The Relationship between Years of Education and Honesty in Decision Making: An Experimental Study in College Students*

Relación entre años de educación y honestidad: Un experimento con estudiantes de universidad

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ABSTRACT

Previous research has found that age, gender, social status, and some professions are correlated with honesty. However, it is unclear whether a central stage in higher education, undergraduate, affects honest behavior. Given that most undergraduate programs now emphasize the importance of ethics we expected modifications in honest behavior via education or changes in individual economic contexts (e.g. internships). To this end, undergraduate students of the first two and the last two semesters of economics and business, in an university with mandatory ethics courses, tossed a fair coin anonymously and reported the result through a survey (between-subjects design). Heads had monetary benefits in addition to the base pay for participating. It was found that both first and last semester students report probabilities significantly higher than 0.5. Activating professional identity slightly reduced this tendency and posterior probabilities indicate only a small increase in misreporting in the last semesters. The results suggest persistent dishonesty, observable from the start of higher education.

Keywords

economic behavior; honesty; experimental design; life-cycle theory; economic decision-making.

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RESUMEN

Investigaciones previas han encontrado que la edad, el género, el estatus social y algunas profesiones están correlacionados con la honestidad. Sin embargo, no está claro si una etapa central de la educación superior, como el pregrado, afecta el comportamiento honesto. Dado que la mayoría de los programas de pregrado actualmente enfatizan la importancia de la ética, se esperaba observar modificaciones en el comportamiento honesto a través de la educación o cambios en los contextos económicos individuales (por ejemplo, prácticas profesionales). Con este propósito, estudiantes de los dos primeros y de los dos últimos semestres de los programas de economía y administración de empresas, en una universidad con cursos de ética obligatorios, lanzaron una moneda justa de forma anónima y reportaron el resultado a través de una encuesta (diseño entre sujetos). El resultado "cara" otorgaba beneficios monetarios adicionales al pago

base por participar. Se encontró que tanto los estudiantes de primeros semestres como los de últimos semestres reportaron probabilidades significativamente mayores a 0,5. La activación de la identidad profesional redujo ligeramente esta tendencia, y las probabilidades posteriores indican solo un pequeño aumento en la falta de veracidad en los últimos semestres. Los resultados sugieren una deshonestidad persistente, observable desde el inicio de la educación superior.

Palabras clave
comportamiento económico; honestidad; diseño experimental; teoría del ciclo de vida; toma de decisiones económicas.

Honesty is a fundamental value that lies at the core of an equitable and fair society, as it encompasses sincerity, transparency, and trust in others. Sañudo & Palifka (2018) define honesty as the sincerity, upright behavior, and actions of an individual. In this context, an honest person is one who consistently acts with integrity and transparency in all situations, accepting responsibility for their actions.

Its economic importance lies in the fact that the absence of honesty and integrity can lead to acts of corruption, a widespread problem that affects many countries and hinders both economic and social development. Empirical evidence shows that societies with high corruption indices tend to experience deficits in democracy and social welfare (Transparency.org, 2024). Countries where human rights are violated, democracy weakens, civil liberties are eroded, and corruption flourishes.

Experimental work conducted across 40 countries and subsequently analyzed by Sulitzeanu-Kenan et al. (2022) showed that private sector workers and public officials returned lost wallets at similar rates, that is, they have similar levels of honesty. Interestingly, the rate of return of wallets in public officials correlated with corruption levels. As people's honesty increases, the incidence of corruption in society decreases. The problem is that corruption is known to induce inefficient allocations of resources (Bertrand et al., 2007), which in turn affects economic growth.

In most societies, not everyone has the same levels of income and consumption, which can create incentives to be dishonest. For example, an act of dishonesty and lack of integrity occurs when salespeople suggest commissions to the purchasing department of a company or government entity to gain an advantage over other proposals. While this may not directly affect society, it is still a malpractice in which the individual seeks benefits at the expense of others. Common knowledge dictates that not all illegal actions are corrupt, and not all corrupt practices are illegal. Studies by Frey & Oberholzer-Gee (1997) also highlight this issue. They found a tendency to accept the disposal of nuclear waste in exchange for economic rewards, suggesting that people may compromise their moral decisions for monetary incentives.

