

Investigating Dishonesty and the Role of Control Systems in Entrepreneurial Ventures

Faten Methammem 

Department of Management, Faculty of Economic Sciences and Management of Nabeul, Nabeul, Tunisia

Email: methammem.faten03@gmail.com

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Abstract

This experimental study examines cheating behaviors in the entrepreneurial context, specifically investigating the impact of control systems and sanctions. We compare the honesty levels of individuals with and without an entrepreneurial profile using an experimental design comprising nine distinct treatments. Participants engaged in a crossword-solving task under varying conditions of control (20% or 100%) and sanctions (low monetary, high monetary, or moral). Our findings indicate that entrepreneurs generally exhibit more honest behavior than non-entrepreneurs, although both groups demonstrated instances of “incomplete cheating”. Significantly, strong control and moral sanctions proved most effective in reducing dishonest conduct across all participants. This research highlights the importance of integrity within the entrepreneurial ecosystem and offers valuable insights for promoting ethical behavior through effective control and sanction mechanisms.

Keywords

Dishonesty, Cheating, Entrepreneurship, Control, Experimental Economics

1. Introduction

Dishonest acts, though common, severely impact the economy, causing substantial global financial losses. These losses directly harm public finances, wages, investments, and employment, ultimately hindering economic growth (Trabelsi & Trabelsi, 2021).

While entrepreneurs drive the economy, they're not immune to dishonesty, with profit motives sometimes leading to fraudulent practices (Wang & Yang, 2023). A lack of integrity, particularly transparency, erodes trust within the entrepreneurial ecosystem through acts like deceiving investors, embezzling funds, exploiting employees, and lying to customers (Zhang & Wei, 2024).

While classical economics suggests individuals will act opportunistically to maximize gain, social norms, religious values, and regulations show that integrity can triumph over strong financial incentives (Ariely, 2023).

Classical economics posits that individuals will act dishonestly to maximize personal gain. However, social norms, religious values, and regulations can foster integrity, even when strong financial incentives for dishonesty exist (Ariely, 2023).

Classical economics suggests individuals are opportunistic and will be dishonest for personal gain. However, social norms, religious values, and regulations can enable integrity to overcome strong financial incentives (Ariely, 2023).

Our study aims to understand how control systems and sanctions (both moral and financial) influence cheating behaviors, specifically differentiating between entrepreneurs and non-entrepreneurs. While prior research exists on honesty, our unique contribution lies in its focused examination of these behaviors within the entrepreneurial context. Our experiment was designed to observe cheating within the general population, with a particular emphasis on entrepreneurs.

Despite the appeal of cheating, experimental evidence (Gächter & Schulz, 2016; Cohn et al., 2017) consistently shows that many individuals choose honesty, even at a personal cost. This highlights the significant role of psychological and social factors in ethical decision-making.

Our study explores if students without an entrepreneurial profile are more likely to cheat than those with one, using various experimental treatments. We are also investigating whether cheaters still try to appear honest despite financial incentives, a phenomenon called “partial honesty” or “incomplete cheating” by Gneezy et al. (2018a), where individuals prefer to maintain an honest image rather than fully embracing dishonesty.

Our study will logically progress from the theoretical foundations of entrepreneurship and cheating in both entrepreneurial and experimental economic contexts. We’ll then present our field experiment, analyzing the impact of controls and sanctions on cheating, and conclude with our research findings.

2. Literature Review

2.1. Entrepreneurship

Theories of Entrepreneurship

Entrepreneurship is a complex and evolving concept that researchers consistently struggle to define (Shane & Venkataraman, 2000). Its definition is still debated, and diverse theoretical approaches—including economic, psychological, sociological, anthropological, opportunity-based, and resource-based perspectives—are used to analyze entrepreneurial phenomena and behavior (Obschonka & Fischbach, 2021).

1) The Economic Theory of Entrepreneurship:

① Classical Theory:

Classical economic theory champions free trade, specialization, and competition, identifying land, capital, and labor as key production factors. Despite criti-

cisms, its core tenets stem from Adam Smith's idea of self-interest and Jean-Baptiste Say's law of supply and demand. [Say \(1803/1821\)](#) particularly emphasized the entrepreneur's vital role in moving resources to higher productivity. [Smith \(1776/2000\)](#) also highlighted the division of labor as crucial for boosting productivity and national wealth.

② The neoclassical theory:

The neoclassical model emerged to address the shortcomings of classical theories in explaining industrial-era entrepreneurial dynamics ([Murphy et al., 2006](#)). It focuses on exchange actors, events, and outcome impacts on markets, with exchange importance and decreasing marginal utility as key entrepreneurial drivers ([Murphy et al., 2006](#)). Despite its complex definition, neoclassical economics emphasizes rationality, equilibrium, and largely ignores strong uncertainties ([Dequech, 2007](#)).

③ The Austrian Market Process (AMP):

The theory of entrepreneurship, heavily influenced by the Austrian School, presents several diverging viewpoints.

[Knight \(1921\)](#) and [Cantillon \(1755\)](#) both underscore uncertainty and risk as central to entrepreneurship, with entrepreneurs anticipating change and facing potential losses from price fluctuations.

[Schumpeter \(1934\)](#) distinguishes himself from Knight by emphasizing innovation over risk, defining the entrepreneur as an innovator who disrupts economic equilibrium by introducing new goods, production methods, markets, supply sources, or industrial organizations.

In contrast to Schumpeter, [Kirzner \(1973\)](#) defines entrepreneurship as a discovery process. The Kirznerian entrepreneur is vigilant, seizing arbitrage opportunities by leveraging information asymmetries to restore market equilibrium. His Austrian Market Process (AMP) emphasizes market arbitrage, alertness to profit, and distinguishes between ownership and entrepreneurship, highlighting the inherent link between competitive markets and entrepreneurship.

2) Psychological Theories:

The study of entrepreneurship centers on two main areas: economics, which examines external factors, and psychology, which delves into the personal traits and motivations of entrepreneurs.

Early research on entrepreneurship focused on traits like need for achievement, risk-taking, innovativeness, and tolerance for ambiguity ([McClelland, 1961](#); [Schumpeter, 1934](#)). More recently, growth mindset, self-efficacy, and passion have been identified as vital for success ([Dweck, 2006](#); [Bandura, 1997](#); [Cardon et al., 2009](#)). Essentially, the psychology of entrepreneurship explores the reciprocal influence between an individual and the entrepreneurial journey.

① The Trait Theory of Personality:

Personality traits, though not innate, are crucial for understanding entrepreneurship, manifesting as observable behaviors ([Simpeh, 2011](#)). Entrepreneurs are typically opportunity-oriented, creative, innovative, and possess strong manage-

ment skills. They are characterized by optimism, resilience, perseverance, and a continuous drive for improvement.

Entrepreneurs typically exhibit an internal locus of control (Rotter, 1950, 1966), believing they control their own successes and failures. While not unique to them, this trait is strongly linked to the entrepreneurial profile and the drive to start a business (Cromie, 2000; Ho & Koh, 1992).

② Achievement Motivation Theory:

Entrepreneurs are often driven by a strong desire for independence and achievement, leading to a reluctance to submit to authority. This aligns with McClelland's (McClelland, 1961) and Murray's (Murray, 1938) achievement motivation theory, which posits individuals are intrinsically driven to meet challenges and excel. Researchers like Shaver and Scott (1991) and Davidson (1989) view this motivation as a crucial, even primary, factor in business creation and growth.

