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Research Article

Effects of Fairness Perception on Cheating Behavior: An Experimental Study

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Abstract

Introduction: This study investigates how perceptions of fairness influence individual cheating behavior. Specifically, it explores whether different reward systems—based on equity (performance-based rewards) or equality (equal rewards for all)—affect the likelihood of dishonest actions in an experimental setting.

Method: A two-phase laboratory experiment was conducted among 98 undergraduate students. Participants were randomly assigned to either an Equity or Equality treatment. In the second phase, they engaged in a task that allowed them to self-report outcomes tied to monetary rewards, providing a controlled measure of cheating behavior.

Results or Findings: The results indicate that participants who perceived the reward system as unfair were significantly more likely to cheat. Cheating behavior was more prevalent in the Equality treatment group, especially among high performers, suggesting that equal reward distribution can induce perceptions of unfairness and trigger dishonest behavior.

Discussion or Conclusion: The findings demonstrate the psychological importance of perceived fairness in ethical decision-making. Even in seemingly fair systems, perceptions of injustice can lead to rationalizations for dishonesty. This has implications for institutional design, particularly in education and workplace settings, where aligning incentives with perceived fairness can reduce unethical behavior.

Keywords: fairness perception, cheating behavior, experimental economics, incentives, equity, equality

JEL Codes: C91, D63, D03

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Araştırma Makalesi

Adalet Algısının Aldatma Davranışı Üzerindeki Etkileri: Deneysel Bir Çalışma

Samantha Mañuelle P. Agramon[a]& Jefferson A. Arapoc[b]

Öz

Giriş: Bu çalışma, adalet algılarının bireysel hile davranışını nasıl etkilediğini incelemektedir. Özellikle, eşitlik (herkese eşit ödül) veya hakkaniyet (performansa dayalı ödüller) temelli farklı ödül sistemlerinin, deneysel bir ortamda dürüst olmayan davranışların ortaya çıkma olasılığını nasıl etkilediği araştırılmaktadır.

Yöntem: 98 lisans öğrencisi üzerinde iki aşamalı bir laboratuvar deneyi gerçekleştirilmiştir. Katılımcılar rastgele olarak hakkaniyet (Equity) veya eşitlik (Equality) koşullarına atanmıştır. Deneyin ikinci aşamasında, katılımcılar parasal ödüllerle ilişkilendirilen sonuçları kendi kendilerine rapor ettikleri bir görevde bulunmuş; böylece hile davranışının kontrollü ve objektif bir ölçümü sağlanmıştır.

Sonuçlar ya da Bulgular: Sonuçlar, ödül sistemini adaletsiz olarak algılayan katılımcıların anlamlı derecede daha fazla hile yapma eğiliminde olduğunu göstermektedir. Hile davranışı, özellikle yüksek performans gösterenler arasında, eşitlik (Equality) koşulu grubunda daha yaygın olup, eşit ödül dağıtımının adaletsizlik algısını tetikleyerek dürüst olmayan davranışlara yol açabileceğini düşündürmektedir.

Tartışma ya da Yapılan Çıkarımlar: Bulgular, algılanan adaletin etik karar alma süreçlerindeki psikolojik önemini ortaya koymaktadır. Görünüşte adil olan sistemlerde bile, adaletsizlik algısı bireylerin dürüst olmayan davranışlarını rasyonelleştirmelerine neden olabilmektedir. Bu durum, özellikle eğitim ve iş ortamları gibi kurumsal yapılar açısından önemli sonuçlar doğurmakta; teşvik sistemlerinin algılanan adaletle uyumlu hâle getirilmesinin etik dışı davranışları azaltabileceğine işaret etmektedir.

Anahtar Kelimeler: adalet algısı, hile davranışı, deneysel ekonomi, teşvikler, dürüstlük, eşitlik

JEL Kodlar: C91, D63, D03

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Introduction[1]

Cheating is a widespread issue that occurs when individuals break rules to gain personal advantage. It takes many forms—ranging from tax evasion and employee theft to corruption and falsified work outputs—and imposes serious economic costs on both public and private institutions. In economics, cheating is often explained as a rational decision based on a cost-benefit analysis: people weigh the benefits of cheating against the chances of getting caught and punished (Ariely, 2010).