In this paper, we investigated whether there is a correlation between years of education and honesty, aiming to contribute to the practical discussions on the factors related to honesty. Also, it addresses the low number of experimental studies about dishonesty in the Latin-American region (Gerlach et al., 2019). To this end, students from Universidad Javeriana, comprising participants from both the first and last two semesters (between-subjects design) anonymously tossed a coin, activated their professional identity (with questions related to their profession), and received monetary rewards based on the outcome of the toss. The results show that 30.21 % of the students achieved more than two successes in their tosses, while 32.29 % had more than three successes. These percentages differ significantly from those expected under the 50/50 binomial distribution, suggesting the presence of dishonesty. A Bayesian linear regression reveals that the posterior probability of the coefficient is mostly positive, which indicates that students in the last two semesters tend to report more successes e.g. more dishonest. There was a small decrease in such probability when students were reminded of their career choice, consistent with context-dependent honesty.

Honest Behavior

Honesty plays a crucial role in society. Cultural and social factors can influence individuals' honesty, which in turn impacts their behavior across various contexts. Research by Huber & Huber (2020) examined the honesty levels of professionals in the financial sector, focusing on their perceptions of reporting fraudulent actions. The results indicate that professional context significantly influences the intention to report unethical behavior. This suggests that reminders of one's role can enhance awareness of the importance of honesty and responsibility in economic decision-making.

Similarly, theorizing work by Dane & Sonenshein (2014) explored the influence of professional experience and ethical behavior. They propose that professionals with more experience tend to exhibit greater ethical sensitivity and a stronger commitment to professional integrity compared to those with less experience. The mechanism is one of learning-by-doing: more professional experience also induces more ethical and moral situations. These results suggest a potential relationship between professional experience and higher levels of honesty, if workers in western cultures value ethical and moral decisions. Consequently, the importance of ethics and integrity in economic decision-making, as well as in professional roles across various fields, is underscored.

However, experiments conducted by Cohn et al. (2014) present a different perspective from the previous findings. Their study suggests that professional experience does not necessarily influence professional honesty, which contrasts with earlier research. Instead, the experimental design included a treatment variable that showed when participants' professional identity is activated, specifically those in the banking sector, it can increase their competitiveness, which may, in turn, lead to dishonest behaviors. These findings highlight that while years of professional experience may be important for developing skills and expertise, they do not necessarily guarantee a higher level of honesty.

Life-cycle theory offers valuable insights into how economic behaviors evolve throughout an individual's lifetime. For instance, research by Attanasio and Székely (1999) found a positive relationship between education and life-cycle saving, showing that higher levels of education are associated with increased saving rates and improved well-being. Income growth occurs during the early stages of life, peaks, and then begins to decline in later stages. This decline can be attributed to the reduced demand for labor among older adults or their reliance on fixed income sources, such as pensions.

In general, the life-cycle theory identifies three main stages in the lives of individuals: youth, middle age, and old age, each characterized by distinct behaviors and economic patterns. These behaviors are also influenced by factors such as selfishness, solidarity, honesty, and corruption at each stage.

Selfishness is often associated with dishonest behavior, but selfishness is not a default mode of behavior as there is evidence of other-regarding preferences. Research by Fehr et al. (2008) with children concluded that, as they mature, they spontaneously develop qualities of solidarity, especially toward those in their inner group. Humans, as a species, possess social and cultural institutions that foster cooperation. At early childhood, individuals are less likely to engage in corrupt behavior and are less incentivized to do so, laying the initial foundation for honesty and fairness in the early stages of the life cycle.

In the adolescent stage, there is exploration and self-knowledge. Molyneux (2020) emphasize that this stage is critical for education and guidance, as adolescents are particularly susceptible to environmental influences. During adolescence, individuals are not only exposed to their social circle but also have access to news and social media, which can be easily misinterpreted. Due to their heightened capacity to be influenced, adolescents are more likely to find themselves in situations that lead them to act contrary to their integrity and sincerity.