③ Sociological Theory of Entrepreneurship:

Sociological theories emphasize the social context in understanding entrepreneurship, arguing that personality traits alone are insufficient predictors (Reynolds, 1991). Reynolds (1991) highlights four key contexts: Social Networks (fostering trust and reducing opportunism), Life Course (personal experiences shaping entrepreneurial decisions), Ethnic Identification (as a "push" factor), and Population Ecology (environmental factors like politics, laws, and competition influencing business survival and success).

④ Anthropological Theory of Entrepreneurship:

The anthropological theory of entrepreneurship examines how sociocultural context influences business creation (Simpheh, 2011). It posits that an individual's culture shapes entrepreneurial attitudes like innovation, leading to new ventures. Therefore, culture—encompassing ethnic, social, economic, ecological, and political complexities—directly impacts individual attitudes and behaviors (Mitchell et al., 2002; Baskerville, 2003).

⑤ Opportunity-Focused Theory of Entrepreneurship:

The opportunity-focused theory of entrepreneurship, advocated by Drucker and Stevenson, highlights that entrepreneurs exploit opportunities arising from change, rather than initiating it (Drucker, 1985). Stevenson (1990) further emphasizes resourcefulness, defining entrepreneurial management as pursuing opportunities irrespective of current resources.

⑥ Resource-Based Theories of Entrepreneurship:

The resource-based theory of entrepreneurship states that founders' access to diverse resources—financial, social, and human capital—predicts opportunity-driven entrepreneurship and venture growth (Alvarez & Busenitz, 2001; Aldrich, 1999). This access enhances the ability to identify and exploit opportunities.

2.2. Cheating in the Entrepreneurial Context

2.2.1. Definition and Conceptualization of Cheating in the Entrepreneurial Context

Cheating in entrepreneurship involves deviant behaviors that violate business le-

gal and ethical norms, particularly in competitive environments. It encompasses acts like accounting fraud, false advertising, counterfeiting, breach of contract, or tax evasion. These actions, intentional or not, aim to maximize profits or gain competitive advantage, often harming customers, partners, employees, and authorities (Baucus & Baucus, 1997; Anand et al., 2004).

2.2.2. Explanatory Theories of Cheating

Understanding why entrepreneurs succumb to cheating requires a multidisciplinary approach, drawing on psychological, sociological, and economic theories.

1) Psychological Approaches:

Psychological theories explain entrepreneurial cheating through cognitive biases (optimism bias, overconfidence, leading to underestimating risks) and personality traits. Entrepreneurs may rationalize unethical actions via cognitive dissonance and self-justification (Bandura, 1999). Additionally, “dark triad” traits (narcissism, Machiavellianism, psychopathy) are linked to increased ethical deviance, often thriving in entrepreneurship’s bold environment (Kish-Gephart et al., 2010).

2) Sociological Approaches:

Sociological theories explain entrepreneurial cheating via social influence. Merton’s anomie theory (Merton, 1938) posits that difficulty in legitimate success can lead to deviance. Bandura’s social learning theory (Bandura, 1977) suggests cheating is learned through observation. Finally, Hirschi’s social control theory (Hirschi, 1969) indicates that weak social bonds or lack of control increase cheating by reducing perceived risk.

3) Economic Approaches:

Economic theories view cheating as a rational choice for gain optimization. Agency theory (Jensen & Meckling, 1976) attributes it to conflicts of interest and information asymmetry. Cost-benefit analysis suggests entrepreneurs cheat when perceived benefits outweigh risks, and game theory (Frank, 1988) models it as a competitive strategy.

2.2.3. Factors Influencing Entrepreneurs’ Propensity to Cheat

Entrepreneurs’ propensity to cheat is influenced by a complex interplay of individual, contextual, and social network factors.

1) Individual Factors:

Past cheating can create a “snowball effect”, lowering moral inhibitions and increasing re-offending (Gino et al., 2009). Paradoxically, higher education doesn’t prevent cheating; more educated individuals may even use sophisticated fraud methods (Tang & Tang, 2012). Key entrepreneurial traits like the need for achievement and risk tolerance can, under pressure, lead to ethical breaches (Welsh & Raven, 1992). Ultimately, the propensity for innovation and risk-taking can sometimes blend with cheating when ethical lines are blurred (De Jong & De Ruyter, 2004).

2) Contextual and Environmental Factors:

Environmental factors like competitive pressure and economic hardship can

drive entrepreneurs to cheat for survival or advantage (Ferrell & Gresham, 1985). Organizational culture is crucial: a results-over-ethics mindset or tolerant leadership can normalize cheating, while a strong ethical stance discourages it (Treviño et al., 1999). Effective regulation and law enforcement are vital deterrents, as weak frameworks encourage deviance. Additionally, industry norms vary, with some sectors more tolerant of dishonest practices (Ashforth & Anand, 2003).

3) Factors Related to the Entrepreneur's Social Network:

While social networks offer opportunities, they can also incentivize entrepreneurial cheating. Peer influence can normalize and encourage questionable practices through mimicry and social pressure (Granovetter, 1985). Additionally, limited legitimate connections or access to illicit resources via the network can push entrepreneurs towards unethical avenues (Coleman, 1988).

2.3. Cheating in Experimental Economics

2.3.1. Experimental Economics

Once considered non-experimental, economics has been revolutionized by experimental and behavioral economics, a shift highlighted by Richard Thaler's 2017 Nobel Prize. Guala (2020) notes that this approach identifies empirical regularities, sparks new research, and enriches economic theory by incorporating emotions, affect, and cognition into behavioral analysis.

Guala (2020) identifies four contributions of experiments: informing public policy (useful for business strategy and HR), testing market designs, analyzing agent preferences without markets, and serving as an innovative pedagogical tool. Croson and Gächter (2010) stress control and reproducibility, defining the latter as the ability to independently verify results.

2.3.2. Experimental Findings on Cheating

Numerous studies define cheating as an immoral act for competitive gain. Falk et al. (2016) found that competition in a lab setting led individuals to cheat for rewards rather than increase effort, a finding that challenges common assumptions and contradicts some empirical observations (Abeler et al., 2019).

Cheating in cheap talk games (e.g., Gneezy, 2005) allows a sender to lie to a receiver for personal gain, even if it harms the receiver. Unlike dictator games, this involves communication, with studies by Gibson et al. (2019), Erat and Gneezy (2012), and Abeler et al. (2019) exploring these deceptive dynamics.

"Incomplete cheating" is explained by aversion to greed and the desire to maintain an honest self-image (Abeler et al., 2019). Gino et al. (2009) propose the self-concept maintenance theory: individuals cheat just enough to gain without sacrificing their self-perception of integrity. This involves attention to moral standards (self-evaluation against personal norms) and categorization (rationalizing actions by adapting the perception of dishonesty to context).

3. Experiment and Results

Our study primarily aims to understand how control mechanisms, monetary pen-

alties, and moral considerations influence individuals' propensity to cheat, especially among entrepreneurs. We've designed an experiment to identify cheaters by exposing subjects to varying levels of control, different sanctioning systems, and also a moral sanction.

One of the main goals of our experiment is to profile entrepreneurs based on their cheating behavior. However, since our participants are students, not actual entrepreneurs, we need to develop a questionnaire to identify each student's entrepreneurial profile (see appendix).

With 216 observations in our database, we're able to thoroughly examine and assess how participants cheat when they're simultaneously dealing with monetary incentives, control, and sanctions.

3.1. Empirical Analysis

3.1.1. Methodology

1) Experimental Design

① Data

The experiment was carried out in February and March 2025, involving 216 students from the Private higher School of Information Technology and Management of Nabeul (ITBS Nabeul, Tunisia).