While financial gain is a significant motivator for cheating, studies have shown that people don't cheat just because it's profitable. They also respond to how fair or unfair they perceive a system to be. For example, Hollinger and Clark (1983) emphasized that employees often justify dishonest acts, such as theft, when they feel they are being treated unfairly. This introduces fairness perception as a powerful, non-monetary driver of behavior. In this light, cheating can be seen not just as a rational act, but also as a form of retaliation or self-justification in response to perceived injustice.

Research in behavioral economics further supports this. Individuals are more likely to accept unequal outcomes when they believe those outcomes are based on effort or performance, rather than luck or arbitrary decisions. Conversely, when people perceive that they are being unfairly treated, especially in situations where input does not match reward, they may feel entitled to cheat as a way of restoring balance. This reaction, known as "reciprocal deviance," is common in workplace settings, where unfair pay or sudden cuts in benefits have been linked to higher rates of employee dishonesty (Greenberg, 1990).

While many studies focus on financial motives for cheating, fewer have explored how perceptions of fairness shape dishonest behavior. Fairness perception plays a crucial role in shaping individual decisions, particularly when people perceive themselves as being treated unjustly. While traditional economic theory assumes that individuals cheat when the material benefits outweigh the risks, behavioral research shows that fairness perceptions can alter this cost-benefit calculation. People are more likely to break rules when they believe the system or its outcomes are unfair, even if the financial payoff is the same.

A number of studies support this view. Greenberg (1990) found that employee theft increased significantly following a pay cut that workers perceived as unfair. Similarly, Houser (2011) demonstrated that individuals were more likely to cheat in a task after receiving what they considered an unjust allocation of resources. These acts of dishonesty are often not random but are rooted in a psychological attempt to "correct" perceived imbalances. In this context, cheating can be viewed as a form of compensation or a means of retaliation.

Theories such as Equity Theory (Adams, 1999) and the concept of reciprocal deviance (Kemper, 1966) suggest that when people perceive they are not receiving what they deserve, based on their effort, contribution, or social comparison, they are more likely to rationalize dishonest behavior. Experiments have also shown that people are more tolerant of unequal outcomes when these are based on effort (equity) rather than chance or arbitrary equal distribution (equality). However, when inequality is seen as undeserved or disconnected from effort, individuals are more inclined to cheat (Galeotti et al., 2013).

[1] The Ethics Committe Permission for this study has been obtained from the Research Ethics Committee of the University of the Philippines Los Baños, Department of Economics with Reference Code: UPLB-ECON-REC 2020-02-AGRAMON on the date of March 2, 2020.

Despite these critical insights, most existing studies focus on the effects of monetary incentives or general psychological factors on cheating. Few have directly and systematically investigated how fairness perceptions, particularly in the context of equity versus equality, influence the decision to cheat. The empirical evidence on this specific relationship remains limited, leaving a gap in our understanding of how perceptions of justice translate into dishonest behavior.

This study aims to fill that gap by investigating whether different perceptions of fairness, arising from equitable versus equal reward distributions, influence the likelihood of cheating. Using an experimental approach, the study will observe how individuals react when rewards are distributed based on either performance or equal sharing, and whether higher levels of perceived unfairness lead to greater cheating. It also aims to identify additional factors, such as effort, reciprocity, or socio-demographic characteristics, that may influence fairness perceptions and dishonest behavior.

By understanding how fairness perceptions affect ethical decisions, this study contributes to the broader conversation on governance, institutional design, and behavioral integrity in economic systems. The findings may also offer practical insights for employers, policymakers, and tax authorities seeking to reduce dishonest behavior by fostering environments perceived as fair.

Analytical Framework

This study is guided by two primary theoretical foundations: Rational Choice Theory and Equity Theory, both of which are supported by developments in behavioral economics and experimental research on fairness. According to Rational Choice Theory, individuals make decisions by weighing costs and benefits, including the risks of being caught and punished. From this viewpoint, cheating is a calculated behavior that occurs when the expected benefits of dishonesty outweigh its costs (Becker, 1968).