In adulthood, individuals develop social norms, skills, and behavioral patterns shaped by their upbringing, which influence their economic

decisions, including corrupt or dishonest ones. A meta-analysis of dishonesty found that experimental dishonesty, as measured by four types of experimental paradigms, has a negative trend as people age, but with some non-linearities; an u-shaped that peaks around 30 years old and then decreases (Gerlach et al., 2019). In adulthood, most people seem to become more honest but there is considerable variability.

During old age, individuals' income typically decreases due to lower employability or an inability to work, or because they rely on a pension. Empirically, it can be observed that corruption levels tend to decline with age, perhaps due to reduced risk-taking. There is evidence that changes in risk-related decision-making in older adults are not due to a shift in their perception of risk itself, but rather because of a decrease in Pavlovian-type decision-making (Rutledge et al., 2016). Elderly individuals are less likely to choose options involving risk due to reduced dopamine levels.

If honesty has a life cycle it raises a question. Are students with higher levels of education more likely to make ethical and honest decisions compared to those with lower levels of education? This paper examines the correlation between explanatory variables (age, gender, and socioeconomic stratum) and decision-making related to dishonesty among university students at the Pontificia Universidad Javeriana. It investigates whether increasing years of education influences honest reporting in a coin toss experiment, in comparison to a binomial distribution. Drawing on evidence from the literature, it is hypothesized that these variables are correlated with honesty, in line with the life cycle theory of behavior.

Two mutually exclusive directions are considered. In fact, the literature is ambiguous on the effect of economic and business education (Gerlach et al., 2019). First, as years of education increase, so does the level of honesty, in line with the view that education prepares better citizens by providing social norms and the mission statement of the university. Second, the results of Cohn et al. (2014), identify that as the professional training of individuals increases, activating professional identity (in banking-related careers) generates a competitive effect that, in turn, triggers reports of dishonest coin tosses.

Methods

Design

The study involved students from the Faculty of Economics and Administrative Sciences at Pontificia Universidad Javeriana, specifically those in their first two semesters (n= 49) and last two semesters (n = 47). Sample size was done by convenience for practical and budgetary restrictions. Post-hoc power and sample size calculations are conceptually and technically hard to interpret. Still, post-hoc, the sample certainly has low null-hypothesis testing power because there is no reason to expect large or medium effects. In fact, the small sample is one of the reasons for doing Bayesian estimates to better transmit the underlying uncertainty of estimates given the sample size. The study can be thought of as providing a tentative prior for future researchers.

The experiment was conducted using a coin toss, which has a long tradition in the literature (Gächter & Schulz, 2016). Participants received compensation of 5000 COP for their participation, in addition to any rewards earned from the game. Before the day of the toin coss, a brief pre-survey was conducted to gather demographic information on individuals. The ethics committee from the Faculty of Economics and Administrative Sciences at Pontificia Universidad Javeriana approved all the procedures, following relevant national and international guidelines.

The experiment is an adaptation of the methodology used by Cohn et al. (2014). It involves flipping a coin anonymously, with participants reporting the outcome through an online survey. If the result is heads, the participant receives a bonus of 3000 COP per toss. Conversely, if the result is tails, the student

only receives participation compensation. Participants have four opportunities to flip the coin, and the rewards from all four flips are cumulative. Clear instructions were provided regarding the possible economic outcomes.

Following Cohn et al. (2014), students were randomly assigned to either the control group or the professional identity activation treatment group. Participants in the control group were asked eight routine questions unrelated to their career or profession (e.g., What food do you like? Do you engage in physical activity?) before the coin tosses began. In contrast, participants in the professional identity treatment group were asked eight questions related to their career or profession (e.g., What job would you like to have after finishing your studies? How many hours a day do you spend studying?). Professional identity manipulation seeks a baseline by making participants think of their education.