2) Main Experiment:

Our design includes nine treatments (see Appendix 1):

- **Treatment 1:** Treatment with neither control nor sanctions.
- **Treatment 2:** 100% control with no sanction system
- **Treatment 3:** 20% control with a low monetary sanction
- **Treatment 4:** 20% control with a high monetary sanction
- **Treatment 5:** 20% control with a moral sanction
- **Treatment 6:** 100% control with a low monetary sanction
- **Treatment 7:** 100% control with a high monetary sanction
- **Treatment 8:** 100% control with a moral sanction
- **Treatment 9:** 20% control with no sanction

Table 1 summarizes the different treatments.

Table 1. The rate of cheating in each treatment.

| | 100% of control | 20% of control | Without control |
|---------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|
| Strong monetary sanction | Treatment 7 Cheating rate:75% | Treatment 4 Cheating rate: 72% | - |
| Weak monetary sanction | Treatment 6 Cheating rate: 76% | Treatment 3 Cheating rate: 71,43% | - |
| Moral sanction | Treatment 8 Cheating rate: 68% | Treatment 5 Cheating rate: 56% | - |
| Without sanction | Treatment 2 Cheating rate: 73.91% | Treatment 9 Cheating rate: 83.33% | Treatment 1 Cheating rate: 75% |

Our cheating experiment involved 216 students from the Private Higher School

of Information Technology and Management of Nabeul (ITBS Nabeul). Participants completed a paper-based crossword puzzle, chosen for its clear and unambiguous evaluation despite being potentially challenging. Upon completion, students received an answer key to verify their results.

For every treatment, the crossword puzzle exercise was repeated. Students in each group tried to solve as many puzzles as they could to maximize their earnings. Each participant was assigned to a private desk at random, ensuring their actions remained unobserved by others, and received an envelope.

Inside each envelope, participants found four sheets of paper: paper-based experiment instructions, an activity sheet featuring a crossword puzzle, an answer sheet, and a questionnaire. They had twenty minutes to complete the crossword. We made it clear to students that their earnings would depend on their accuracy, with one Dinar awarded for each correct answer. Payments, in Tunisian Dinars, were distributed in cash immediately following each treatment.

Treatment 1: Treatment with neither control nor sanctions

Twenty-four students took part in this treatment, designed to offer an opportunity to profit from dishonesty by entirely removing control. In this baseline scenario, participants were able to cheat easily as they self-reported their correct crossword answers after checking the answer key. They then put this answer sheet and a questionnaire into an envelope, with their payment based solely on their declared number of correct answers.

Treatment 2: 100% control with no sanction system

Twenty-three students participated in this treatment, a stark contrast to the first. Here, participants were under rigorous control. Experimenters meticulously checked everyone's answers. After twenty minutes, students submitted their work and answer sheets to the experimenter, who then verified and recorded their number of correct solutions.

Treatment 3: 20% control with a low monetary sanction

Twenty-two students participated in this treatment. We informed the students that 4 of them, chosen randomly, would be controlled and sanctioned if they cheated. The sanction is a deduction of 1 Dinar for each incorrectly declared answer. We referred to this treatment as a low sanction system. For each correct answer, you get 1 Dinar, and for each wrong answer, 1 Dinar will be deducted, but only 20% of you will be controlled.

By comparing Treatment 1 and Treatment 3, we can investigate how a low monetary penalty combined with low control affects cheating. We anticipate that these minimal sanctions may not effectively reduce cheating behavior.

Treatment 4: 20% control with a high monetary sanction

Twenty-four students participated in this treatment, where we considered the impact of low control (5 students were randomly controlled) combined with a relatively strong sanction system on the decision to cheat.

We explicitly warned students against cheating, stating that 20% would be randomly selected for sanctioning. If caught, cheaters would forfeit 2 Dinars for every

incorrectly reported answer. Consistent with the previous treatment, this information was conveyed verbally and reinforced in writing on the sheet, reading: “For each correct answer, you get 1 Dinar, and for each wrong answer, 2 Dinars will be deducted, but only 20% of you will be controlled.”

By comparing Treatment 1 and Treatment 4, we can investigate how a strong monetary penalty combined with low control impacts the rate of cheating.

Treatment 5: 20% control with a moral sanction

Twenty-five students took part in this treatment, designed to investigate how moral control, combined with low physical oversight, affects cheating. The experimenter used a religious reminder, specifically an Islamic “hadith” (as shown in **Figure 1**), to encourage ethical and honest behavior and to reprimand cheaters. We also informed participants that 20% (5 students) would be randomly checked. Our hypothesis is that emphasizing religious honesty standards will lead to more honest conduct.

The methodology we’ve adopted allows us to understand the effect of moral sanction on behavior and to explore the morality associated with low control on entrepreneurial cheating.



Figure 1. The islamic rule.

Treatment 6: 100% control with a low monetary sanction

In this treatment, involving twenty-two students, participants were informed they would face full control and sanctions if they cheated. We defined the sanction as a “low sanction system”, deducting 1 Dinar for every incorrectly reported answer. Therefore, a correct answer earned 1 Dinar, while an incorrect one resulted in a 1 Dinar loss.

By comparing Treatment 1 and Treatment 6, we can investigate how a low monetary penalty combined with strong control impacts cheating behavior.

Treatment 7: 100% control with a high monetary sanction

Twenty-four students participated in this treatment, designed to assess the effect of strong control coupled with a relatively strong sanction system on cheating. We explicitly warned students against cheating, stating that all would be sanctioned. Detected cheaters would incur a 2 Dinar deduction for each incorrectly declared answer. This was communicated both verbally and in writing on the activity sheet: "For each correct answer, you get 1 Dinar, and for each wrong answer, 2 Dinars will be deducted."

By comparing Treatment 1 and Treatment 7, we can investigate how a strong monetary penalty combined with strong control impacts the rate of cheating.

Treatment 8: 100% control with a moral sanction

Twenty-five students took part in this treatment, which investigated the effect of moral control combined with strong physical oversight on cheating. The experimenter promoted honesty by using a religious reminder, specifically stating that an Islamic "hadith" would be shown to cheaters as a form of reprimand. We also informed students that all participants would be controlled. We anticipate that this combination of strong control and moral sanction will heighten individuals' adherence to religious standards of honesty.

The methodology outlined below enables us to analyze the impact of moral sanctions under stringent control on cheating behavior, while also investigating the ethical dimensions of entrepreneurship.

Treatment 9: 20% control with no sanction

Out of 24 participating students, this treatment largely replicated the second. However, a specific control measure was implemented: only 20% (4 students) were randomly chosen for verification. Following the twenty-minute activity, all students submitted their materials. The experimenter exclusively reviewed the answer sheets of the four selected students to count their correct words, while the other participants were compensated according to their own reported results.

3.1.2. Descriptive Statistics and Hypotheses

1) Variable Definition:

Table 2 below presents the variables, their abbreviations, and their descriptions.

① Descriptive statistics for all the individuals in the 9 treatments:

Table 4 below presents a comparison of the mean cheating scores observed across each treatment group.

Figure 2 below illustrates the mean cheating rate observed for each treatment group.

As shown in **Table 4** and **Figure 2**, the highest levels of cheating were observed in treatments T9 (20% monitoring, no sanctions) and T3 (20% monitoring, low monetary sanction), with average cheating scores of 4.04 and 3.61, respectively. In contrast, T5 (20% monitoring, moral sanction) and T6 (100% monitoring, low monetary sanction) were the most successful at preventing cheating.

