar ese número.

Número obtenido:

Pago resultante (en pesos (\$)):

Número obtenido:	Pago (en pesos):
1	2000
2	4000
3	6000
4	8000
5	10000
6	0

Part 1

Parte uno

Antes del cuestionario, le pedimos a todos los participantes que reportaran el número que obtuvieron con el lanzamiento de un dado. Dependiendo del número reportado, los participantes recibirán un pago.

Para esta primera parte seleccionaremos al azar 10 de los participantes de la sesión (**sin incluirlo a usted**). En la siguiente tabla deberá predecir cuántas de las 10 personas seleccionadas al azar cree usted que reportó cada uno de los posibles valores del dado (1-6).

Si sus respuestas son correctas, usted ganará 10000 pesos. Si usted se desvía del valor correcto su pago se reducirá en 800 pesos por cada unidad. Usted recibirá un mínimo de 1000 pesos. **Por ejemplo**, si usted cree que **6** de las personas de la sesión reportaron el número 1, pero en realidad **4** personas de la sesión reportaron ese número, se le descontará de su pago **1600** porque se desvió en dos personas.

Por favor llene cada una de las siguientes casillas. Note que el número de personas debe sumar 10.

¿Cuántos de los 10 participantes tomados al azar...

... recibieron un pago de 0 (reportaron 6)?	<input type="text"/>
... recibieron un pago de 2000 (reportaron 1)?	<input type="text"/>
... recibieron un pago de 4000 (reportaron 2)?	<input type="text"/>
... recibieron un pago de 6000 (reportaron 3)?	<input type="text"/>
... recibieron un pago de 8000 (reportaron 4)?	<input type="text"/>
... recibieron un pago de 10000 (reportaron 5)?	<input type="text"/>

Part 2

Parte dos

Instrucciones

En las pantallas siguientes usted leerá descripciones de una serie de situaciones en las que una persona debe tomar una decisión. Para cada situación, se le dará una descripción de las diferentes elecciones disponibles.

Después de leer la descripción de la decisión, se le pedirá que elija, para cada una de las posibles acciones, lo que usted cree que **LA MAYORÍA DE LAS PERSONAS EN LA SESIÓN** seleccionó, entre si la acción sería "socialmente apropiado" y "consistente con un comportamiento social moral o adecuado" o "socialmente inapropiado" e "inconsistente con un comportamiento social moral o adecuado". Por socialmente apropiado nos referimos al comportamiento para el que la mayoría de las personas está de acuerdo con que es lo "correcto" o "ético" de hacer.

En esta parte, **sus ganancias DEPENDEN de las opciones seleccionadas por otros participantes.**

Usted recibirá un pago de 10000 COP si selecciona lo que la mayoría seleccionó y 0 COP en otro caso.

Situación 1: Suponga que el individuo A lanzó el dado y obtuvo el número '6'

¿Qué tan socialmente apropiado es...	Muy socialmente inapropiado	Algo socialmente inapropiado	Algo socialmente apropiado	Muy socialmente apropiado
...reportar el número 6 (\$0)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 1 (\$2000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 2 (\$4000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 3 (\$6000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 4 (\$8000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 5 (\$10000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Situación 2: Suponga que el individuo A lanzó el dado y obtuvo el número '1'.

¿Qué tan socialmente apropiado es...	Muy socialmente inapropiado	Algo socialmente inapropiado	Algo socialmente apropiado	Muy socialmente apropiado
...reportar el número 1 (\$2000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 2 (\$4000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 3 (\$6000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 4 (\$8000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 5 (\$10000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Situación 3: Suponga que el individuo A lanzó el dado y obtuvo el número '2'.

¿Qué tan socialmente apropiado es...	Muy socialmente inapropiado	Algo socialmente inapropiado	Algo socialmente apropiado	Muy socialmente apropiado
...reportar el número 2 (\$4000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 3 (\$6000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 4 (\$8000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 5 (\$10000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Situación 4: Suponga que el individuo A lanzó el dado y obtuvo el número '3'.