Control condition questions. How many hours per week on average do you watch television? How many hours per week on average do you exercise? What is your favorite food? How many hours per week on average do you listen to music? How many books do you read per year? What religion do you practice? Where did you spend your last vacation? How many people are in your family group?

Treatment condition questions. What degree program are you studying? What semester are you currently in? How many hours per week on average do you dedicate to studying? Where would you like to do your internship, and if you've already done it, where did you do it? What job would you like to have after you graduate? What has been your favorite subject in your program? What are the three main advantages of your degree or profession? What research topics do you like within your field of study?

Since the maximum payment is 17000 COP, individuals have an economic incentive to report incorrect results. However, because participants remain anonymous, it is not possible to identify individual cheaters. Nevertheless, dishonesty can be detected at the group level.

The experiment meets the three conditions outlined by Cassar et al. (2009) Contingency, in which a monetary incentive is proposed and communicated to participants from the beginning; Dominance, which ensures participant anonymity; and Monotonicity, where the primary objective is the maximization of the participant's own income utilities.

Randomization Errors: Of the 96 participants, a small subsample of seven was endogenously assigned to the control group based on their responses on the Likert questionnaire regarding attitudes toward corruption. This happened due to an initial miscommunication error between the authors that was corrected promptly. The results were similar including and excluding these seven participants (see below for open data and analyses availability), but conservatively we exclude them for this paper.

The regression model was:

$$Success = \beta_0 + \beta_1\, sem + \beta_2\, treat + \beta_3\, sem{:}\, treat + \theta Dems$$

Where, success is the number of times coin lands on heads, sem is the semester of the student (0 first semesters, 1 last semesters), treat is the professional identity group, and dems are demographics: age; sex (1 for male, 0 for female); allowance, social stratum, and parents' level of education. The specification does not include clustered estimates (e.g. via fixed-effects or other hierarchical techniques), say of semester group, due to the limited sample size and, in the case of the Bayesian regression, hindered convergence metrics.

We conducted traditional OLS and Bayesian regressions, in Python with the packages Bambi and Statsmodels (Capretto et al., 2022), which offer specific functionalities for estimating multiple regression models and conducting frequentist and Bayesian statistical analyses (we used the default broad priors and normal likelihood settings of Bambi). Bayesian models are applied because they provide a "probability distribution" of the betas, allowing for the analysis of the posterior probability of the estimate's sign rather than solely relying on p values.

Results

Table 1
Demographics

Variable	Overall *M* (*SD*)	First *M* (*SD*)	Last *M* (*SD*)	*p*
n	89	48	41	
Age	19.1 (2.4)	17.2 (0.8)	21.2 (1.5)	< 0.001
Female	0.5 (0.5)	0.5 (0.5)	0.5 (0.5)	0.468
SES	3.9 (1.3)	3.7 (1.2)	4.1 (1.4)	0.120
StudentIncome	2.1 (1.6)	1.8 (1.5)	2.5 (1.7)	0.024
EdFather	2.4 (1.4)	2.4 (1.4)	2.5 (1.5)	0.716
EdMother	2.1 (1.2)	2.2 (1.1)	1.9 (1.2)	0.183
DriverSanction	2.0 (2.6)	1.7 (2.4)	2.3 (2.7)	0.314
Career	*n* (%)	*n* (%)	*n* (%)	$\chi^2 = 0.019$
Accounting	9 (10.1)	9 (18.8)	-	-
Business	43 (48.3)	22 (45.8)	21 (51.2)	-
Econ	31 (34.8)	13 (27.1)	18 (43.9)	-
Finance	6 (6.7)	4 (8.3)	2 (4.9)	-
ReasonUndergrad	*n* (%)	*n* (%)	*n* (%)	$\chi^2 = 0.054$
GoodAt	18 (20.2)	13 (27.1)	5 (12.2)	-
JobProspect	25 (28.1)	10 (20.8)	15 (36.6)	-
LikesUndergrad	22 (24.7)	15 (31.2)	7 (17.1)	-
SocietyPolitics	24 (27.0)	10 (20.8)	14 (34.1)	-