② Descriptive statistics for entrepreneurs and non-entrepreneurs:

Table 5 below presents a comparison of the mean cheating scores across each treatment, disaggregated by entrepreneurs and non-entrepreneurs.

Table 2. Variable definition.

Les variables utilisées et de leurs descriptions

- **Dec:** declared answer (Number of words declared as resolved)
- **Corr:** correct answer (Number of words really resolved correctly)
- **Cheat:** Cheating (indication of cheating)
- **Age:** age (Subject 's age in years)
- **Sexe:** sex of the subject, Dummy: 1 Male, 0 Female
- **Rev:** revenu
- **Solprob:** problem solving
- **Creat:** The habit of being creative
- **Risk aversion:**(level of risk aversion)
- **Coach:** Coaching (ability to mentor/coach)
- **Madec:** Decision-making (ability to make decisions)
- **Oppo:** Opportunity identification (ability to identify new business opportunities)
- **Money:** financial resource management (ability to manage money)
- **Convi:** Persuasion (ability to convince others)
- **Averis:** Risk aversion (level of risk aversion)
- **Auto:** Preference for autonomy
- **Innov:** Innovativeness (level of innovation)
- **Mean:** (average of questionnaire responses)
- **Profil:** Entrepreneurial profile
- **T1:** Treatment with neither control nor sanctions (Traitement 1)
- **T2:** 100% control with no sanction system (Traitement 2)
- **T3:** 20% control with a low monetary sanction (Traitement 3)
- **T4:** 20% control with a high monetary sanction (Traitement 4)
- **T5:** 20% control with a moral sanction (Traitement 5)
- **T6:** 100% control with a low monetary sanction (Traitement 6)
- **T7:** 100% control with a high monetary sanction (Traitement 7)
- **T8:** 100% control with a moral sanction (Traitement 8)
- **T9:** 20% control with no sanction (Traitement 9)

Table 3. Descriptive statistics.

| Variable (abbreviation) | Max | Min | Mean | Standart error |
|--|-----|-----|----------|----------------|
| Declared answer(dec) | 8 | 0 | 4.75 | 2.577632 |
| Correct answer (corr) | 8 | 0 | 2.222222 | 2.038391 |
| Cheating (cheat) | 8 | 0 | 2.527778 | 2.473895 |
| Subject's age in Years (age) | 26 | 19 | 21.57407 | 1.583072 |
| Sex of the Subject, Dummy: 1 Male, 0: Female (sexe) | 2 | 1 | 1.680556 | 0.4673445 |
| Revenue (rev) | 4 | 1 | 2.347222 | 1.01834 |
| Solve problems (solprob) | 4 | 1 | 2.847222 | 0.8571406 |
| The habit of being creative (creat) | 4 | 1 | 2.907407 | 0.8737733 |
| Coaching (coach) | 4 | 1 | 2.949074 | 0.9211717 |
| Make decisions (madec) | 4 | 1 | 3.134259 | 0.8158502 |
| Successfully identify new Business opportunities (oppo) | 4 | 1 | 2.842593 | 0.8961108 |

Continued

| | | | | |
|--|---|----|-----------------|------------------|
| Manage money (money) | 4 | 1 | 2.819444 | 0.9595501 |
| Ability to convince others (convi) | 4 | 1 | 3.097222 | 0.8039389 |
| The level of risk aversion (averis) | 4 | 1 | 2.638889 | 0.9879114 |
| Preference for autonomy (auto) | 4 | 1 | 3.231481 | 0.9361622 |
| Innovativeness (innov) | 4 | 1 | 2.972222 | 0.8939937 |
| Average of questionnaire responses (mean) | 4 | 13 | 2.943981 | 0.489575 |
| Entrepreneur's profile (profil) | 1 | 1 | 0.5324074 | 0.500107 |

Table 4. Comparison of the mean of cheating in each treatment.

| Treatment | Obs | Mean | Min | Max |
|--|-----|----------|-----|-----|
| T1(Treatment with neither control nor sanctions) | 24 | 2.5 | 0 | 7 |
| T2 (100% control with no sanction system) | 23 | 2.608696 | 0 | 7 |
| T3 (20% control with a low monetary sanction) | 21 | 3.619048 | 0 | 7 |
| T4(20% control with a high monetary sanction) | 25 | 3.44 | 0 | 8 |
| T5(20% control with a moral sanction) | 25 | 1.32 | 0 | 6 |
| T6(100% control with a low monetary sanction) | 25 | 1.32 | 0 | 4 |
| T7(100% control with a high monetary sanction) | 24 | 1.666667 | 0 | 6 |
| T8 (100% control with a moral sanction) | 25 | 2.44 | 0 | 7 |
| T9 (20% control with no sanction) | 24 | 4.041667 | 0 | 8 |

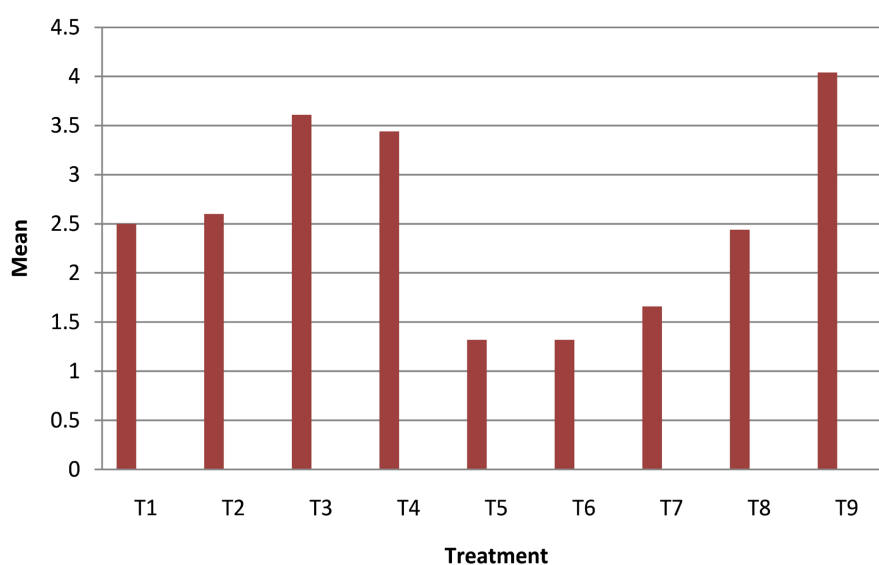
**Figure 2.** The mean rate of cheating per treatment.

Table 5. Comparison of mean cheating in each treatment for entrepreneurs and non-entrepreneurs.

| Traitement | Mean Cheating | |
|--|---------------|------------------|
| | Entrepreneur | Non entrepreneur |
| T1(Treatment with neither control nor sanctions) | 2.25 | 2.625 |
| T2 (100% control with no sanction) | 1.888889 | 3.071429 |
| T3(20% control with a low monetary sanction) | 1 | 4.666667 |
| T4(20% control with a high monetary sanction) | 2.928571 | 4.090909 |
| T5(20% control with a moral sanction) | 1.733333 | 0.7 |
| T6(100% control with a low monetary sanction) | 1.473684 | 0.8333333 |
| T7(100% control with a high monetary sanction) | 1.142857 | 2.4 |
| T8 (100% control with a moral sanction) | 2.555556 | 2.142857 |
| T9 (20% control with no sanction) | 4.5 | 3.583333 |

Table 6 presents a summary of the average cheating scores across different treatments, categorized by whether participants possess an entrepreneurial profile. The data reveals some clear differences. Notably, in treatments 1 - 4, and 7, non-entrepreneurs exhibited higher average cheating compared to entrepreneurs.