¿Qué tan socialmente apropiado es...	Muy socialmente inapropiado	Algo socialmente inapropiado	Algo socialmente apropiado	Muy socialmente apropiado
...reportar el número 3 (\$6000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 4 (\$8000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 5 (\$10000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Situación 5: Suponga que el individuo A lanzó el dado y obtuvo el número '4'.

¿Qué tan socialmente apropiado es...	Muy socialmente inapropiado	Algo socialmente inapropiado	Algo socialmente apropiado	Muy socialmente apropiado
...reportar el número 4 (\$8000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
...reportar el número 5 (\$10000)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part 3

Parte tres-A

Esta parte es en esencia igual a la **Parte dos**, pero con nuevas situaciones.

Se presentarán posibles acciones disponibles para un individuo (distribuidas en 7 situaciones diferentes). De estas acciones, seleccionaremos una al azar. Para la acción seleccionada, determinaremos cuál fue la opción que fue elegida por más personas hoy.

Si usted selecciona la misma opción que aquella que fue seleccionada por la mayoría de las personas en la sesión, recibirá \$10000, si no, recibirá \$0.

Por favor haga clic en 'OK' cuando esté listo para comenzar. En caso de tener alguna pregunta, por favor levante su mano.

Situación 1: Un desconocido del individuo A le ofrece ropa de contrabando a un precio bajo.

¿Qué tan socialmente apropiado es...	Muy socialmente inapropiado	Algo socialmente inapropiado	Algo socialmente apropiado	Muy socialmente apropiado
... que un desconocido venda ropa de contrabando?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... que el individuo A le diga a un desconocido que vender cosas de contrabando no está bien?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... el individuo A le compre ropa de contrabando a una persona desconocida?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
... que el individuo A le informe a las autoridades que una persona desconocida vende artículos de contrabando?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Parte tres-B

En las pantallas siguientes usted leerá descripciones de una serie de situaciones (que involucran el lanzamiento del dado del comienzo) en las que una persona debe tomar una decisión. Para cada situación, se le dará una descripción de las diferentes elecciones disponibles.

Se le pedirá que evalúe, para cada una de las posibles acciones, si **USTED CREE que elegir esa acción sería "socialmente apropiado" y "consistente con un comportamiento social moral o adecuado" o "socialmente inapropiado" e "inconsistente con un comportamiento social moral o adecuado"**. Por socialmente apropiado nos referimos al comportamiento para el que la mayoría de las personas está de acuerdo con que es lo "correcto" o "ético" de hacer.

En esta parte, **sus ganancias NO dependen de las opciones seleccionadas por otros participantes**. Usted recibirá un pago fijo de 8000 COP por completarla.

Por favor haga clic en 'OK' cuando esté listo para comenzar con la **Parte tres-B** del experimento. En caso de tener alguna pregunta, por favor levante su mano.

Strict Civic Attitudes Measure

Por favor indique para cada una de las siguientes afirmaciones si usted piensa que pueden justificarse o no, donde 1 indica que "nunca es justificable" y 10 indica que "siempre es justificable"

	1	2	3	4	5	6	7	8	9	10
Reclamar beneficios del gobierno que no le corresponde recibir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
Evadir el pago de la tarifa del transporte público	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
Evadir impuestos si tiene la oportunidad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
Quedarse dinero que se encontró	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
No reportar algún daño hecho de forma accidental a un vehículo estacionado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
La homosexualidad	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
El aborto	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		
El divorcio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	nunca es justificable							siempre es justificable		

3 Classification methodology

$$SA_{j,s} = \alpha + \beta \cdot Extent_j + \gamma \cdot Situation_s + \delta \cdot Truth_s + \epsilon$$

Where $SA_{j,s}$: Social acceptability of situation s and j denotes the extent of a lie in reporting an outcome.

- Consequentialist $\beta < 0$, and the MSA of reporting a lie is lower than the MSA of reporting the truth while the mean social acceptability of reporting a lie is negative.
- Deontist $\beta = 0$, the MSA of reporting the truth is greater zero, while the MSA of reporting a lie is negative.
- Normative Egoist $\beta > 0$ or $\beta = 0$ and the MSA of reporting a lie is greater than the MSA of reporting the truth.