Demographic comparisons between first and last semester students revealed significant differences in age, student income, and career aspirations. As expected, last semester students were significantly older (M = 21.2 years) compared to first semester students (M = 17.2 years, $p < 0.001$), and they reported a higher mean student income (2.5 vs. 1.8, p = 0.024). Furthermore, there was a statistically significant difference in the distribution of career choices between the two groups (p = 0.019), with a higher proportion of first-semester students indicating Accounting and Business as their intended career paths, while a larger percentage of last-semester students were oriented towards Economics. It was hard to sample accounting majors in their final semesters. No significant differences were observed in gender, socioeconomic status, parental education levels, or driver sanctions between the two groups.

Figure 1 displays the number of successful tosses reported by participants, ranging from 0 to 4, where higher values indicate a greater level of success. The values look biased towards a higher number of successes (Figure 1A). We calculated theta, which represents the posterior probability of obtaining heads based on the data reported by participants (Figure 1B). The probability of obtaining heads on each student's toss was estimated using a uniform prior for theta (ranging from 0 to 1) and a binomial likelihood (p = theta, n = total tosses). The average posterior probability was 0.63. This suggests that students manipulated the outcomes in their favor. Since Colombian coins are fair, this discrepancy indicates dishonesty at the group level.

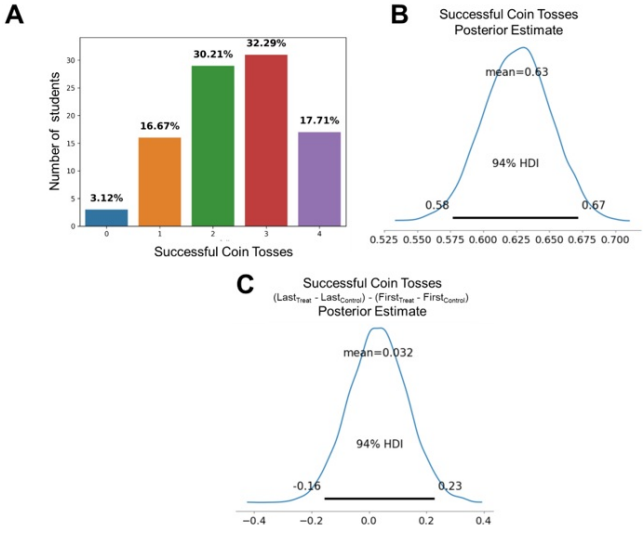

Figure 1.
Successful coin tosses (whole sample).
Note. (A) Histogram. (B) Bayesian posterior estimate of probability of successful toss. Evidence of dishonesty. (C) Bayesian posterior estimate of semester effect on successful tosses. No effect of dishonesty at different semesters.

When analyzing behavior in first and last semester, both relative to the professional identity activation treatment, student behavior appears to be very similar, the difference in misreporting on average was 0.032 (Figure 1C). This suggests persistency in student behavior regarding dishonest reporting in the coin toss. Misreporting is present early on in higher education.

Table 2
OLS regression

OLS regression	Coefficient (95% CI)	
	Model 1	Model 2
Intercept	2.62** (2.21, 3.04)	7.14*** (3.96, 10.32)
Treatment	-0.25 (-0.93, 0.43)	-0.17 (-0.88, 0.54)
LastSem	-0.04 (-0.66, 0.58)	0.89* (-0.10, 1.87)
Treatment × LastSem	0.12 (-0.79, 1.03)	0.00 (-0.93, 0.94)
Age		-0.28** (-0.47, -0.10)
Female		0.22 (-0.28, 0.71)
SES		-0.01 (-0.24, 0.21)
Student Income		0.33** (0.15, 0.52)
DriverSanction		0.06 (-0.03, 0.14)
Career [T.Business]		-0.69* (-1.49, 0.11)
Career [T.Econ]		-0.82* (-1.62, -0.01)
Career [T.Finance]		-0.33 (-1.62, 0.95)
EdFather		0.07 (-0.17, 0.30)
EdMother		-0.10 (-0.37, 0.17)
ReasonUndergrad [T.JobProspect]		0.32 (-0.38, 1.02)
ReasonUndergrad [T.LikesUndergrad]		-0.03 (-0.73, 0.68)
ReasonUndergrad [T.SocietyPolitics]		0.56 (-0.16, 1.29)
Observations	89	89
R^2	0.01	0.37
F	0.23	2.16**