Only treatments 4 and 7 included a high monetary sanction, a factor that might have negatively influenced entrepreneurs' cheating behavior. Interestingly, in treatment 1, where neither monitoring nor sanctions were present, there was no significant difference in cheating between entrepreneurs and non-entrepreneurs (with average cheating scores of 2.25 for entrepreneurs and 2.625 for non-entrepreneurs).

Our second key finding indicates that entrepreneurs cheated more, on average, than non-entrepreneurs in treatments 5, 6, 8, and 9. It's particularly notable that this group includes the two treatments featuring moral sanctions, clearly showing a higher prevalence of cheating among entrepreneurs in those specific scenarios. Additionally, these same treatments (5, 6, 8, and 9) shared a common characteristic: weak or entirely absent monetary sanction systems, which likely contributed to this observed pattern.

Table 6. Percentages of cheating for entrepreneurs and Non-Entrepreneurs.

| Cheating | Percentage | | Cumulative Percentage | |
|----------|--------------|------------------|-----------------------|------------------|
| | Entrepreneur | Non-Entrepreneur | Entrepreneur | Non-Entrepreneur |
| 0 | 32.17 | 22.77 | 32.17 | 22.77 |
| 1 | 21.74 | 16.83 | 53.91 | 39.60 |
| 2 | 11.30 | 8.91 | 65.22 | 48.51 |
| 3 | 12.17 | 13.86 | 77.39 | 62.38 |
| 4 | 3.48 | 9.90 | 80.87 | 72.28 |

Continued

| | | | | |
|---|------|------|--------|--------|
| 5 | 2.61 | 6.93 | 83.48 | 79.21 |
| 6 | 6.09 | 7.92 | 89.57 | 87.13 |
| 7 | 8.70 | 9.90 | 98.26 | 97.03 |
| 8 | 1.74 | 2.97 | 100.00 | 100.00 |

Table 7 below displays the observed cheating rates.

Table 7. Cheating rates.

| Cheating | Percentage | |
|----------|--------------|------------------|
| | Entrepreneur | Non entrepreneur |
| 0 | 32.17 | 22.77 |
| 1 → 7 | 66.09 | 74.33 |
| 8 | 1.74 | 2.97 |

A total of two hundred and sixteen students participated in the experiment. Of these, 115 were identified as possessing an entrepreneurial profile, while 101 were identified as not possessing one.

We determine the participants' profiles using a questionnaire (see appendix) composed of ten variables: problem-solving, creativity, coaching, decision-making, successful identification of new business opportunities, money management, ability to convince, risk aversion, innovation spirit, and preference for autonomy. For each variable, we use an ascending scale from 1 to 4. Then, we calculate the average of the choices for each participant, and compare this value to the average of the averages of the choices of all participants (this value is 2.94). Participants with an average below 2.94 are considered students without an entrepreneurial profile, while those with an average above 2.94 are considered students with an entrepreneurial profile.

Table 6 displays the raw cheating percentages, differentiating between students with and without an entrepreneurial profile.

According to **Table 6** and **Table 7**, three important results emerge. First, we observe that 32.17% of students with an entrepreneurial profile are considered completely honest, compared to 22.77% of students without an entrepreneurial profile. Second, we note that the percentage of participants who cheated completely is only 1.74% for those with an entrepreneurial profile and 2.97% for those without one. Here again, for this extreme behavior, entrepreneurs appear to be relatively more honest. Finally, we find that the majority of participants cheated, but not completely; they didn't cheat to their full potential. This phenomenon is called "incomplete cheating" (Ariely, 2012). Examining **Table 7**, we see that 66.09% of students with an entrepreneurial profile cheated, but not to the maximum, compared to 74.33% for the other participants. A larger proportion of participants with an entrepreneurial profile (21.74%) lied, compared to only 16.83%

for the others.

To explain this incomplete cheating, *Ariely (2012)* argues that people prefer to appear honest rather than actually being honest.

Hao and Houser (2011), in their laboratory experiment, show that incomplete cheating can be attributed to an aversion to appearing dishonest rather than an aversion to maximum cheating.

These three results allow us to conclude that entrepreneurs appear more honest than non-entrepreneurs. As a summary of our descriptive statistics, we can generalize that entrepreneurs seem more honest than non-entrepreneurs, despite some treatments having revealed inverse observations.

③ **Hypothesis Tests:**

I. Two-Sample t-test with Equal Variances:

Our hypotheses investigate the impact of various treatments on the mean cheating rate:

- **H1:** Mean cheating is lower in Treatment 3 compared to other treatments.
- **H2:** Mean cheating is lower in Treatment 4 compared to other treatments.
- **H3:** Mean cheating in Treatment 5 is significantly better than in the other treatments.
- **H4:** Mean cheating is lower in Treatment 6 compared to other treatments.
- **H5:** Mean cheating is lower in Treatment 7 compared to other treatments.
- **H6:** Mean cheating is lower in Treatment 9 compared to other treatments.

The t-test for the difference of means is a hypothesis test that examines the null hypothesis stating that the means of two groups are equal. This is tested against an alternative hypothesis, which proposes that the means are not equal, or that the mean of one group is greater than the mean of the other. In our case, we are testing the difference in means between cheating and the various treatments.

Table 8 summarizes the hypothesis tests for the mean cheating across treatments 3 - 7, and 9.

Table 8. Comparing mean cheating across treatments.

| Treatment | T3 compared to mean cheating | T4 compared to mean cheating | T5 compared to mean cheating | T6 compared to mean cheating | T7 compared to mean cheating | T9 compared to mean cheating |
|-------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Difference Significance | Significant | Significant | Significant | Significant | Significant | Significant |

The variable T3 represents the treatment where we applied low monitoring (20%) and a low sanction system. T3 equals 1 if students are subjected to the condition of 20% monitoring with a low monetary sanction, and 0 otherwise.

In this case, the t-statistic is -2.1453 with 214 degrees of freedom. The corresponding two-sided p-value is 0.0331, which is less than 0.05. We initially concluded that the mean cheating difference between T3 and the other treatments was significantly different from 0 at the 0.001 level.

However, statistically, we reject the hypothesis that the mean cheating in Treatment 3 is lower than in the other treatments. Therefore, we conclude that the ex-

istence of low monitoring with a low monetary sanction has no effect on participants' cheating behavior.

According to this table, we compare the mean cheating between Treatment 4, which is "20% monitoring with a strong monetary sanction," and the other treatments. The variable T4 equals 1 if students are subjected to the condition of 20% monitoring with a strong monetary sanction, and 0 otherwise.

In this example, the t-statistic is -1.9738 with 214 degrees of freedom. The corresponding two-sided p-value is 0.0497, which is less than 0.05. Consequently, we conclude that the difference in means is statistically significant and different from 0. We reject H2, which implies that the mean cheating in the other treatments is greater than in Treatment 4. Therefore, we conclude that the existence of low monitoring with a strong monetary sanction has no effect on participants' cheating behavior.

The variable T5 represents the treatment where we applied low monitoring with a moral sanction. T5 equals 1 if students are subjected to the condition of 20% monitoring with a moral sanction, and 0 otherwise. In this example, the t-statistic is 2.6314 with 214 degrees of freedom. The corresponding two-sided p-value is 0.0091, which is less than 0.05. Thus, the difference in mean cheating between T5 and the other treatments is significantly different from 0 at the 0.005 level. In this case, we reject hypothesis H3, which implies that the mean cheating in Treatment 5 is significantly better than in the other treatments. We therefore conclude that the existence of low monitoring with a moral sanction has a significant effect on the direction of participants' cheating behavior.