However, this theory has been challenged by findings from behavioral economics, which show that people also consider non-material factors in decision-making. Specifically, Equity Theory (Adams, 1965) argues that individuals compare their inputs (e.g., effort, performance) with outcomes (e.g., rewards) and evaluate whether they are being treated fairly. When this balance is perceived as unfair, it can lead to feelings of dissatisfaction and actions aimed at restoring perceived justice, including dishonest behavior such as cheating.

In particular, the theory of reciprocal deviance suggests that when individuals feel wronged or disadvantaged, they may engage in deviant behaviors, such as lying or cheating, as a form of justified retaliation (Greenberg, 1990). These ideas form the backbone of this study's theoretical lens.

Drawing on these theories, the study conceptualizes cheating behavior as a result of external conditions, which are how rewards are distributed (either equally or equitably), and Internal perceptions, how fair or unfair the individual perceives these distributions to be. The study assumes that individuals assigned to either an Equality or Equity treatment will form different fairness perceptions:

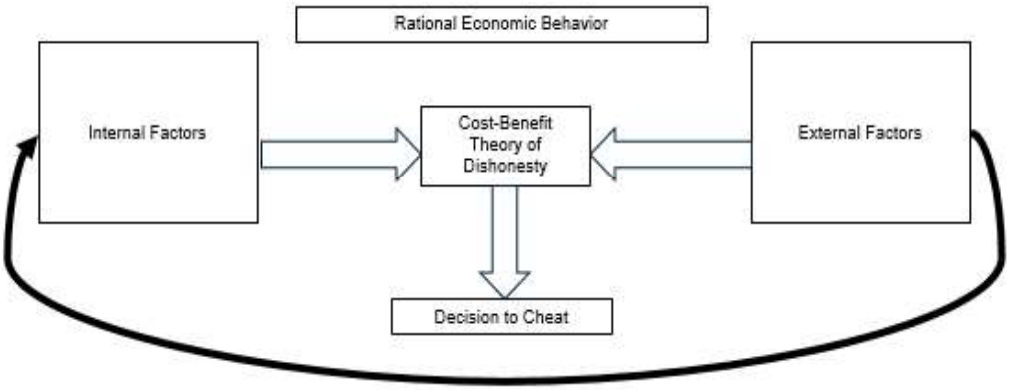
In the Equality Treatment, all participants receive the same reward regardless of effort. High performers may feel under-rewarded. In the Equity Treatment, rewards are based on performance. Low performers may feel left out or disadvantaged.

These perceptions of unfairness, whether arising from equality or equity, are expected to increase the likelihood of cheating, as individuals seek to restore what they believe to be a fair outcome.

The framework also recognizes that not all individuals cheat maximally even when given the opportunity. Theories such as Self-Concept Maintenance (Mazar et al., 2008) and Cognitive Dissonance (Festinger, 1957) help explain why people cheat just enough to benefit without feeling like they are "bad people." The central proposition is that higher levels of perceived unfairness, regardless of whether they arise from equity or equality, increase the likelihood of cheating.

Figure 1

Conceptual Framework of How External and İnternal Factors Affect Cheating Behavior



Note. Created by the author.

Although various studies have highlighted fairness as a determinant of dishonesty, empirical evidence isolating fairness perception as a causal factor—particularly using controlled equity vs. equality contexts—remains limited. Most experiments either focus on monetary incentives alone or treat fairness perception as a background variable.

This study addresses that gap by using an experimental design that allows for direct observation of both fairness perception and cheating behavior. It adopts a two-phase task where participants are assigned to a reward distribution treatment and are later given a private opportunity to self-report outcomes tied to monetary gain.

The next chapter outlines the methodological approach used to test these hypotheses, detailing the experimental procedure, variable measurement, and statistical techniques employed to assess the role of fairness perception in cheating behavior rigorously.

Methodology

This Study Employed A Laboratory Experiment With Two Treatment Groups To Examine How Fairness Perceptions—Shaped By Equity Or Equality In Incentive Distribution—Affect Cheating Behavior. The Ethics Committe Permission for this study has been obtained from the Research Ethics Committee of the University of the Philippines Los Baños, Department of Economics with Reference Code: UPLB-ECON-REC 2020-02-AGRAMON on the date of March 2, 2020.