Note. * $p < 0.01$, ** $p < 0.05$, *** $p < 0.001$

The effects of semester and professional identity treatment were not significant. The signs in Model 2 seem to indicate a negative effect of treatment, that is being reminded that one is a student slightly reduced the dishonest tendencies. The sign for last semester was positive, suggesting that students in their last semesters were more likely to report more successful coin tosses. The interaction between treatment and semester was practically zero.

Although the OLS did not show significance, the posterior probabilities of the betas are reported below, revealing a considerable probability that the treatment beta has a direction. Bayesian analysis goes beyond simply testing the null hypothesis; it provides the entire probability distribution of the estimates. We provide the Bayesian estimates of the Model 2 in Table 2.

An OLS regression revealed the following significant effects (Table 2, $p < 0.05$. Model 2 controls for demographics). Age had a negative effect, meaning that older students reported fewer coin successes. Student income had a positive effect, meaning that those with higher income reported more successes. Economics had a negative coefficient, meaning that those in this undergraduate reported fewer coin successes relative to the reference undergrad (accounting). Overall, Table 2 evidence that coin reporting is not independent of personal characteristics, consistent with previous research.

Figure 2 displays posterior distributions from a Bayesian analysis examining the effects of student identity activation (Treatment) and the last semester (LastSem) on the probability of successful coin tosses. The top left plot, "Semester effect," shows the posterior distribution for the coefficient of the 'LastSem' variable, with a high probability ($P(\beta > 0) = 0.96$) that this coefficient is positive. This suggests that students in their last semester are more likely to have successful coin tosses compared to those in their first semester. The top right plot, "Treatment effect," illustrates the posterior distribution for the 'Treatment' variable's coefficient, indicating a 73% probability ($P(\beta < 0) = 0.73$) that this coefficient is negative. This implies that activating student identity tends to decrease the likelihood of successful coin tosses. Finally, the bottom plot, "Treatment: Semester effect," presents the posterior distribution for the interaction term between 'Treatment' and 'LastSem'. The probability of this interaction term being positive is 0.51 ($P(\beta > 0) = 0.51$), suggesting a roughly equal chance that the effect of the treatment differs between first and last semester students.

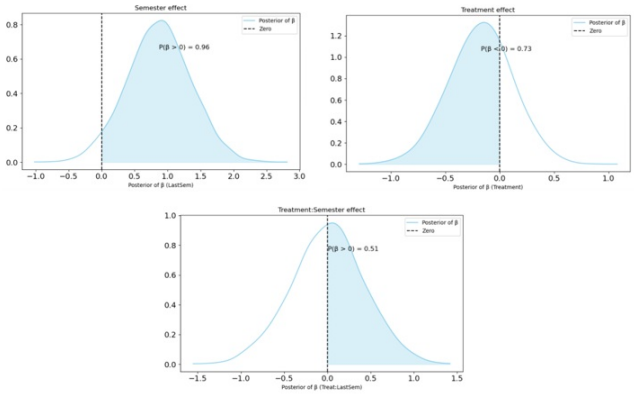

Figure 2.
Posterior betas of the interaction between the variable semester and professional identity activation.