As we can see, low monitoring had no effect in the previous treatments. However, when we combine this form of monitoring with moral sanctioning, the cheating rate decreases for both entrepreneurs and average entrepreneurs (in Treatment T8, the mean cheating for entrepreneurs is 1.73 compared to 0.7 for non-entrepreneurs).

It's important to mention that during this treatment, students were reluctant to appear dishonest. In the end, those who were detected as cheaters were embarrassed and claimed they weren't focused or didn't understand the task very well.

As highlighted by [Gino and Ariely \(2012\)](#), for certain types of actions and levels of dishonesty, individuals can successfully avoid the moral implications of their own behavior. When this mechanism is activated, people can categorize their actions in more compatible terms and find rational justifications for their actions ([Shalvi et al., 2015](#)).

We predict that by increasing individuals' attention to their religious norms of honesty, they will become more honest. The methodology we adopt below helps to understand the effect of a moral sanction with low monitoring on cheating behavior and to explore the morality associated with entrepreneurship.

The variable T6 represents the treatment where we implemented strong monitoring with a low sanction system. T6 equals 1 if students are subjected to the condition of 100% monitoring with a low monetary sanction, and 0 otherwise.

In this example, the t-statistic is -1.9738 with 214 degrees of freedom. The corresponding two-sided p-value is 0.0497, which is less than 0.05. We conclude that the mean cheating difference between T6 and the other treatments is significantly different from 0 at the 0.05 level.

Statistically, we reject H4, which is the hypothesis that the mean cheating in Treatment T6 is lower than in the other treatments. Therefore, we conclude that strong monitoring with a low monetary sanction has no effect on participants' cheating behavior.

The variable T7 represents the treatment where we offered strong monitoring and a strong monetary sanction system. T7 equals 1 if students are subjected to the condition of 100% monitoring with a strong monetary sanction, and 0 otherwise.

In this example, the t-statistic is 1.8183 with 214 degrees of freedom. Based on the statistics, we accept H5, which states that the mean cheating in Treatment 7 is lower than in the other treatments. Therefore, we conclude that the existence of strong monitoring with a strong monetary sanction has a significant effect on the direction of participants' cheating behavior.

The variable T9 represents the treatment where we applied low monitoring without any sanction. T9 equals 1 if students are subjected to the condition of 20% monitoring without sanction, and 0 otherwise. **Table 9** indicates that the t-statistic is -3.2497 with 214 degrees of freedom. The corresponding two-sided p-value is 0.0013, which is less than 0.05.

We conclude that the mean cheating difference between T9 and the other treatments is different from 0. The statistics show that the mean cheating in Treatment 9 is higher than in the other treatments. We therefore reject hypothesis H6. We conclude that the existence of low monitoring and, especially, the absence of sanction have a significant effect on the increase of unethical behavior, particularly the act of cheating.

II. Test for Equality of Proportions for Two Samples

Table 9 presents the profile of the entrepreneur variable.

Table 9. Presentation of the entrepreneur variable's profile

| Binary variable | Frequency | Percentage | Cumulative frequency | Cumulative percentage |
|-----------------|-----------|------------|----------------------|-----------------------|
| 0 | 101 | 46.75 | 101 | 46.75 |
| 1 | 115 | 53.24 | 216 | 100.00 |

Table 10 presents the sample statistics.

Table 10. Sample statistics.

| Value | -Frequencies of. - | |
|-------|--------------------|-----|
| | V1 | V2 |
| 0 | 101 | 115 |
| 1 | 115 | 101 |

Hypothesis Test

Null Hypothesis: Proportion of v1 - Proportion of v2 = 0

Alternative: Proportion of v1 - Proportion of v2 \neq 0

V1: value 1 = 1: it presents the entrepreneurs

v2: value 2 = 0: it presents the non entrepreneurs

Table 11 below provides a summary of the Stata results for the test of equality of proportions for two samples

Table 11. Summary of stata results: test for equality of proportions for two samples.

| Value | Proportion of - | | Z | Prob >Z |
|-------|-----------------|--------|------|---------|
| | V1 | V2 | | |
| 1 | 0.5324 | 0.4675 | 1.35 | 0.1774 |

The entrepreneurial profile is coded 1 if the participant has an entrepreneurial profile, and 0 otherwise. Statistically, we reject the null hypothesis of equal proportions; the proportions of the two populations are different. Entrepreneurial profiles appear to cheat significantly less than non-entrepreneurial profiles.

3) Regression analysis:

① Presentation of the econometrical model:

To analyze our research question - measuring entrepreneurial cheating behavior – we used negative binomial regression to account for overdispersion.

This model is utilized by numerous authors. For instance, Zeileis et al. (2008) employed this technique to analyze count data in various fields, demonstrating its flexibility in different contexts. Atella et al. (2018) applied it to study healthcare utilization, while Greene (2018) provided comprehensive insights into its application for count data in economic analysis. Similarly, Gardner et al. (1995) explained the number of various events in health research using negative binomial regression. Furthermore, Long and Freese (2014) continued to be a foundational reference for analyzing count data in the social sciences.

The primary advantage of the negative binomial model is its integration of the Poisson distribution while offering greater flexibility, as multiple underlying distributions can be at play. Furthermore, mathematically, it separates the assumptions of the mean (Poisson) from those of the dispersion (Gamma). This contrasts with the Poisson model with linear dispersion correction, which only adjusts for dispersion *after the fact*, determining overdispersion and then correcting it (e.g., Hilbe, 2014; Zeileis et al., 2008).

However, the main drawback of the negative binomial model is that constancy of sums isn't maintained. While the Poisson model keeps this constancy (meaning the sum of predicted values equals the sum of input values), the negative binomial model doesn't. Generally, the degree of error in the sum of predicted values isn't too far off from the sum of input values. But occasionally, you'll see substantial distortions.

② Results and Interpretation:

Below, we estimate a negative binomial regression model to investigate the impact of various predictive variables (innov, convic, oppor, averis, T3, T4, T5, T6, T7, T9) on cheating behavior (cheat).

Our model is significant (the p-value associated with the F-statistic above is 0). Both the innovation and conviction variables are significant (innov's p-value is 0.021, and convic's p-value is 0.034). The effect of being innovative on cheating behavior is positive (the coefficient for innovation is 0.207304), meaning the more innovative an individual is, the more their degree of cheating increases. In contrast, the effect of "having the ability to convince others" is negative; the act of cheating decreases among individuals who report being able to persuade others (the conviction coefficient is -0.1965527).

The variables "oppor" (opportunity) and "averis" (risk aversion) are not statistically significant (their p-values are 0.617 and 0.901, respectively).

Table 12 also provides a prediction of the impact of certain treatments on dishonest behavior, specifically cheating. Treatment 3 (which involves 20% monitoring with a low monetary sanction) has a positive impact on dishonest behavior, particularly cheating. Similarly, Treatments 4 and 9 also have a positive effect on cheating.

However, Treatments 5, 6, and 7 have a negative effect on cheating behavior. All three treatments are statistically significant (T5's p-value is 0.026, T6's p-value is 0.012, and T7's p-value is 0.081).

In Treatments 6 and 7, the strong control might be a reason for the decreased rate of cheating.

Finally, by examining Treatments 3, 4, and 9, we can affirm they have a positive impact on cheating behavior. They're all statistically significant (T3's p-value is 0.068, T4's p-value is 0.085, and T9's p-value is 0.020). In all these treatments, control is low, leading us to conclude that when control is weak, the rate of cheating increases.

Table 12 below presents the cheating estimation.

Table 12. Cheating estimations.

| Cheat | Coef. | Std.Err |
|--------|--------------|-----------|
| innov | 0.20730440* | 0.0896098 |
| convic | -0.1965527* | 0.0926453 |
| oppor | -0.0415792 | 0.0832209 |
| averis | 0.0095421 | 0.0766347 |
| T3 | 0.4256431** | 0.2330598 |
| T4 | 0.3758333** | 0.217871 |
| T5 | -0.5770498* | 0.2588928 |
| T6 | -0.6620413* | 0.2627848 |
| T7 | -0.4328852** | 0.2483803 |
| T9 | 0.5047596* | 0.2172822 |

Continued

| | | |
|------------------------------------|-------------------|------------------|
| /Inalpha | -0.6061586 | 0.2036462 |
| alpha | 0.5454421 | 0.1110772 |
| Number of obs = 216 | | |
| Prob>chi2 = 0.0000 | | |
| Pseudo R2 = 0.0413 | | |
| Log likelihood = -434.70354 | | |

*significance at; **significance at 10%.

4. Conclusion

This research uses an experimental design to pinpoint the most effective monitoring and sanctioning methods (weak/strong control; monetary/moral sanctions) in deterring destructive behaviors, specifically cheating among entrepreneurs versus non-entrepreneurs.

Our study, using a negative binomial regression across nine experimental treatments, categorized students as honest, partial, or complete cheaters. Stronger controls consistently reduced cheating. Notably, Treatment 5 (invoking Islamic rules) suggested a desire for moral uprightness. From 115 entrepreneurial and 101 non-entrepreneurial students, we found that entrepreneurial students generally sought complete honesty more, but cheated more than non-entrepreneurial students in Treatments T5, T6, T8, and T9.

Individuals often engage in “partial dishonesty” (Mazar et al., 2008; Gneezy et al., 2018b), cheating only slightly to gain money while preserving an honest self-image (Bryan et al., 2013). Our study found that 20% monitoring without sanctions most encouraged cheating, whereas 20% monitoring with moral sanctions and 100% monitoring with low monetary sanctions were most effective at preventing it.

While standard economics predicts cheating for financial gain, social norms and various controls actively foster honesty. Our experiment’s Treatment 5 demonstrated this powerfully: invoking an Islamic rule and assigning blame via a Hadith significantly reduced cheating, as individuals sought to avoid dishonesty and moral condemnation.

Our treatments revealed that students lacking an entrepreneurial profile are more prone to cheating than those with one, though minimal control (Treatment 1) showed no difference between groups. Acknowledging the limitation of using students, as recruiting actual entrepreneurs was challenging, this study suggests a promising future research direction: replicating this experiment with genuine entrepreneurs to gain deeper insights into their cheating behaviors.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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Appendix 1: Instructions

(Treatment 1: No Control - No Sanctions)

Welcome!

General Information

Welcome! In this experiment, you'll tackle a simple crossword puzzle. You can earn up to 13 dinars for a completed puzzle, with your earnings proportional to your performance. We'll provide a box of envelopes, each containing instructions, the puzzle, an answer sheet, and a numbered coupon. This coupon is your anonymous ID for payment; keep it private and only show it to the experimenters. Please don't use any electronic devices (computers, tablets, smartwatches, or phones) and avoid talking to others during the activity.

Your Task

Your mission is to solve the crossword puzzle in twenty minutes. You need to find eight words vertically and five words horizontally.

Your Payment

Your payment is directly tied to your performance: 1 dinar per correctly solved word. If you find all 13 words, you earn 13 dinars.

Once the time is up, open the results envelope, insert your answer sheet, and then place your envelope on the experimenter's table. They will compensate you based on your reported results.

Good luck!

(Treatment 2: 100% Control - No Sanctions)

Welcome!

General Information

In this experiment, you'll be asked to complete a very simple task.

If you succeed in completing the task, you can earn up to 13 dinars. Otherwise, the amount you can earn will be proportional to your performance on the task.

We will distribute a box containing individual envelopes. Each envelope includes an instruction sheet, a crossword puzzle grid, an answer sheet, and a numbered coupon. This number will be your personal, confidential identifier. Please keep it for final payment and only disclose it to the experimenters. Your participation is entirely anonymous.

Please do not use computers, tablets, smartwatches, or phones, and do not discuss with others.

Your Task

Your mission is to solve the crossword puzzle in twenty minutes. You need to find eight words vertically and five words horizontally. All answers will be verified.

Your Payment

Your payment hinges solely on your correct answers: 1 dinar per word solved, with a maximum of 13 dinars if you find all the words.

At the end of the 20 minutes, open the results envelope, insert both your activity

sheet and your answer sheet, then place the envelope on the experimenter's table. They will verify your answers and provide you with the corresponding payment.

Good luck!

(Treatment 3: 20% Control - Low Monetary Sanction)

Welcome!

General Information

In this experiment, you'll complete a very simple task. If you succeed, you can earn up to **13 dinars**; otherwise, your earnings will depend on your performance.

We'll pass around a box containing envelopes. Each envelope has an instruction sheet, a crossword puzzle activity sheet, an answer sheet, and two coupons. One coupon is colored (either blue or green), and the other is numbered (this number is your personal ID). Please keep both coupons for payment at the end of the treatment, and only show them to the experimenters. This questionnaire is completely anonymous.

Please do not use computers, tablets, smartwatches, or phones, and do not talk to others.

Your Task

Your mission is to solve the crossword puzzle in twenty minutes. You need to find eight words vertically and five words horizontally.

Your Payment

You'll earn 1 dinar for each crossword word you find. Solve all 13 words and you'll pocket 13 dinars!

There's a 20% chance your answers will be verified. If selected for a check, 1 dinar will be deducted for each incorrect answer.

- Once the 20 minutes are up, please open the envelope, fill out the sheet inside by reporting your results, and then put the sheet back into the envelope.
- A random check will be performed on 20% of participants. These participants must include their crossword puzzle grid in their envelope, and their earnings will be paid after verification. The remaining 80% will submit their grids and be paid based on their declared results.

Good luck!

(Treatment 4: 20% Control - High Monetary Sanction)

Welcome!

General Information

In this experiment, you'll complete a very simple task. If you succeed, you can earn up to 13 dinars; otherwise, the amount you earn will depend on your performance.

You'll receive a box containing an envelope. Inside, you'll find an instruction sheet, a crossword puzzle grid, an answer sheet, and two coupons. One coupon is colored (either red or green) and the other is numbered. Please keep both coupons for payment at the end of the activity, and only show them to the experimenters.

This questionnaire is completely anonymous.

Please don't use computers, tablets, smartwatches, or phones, and don't talk to others.

Your Task

You have 20 minutes to complete the crossword puzzle, which has 8 vertical words and 5 horizontal words to find.

Your Payment

You'll earn 1 dinar for every word you find. With 13 words to find, you can earn up to 13 dinars!

A random check will be performed on 20% of participants. Be aware: each incorrect answer detected during this check will result in a 2-dinar deduction. To limit losses, your earnings will be capped at 0 dinars after 5 errors.

Once the 20 minutes are up, please open your envelope, indicate the number of words you found on the designated sheet, and place the sheet back in the envelope.

20% of participants, randomly selected, will have their answers verified. They will need to include their crossword puzzle grid in their envelope and will receive their earnings after verification. The remaining participants will simply submit their results sheet and be paid based on their declared results.