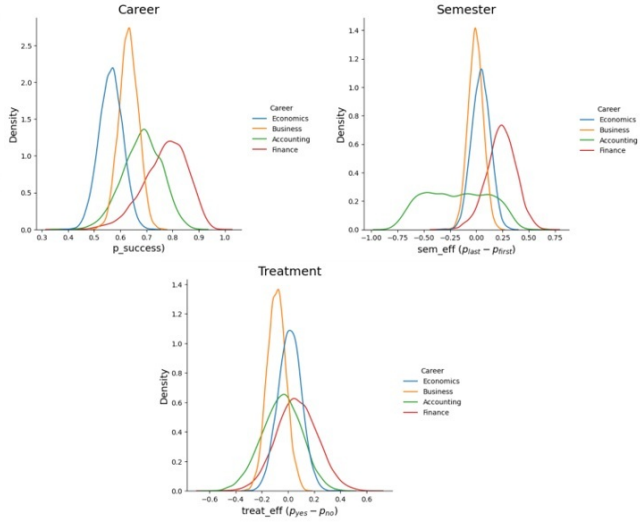

Figure 3.
Posterior estimates for different career choices.

Post-hoc unconditional analyses

Post-hoc unconditional evaluations need to be interpreted with care but are interesting as they seem to reveal that educational paths matter. In particular, the data set had career choices. The participants were majoring in economics, finance, business, or accounting. The posterior probability of reporting successful throws moves according to career choice, consistent with previous reports that professions seem to matter. Those in finance had the largest probability of reporting more successes. The group that was closest to the actual true probability of a fair coin toss were those in economics, but still the posterior estimate is shifted to the right of 0.5, like all other majors. The semester effect was stronger for finance and accounting, but in opposite directions. Those in the last semester of finance seem to report more successes. The treatment effect was clearer in those in business, activating their student identity reduced the amount of successful coin tosses (Figure 3).

Discussion

The results of this study provide evidence that business and economics students show a tendency to maximize their earnings dishonestly. Their student identity slightly decreased this tendency.

The relationship between honesty and education is a crucial topic that demands deeper exploration and understanding. Research by Gächter & Schulz (2016) suggests that a society's norms and cultural values can shape the moral and ethical behavior of its individuals. A central institution shaping those norms and cultural values is education. Our results point that semester, career choice, and student identity can in principle shift dishonest reports. Thus, there seems to be an internal conflict between learning in universities and other society pressures or natural tendencies to prioritize personal gain (in our case, the income won by reporting successful coin tosses was already high at first semesters).

In addition to the semester effect, age was a relevant predictor. As found in previous research, time seems to be a key factor in ethical behavior (Gerlach et al., 2019), consistent with life-cycle theories. The reasons why are still unclear. In

our results age had a negative effect; those older were less dishonest. A mechanistic explanation could be reduced levels of dopamine as people age that reduce risk taking (Rutledge et al., 2016). This assumes that we can treat dishonest actions as risky. Alternatively, as people age, they may better internalize the importance of societal rules and norms which in most western societies involves behaving ethically. Or perhaps, with age, signaling good behavior is important, even if someone does not internalize ethics and norms; a game of prestige.

A selfish, income maximizer, individual would report in our experiment four out of four successful coin tosses because there was no punishment or a way to confirm otherwise. But such extreme dishonesty was marginal in our sample of students. In classic economic theory, an individual's decision to engage in corruption involves weighing the benefits, costs, and probabilities of getting caught associated with such actions. Thus, one reason for our results is that individuals somehow solve such problems as-if they were repeated interactions, signaling the experimenter, society, or a self-image. Alternatively, students activate social norms and those guide suboptimal income maximizer choices (Bicchieri, 2006). Regardless of the source, an interesting and most replicable aspect is that extreme dishonesty is not prevalent.

Future research could expand the sample size, more careers, and beyond a university setting. Broadening the sample could offer a more comprehensive and enriching perspective. Also, it is important to try other experimental techniques. The coin-toss task does not have psychometric validation, and there are undesired biases in this task, such as the possibility of being detected by reporting too many successful coin tosses; other approaches may be more robust to such undesired biases (Parra, 2024).