Good luck!

(Treatment 5: 20% Control - Moral Sanction)

Welcome!

General Information

In this experiment, you'll complete a very simple task. If you succeed, you can earn up to 13 dinars; otherwise, the amount you earn will be proportional to your performance.

You'll receive a box with individual envelopes. Each envelope contains an instruction sheet, a crossword puzzle, an answer sheet, and two coupons. One coupon is colored (either yellow or blue) and the other is numbered. Keep both coupons for payment at the end of the activity, and only show them to the experimenters.

This questionnaire is completely anonymous.

Please do not use computers, tablets, smartwatches, or phones, and do not talk to others.

Your Task

You have 20 minutes to complete the crossword puzzle, which has 8 vertical words and 5 horizontal words to find.

There's a 20% chance your answers will be verified.

Your Payment

You'll earn 1 dinar for each correctly identified word. Find all 13 words in the puzzle to earn 13 dinars. Once the 20 minutes are up, open your envelope, fill out the results sheet with the number of words found, and put it back in the envelope.

20% of participants will be randomly selected for verification. Those who are

checked must include their activity sheet in their envelope. Among them, cheaters will be reminded of the Muslim moral rule. The remaining participants will simply submit their answer sheets, and everyone will be paid based on their declared results.

Good luck!

(Treatment 6: 100% Control - Low Monetary Sanction)

Welcome !

General Information

In this experiment, you'll complete a very simple task.

You can earn up to 13 dinars by successfully completing the task. Your earnings will be proportional to your performance.

You'll receive a box containing individual envelopes. Each envelope contains an instruction sheet, a crossword puzzle grid, an answer sheet, and a numbered coupon. This number will be your personal identifier. Please keep this coupon for final payment and only show it to the experimenters.

This questionnaire is completely anonymous.

Please don't use computers, tablets, smartwatches, or phones, and don't talk to others.

Your Task

You have 20 minutes to complete the crossword puzzle, which includes 8 vertical words and 5 horizontal words.

All answers will be verified.

Your Payment

You'll earn **1 dinar for each correctly found word**, up to a maximum of **13 dinars for all 13 words**. However, **1 dinar will be deducted for each incorrect answer**.

After 20 minutes, open the results envelope, insert both your activity sheet and your answer sheet, then place the envelope on the experimenter's table. They will verify your answers and place your payment inside based on the results.

Good luck!

(Treatment 7: 100% Control - High Monetary Sanction)

Welcome!

General Information

In this experiment, you'll complete a very simple task.

Successfully finishing this task could earn you up to 13 dinars. Your earnings will be proportional to your performance.

You'll receive a box containing individual envelopes. Each envelope includes an instruction sheet, an activity sheet, an answer sheet, and a numbered coupon. This number is your personal identifier. Please keep this coupon for final payment and only show it to the experimenters.

This questionnaire is entirely anonymous.

Please do not use computers, tablets, smartwatches, or phones, and do not talk to others.

Your Task

You have 20 minutes to complete the crossword puzzle. You need to find 8 vertical words and 5 horizontal words.

All answers will be verified.

Your Payment

You'll earn 1 dinar for each correctly found word, up to a maximum of 13 dinars for all 13 words. However, 2 dinars will be deducted for each incorrect answer.

Your earnings are capped at 0 dinars. After 5 errors, the participant receives nothing and incurs no further financial penalty.

After 20 minutes, open the results envelope, insert both your activity sheet and your answer sheet, then place the envelope on the experimenter's table. They will verify your answers and place your payment inside based on the results.

Good luck!

(Treatment 8: 100% Control - Moral Sanction)

Welcome !

General Information

This experiment involves a simple task, with a potential earning of up to 13 dinars, proportional to your performance.

You will receive a box containing individual envelopes. Each envelope contains: an instruction sheet, a crossword puzzle grid, an answer sheet, and a numbered coupon. This number will be your personal identifier. Please keep this coupon for final payment and only show it to the experimenters.

This questionnaire is entirely anonymous.

Please do not use computers, tablets, smartwatches, or phones, and do not discuss with others.

Your Task

You have 20 minutes to complete the crossword puzzle, which includes 8 vertical words and 5 horizontal words.

All answers will be verified.

Your Payment

For each word you find, you'll put 1 dinar in your pocket. With 13 words to find, you can earn up to 13 dinars!

After 20 minutes, open the results envelope, insert your crossword activity sheet and your results sheet, then place the envelope on the experimenter's table. They will verify your answers, then remind those who cheated of the Muslim moral rule that blames the cheater. Finally, they will place your payment inside the envelope according to what you declared on the sheet.

Good luck!

(Treatment 9: 20% Control - No Sanctions)

Welcome!

General Information

This experiment involves a simple task where you can potentially earn up to 13 dinars, with your earnings being proportional to your performance.

You'll receive a box containing envelopes. Inside each, you'll find an instruction sheet, a crossword puzzle grid, an answer sheet, and two coupons. One coupon is colored (either yellow or green), and the other is numbered; this number will serve as your identification. Please keep both coupons for payment at the end of the experiment, and only show them to the experimenters.

This questionnaire is entirely anonymous.

Please don't use computers, tablets, smartwatches, or phones, and don't discuss with others.

Your Task

You have 20 minutes to complete a crossword puzzle that contains 8 vertical words and 5 horizontal words.

There's a 20% chance your answers will be verified.

Your Payment

You earn 1 dinar per word solved, with a total of 13 dinars possible if you find all the words.

Once the 20 minutes are up, please open the envelope, fill out the sheet inside with your results, and then place the sheet back into the envelope.

20% of participants, randomly selected, will be checked. These individuals will need to add their activity sheet to the envelope and will be paid solely based on their accurate answers. The remaining participants will be paid according to their declared results on the sheet.

Good luck!

Appendix 2: Answer Sheet

***Write the number of words you solved correctly**

***Fill in the following details by completing or checking the corresponding box**

| | |
|---|--|
| 1. Age:.....years old | 3. Your net income per month |
| | Less than 50 Tunisian Dinars per month <input type="checkbox"/> |
| 2. Gender: | Between 50 et 100 Tunisien Dinars per month <input type="checkbox"/> |
| Male <input type="checkbox"/> Female <input type="checkbox"/> | Between 100 and 150 Tunisian Dinars per month <input type="checkbox"/> |
| | More than 150 Tunisien Dinars per month <input type="checkbox"/> |

4. Kindly specify your region of origin:

Appendix 3: Questionnaire to Identify Entrepreneurial Profile

Compared to your friends, what do you estimate your:

| | 1 | 2 | 3 | 4 |
|--|---|---|---|---|
| a) Problem-solving ability: I can identify several ways to solve a problem. | | | | |
| b) Creativity: I'm very curious and always looking for innovative approaches. | | | | |
| c) Coaching: I thrive on guiding groups and find it easy to boost their energy and drive. | | | | |
| d) Decision-making: I can make independent decisions in challenging or difficult situations. | | | | |
| e) Opportunity identification: I have a knack for identifying opportunities, even in problematic situations. | | | | |
| f) Financial Resource Management: It's difficult to accomplish significant projects today without substantial funding. | | | | |
| g) Persuasion Skills: I can effectively persuade my colleagues that my ideas are sound. | | | | |
| h) Risk Aversion: I'll accept risks when the potential losses are manageable | | | | |
| i) Autonomy: I dream of being self-employed | | | | |
| j) Innovation: I can consistently achieve successful innovation. | | | | |