Data availability

The database, analysis script, and materials used in this work can be accessed is provided below: https://github.com/jenniferklopez/La_relacion_entre_los_anos_de_educacion_y_la_honestidad.git

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References

Attanasio, O. P., & Székely, M. (1999). Ahorro de los hogares y distribución del ingreso en México. *Economía Mexicana, Nueva Época, 8*(2), 267–338. http://www.economiamexicana.cide.edu/num_anteriores/VIII-2/03_ORAZIO_ATTANASIO_267-338.pdf

Bertrand, M., Djankov, S., Hanna, R., & Mullainathan, S. (2007). Obtaining a driver's license in India: An experimental approach to studying corruption. *The Quarterly Journal of Economics, 122*(4), 1639–1676. https://doi.org/10.1162/qjec.2007.122.4.1639

Bicchieri, C. (2006). *The grammar of society. The nature and dynamics of social norms*. Cambridge University Press.

Capretto, T., Piho, C., Kumar, R., Westfall, J., Yarkoni, T., & Martin, O. A. (2022). Bambi: A simple interface for fitting Bayesian linear models in Python. *Journal of Statistical Software, 103*(15), 1-29. https://doi.org/10.18637/jss.v103.i15

Cassar, A., Friedman, D., & Schneider, P. H. (2009). Cheating in markets: A laboratory experiment. *Journal of Economic Behavior & Organization, 72,* 240-259. https://doi.org/10.1016/j.jebo.2009.03.015

Cohn, A., Fehr, E., & Marechal, M. A. (2014). Business culture and dishonesty in the banking industry. *Nature, 516*, 86–89. https://doi.org/10.1038/nature13977

Dane, E., & Sonenshein, S. (2014). On the role of experience in ethical decision making at work: An ethical expertise perspective. *Organizational Psychology Review, 5*(1), 74–96. https://doi.org/10.1177/2041386614543733

Fehr, E., Bernhard, H., & Rockenbach, B. (2008). Egalitarianism in young children. *Nature, 454*(7208), 1079–1083. https://doi.org/10.1038/nature07155

Frey, B. S., & Oberholzer-Gee, F. (1997). The Cost of Price Incentives: An Empirical Analysis of Motivation Crowding- Out. *The American Economic Review, 87*(4), 746–755. https://www.jstor.org/stable/2951373

Gächter, S., & Schulz, J. F. (2016). Intrinsic honesty and the prevalence of rule violations across societies. *Nature, 531*(7595), 496–499. https://doi.org/10.1038/nature17160

Gerlach, P., Teodorescu, K., & Hertwig, R. (2019). The Truth About Lies: A Meta-Analysis on Dishonest Behavior. *Psychological Bulletin, 145*(1), 1–44. https://doi.org/10.1037/bul0000174.supp

Huber, C., & Huber, J. (2020). Bad bankers no more? Truth-telling and (dis)honesty in the finance industry. *Journal of Economic Behavior and Organization, 180*, 472–493. https://doi.org/10.1016/j.jebo.2020.10.020

Molyneux, M. (2020, January 15). *Adolescence: policy opportunities and challenges*. UNICEF. https://www.unicef.org/innocenti/stories/adolescence-policy-opportunities-and-challenges

Parra, D. (2024). Eliciting dishonesty in online experiments: The observed vs. mind cheating game. *Journal of Economic Psychology, 102,* 102715. https://doi.org/10.1016/j.joep.2024.102715

Rutledge, R. B., Smittenaar, P., Zeidman, P., Brown, H. R., Adams, R. A., Lindenberger, U., Dayan, P., & Dolan, R. J. (2016). Risk Taking for Potential Reward Decreases across the Lifespan. *Current biology, 26*(12), 1634–1639. https://doi.org/10.1016/j.cub.2016.05.017

Sañudo, M., & Palifka, B. J. (2018). *Corrupción académica y su influencia en la democracia. 41*, 21–37. https://doi.org/10.4067/S0718-92732018000300021

Sulitzeanu-Kenan, R., Tepe, M., & Yair, O. (2022). Public-Sector Honesty and Corruption: Field Evidence from 40 Countries. *Journal of Public Administration Research and Theory, 32*(2), 310–325. https://doi.org/10.1093/jopart/muab033

Transparency.org. (2024). *Corruption Index*. https://www.transparency.org/en/cpi/2024

Notes

* Research article.