Participants And Setting

The Experiment Was Conducted In Four Recitation Classes Of Econ 101 At The University Of The Philippines Los Baños, With A Total Of 98 Undergraduate Students. Participants Received Fixed Monetary Reward As A Participation Incentive.

Experimental Design

The Experiment Consisted Of Two Stages. In The First Stage, Subjects Completed A Real-Effort Task Called The *Say What You See Puzzle*, Which Consisted Of 82 Items To Be Solved In 10 Minutes. Their Performance Determined The Pooled "Class Points," Which Served As The Reward Pool. Each Class Point Is Equivalent To A Monetary Reward, Which Will Be The Payoff That The Participants Will Receive Based On The Treatment Group They Were Randomly Assigned.

Participants Were Randomly Assigned To One Of Two Treatments:

- **Equity Treatment**: Payoffs Were Distributed Based On Individual Performance. Higher-Performing Students Received A Larger Share Of The Pooled Rewards.
- **Equality Treatment**: The Pooled Rewards Were Divided Equally Among All Participants, Regardless Of Performance.

Table 1

Payoff Table of Participants under Equity Treatment

Bracket	Ranked Score (H to L)	Incentive
A	1st to 5th	½ of the pooled money
B	6th to 10th	¼ of the pooled money
C	11th to 15th	1/8 of the pooled money
D	16th to 20th	1/16 of the pooled money
E	21st and below	1/32 of the pooled money

Note. Created by the author.

Payoff Formula of Participants under Equality Treatment

$$P = \frac{X}{n} \tag{1}$$

Where.
P = payoff
X = pooled money
n = sample size

Participants then completed a questionnaire assessing their perceptions of the fairness of the payoff scheme.

Subsequently, participants engaged in a second task designed to elicit dishonest behavior. Each subject was given a box containing 20 marbles—1 red and 19 black—the distribution of which was known only to the experimenter. Participants drew from the box seven

times without replacement and privately recorded the outcomes on an answer sheet. Reporting a red marble (the "winning" marble) increased their earnings.

In the Equity Treatment, the reward for each red marble was proportional to the subject's earlier performance in the real-effort task. In contrast, under the Equality Treatment, the payoff for each red marble was uniform across all participants, regardless of performance. This design heightened the perception of unfairness particularly among high performers in the Equality group and low performers in the Equity group, thereby providing fertile ground for examining how perceived injustice influences cheating behavior.

Classification of Cheating Behavior

To assess the extent of dishonesty in the chance-based task, participants' reports from the "Draw the Red Marble" game were used to classify cheating behavior into two categories.

Table 2

Classification of Cheating Behavior

Cheating Classification	Definition
Potential Cheaters	Participants whose individual reports fall within the realm of plausibility (e.g., reporting exactly one red marble), but who are flagged based on aggregate data—specifically, when the overall proportion of reported red outcomes significantly exceeds the expected probability of drawing a red marble. This suggests possible dishonesty at the group level, despite individual results appearing credible.
Sure Cheaters	Participants who reported drawing more red marbles than the statistically possible (e.g., drawing more than the number of actual red marbles available, or reporting all draws as red in a short trial)

Note. Created by the author.

This classification allows for distinguishing between participants who clearly cheated (sure cheaters) and those whose behavior was statistically suspicious (potential cheaters) but not definitively verifiable. The number and share of participants in each category will be presented and compared across treatment groups to explore how perceptions of fairness influence not only the likelihood but also the severity or boldness of cheating behavior.

Two analytical levels were used:

Aggregate Analysis. The proportion of reported red marbles was compared to the theoretical probability of drawing one red marble, using proportion tests and non-parametric tests (Wilcoxon Mann-Whitney, Kruskal-Wallis).

Individual-Level Analysis. Logistic regression was employed to identify predictors of cheating behavior (defined as reporting more than one red marble). Independent variables included treatment type, fairness perception levels, performance (high/low), academic and demographic factors (e.g., sex, course, GWA, number of units).

The Logistic Regression Model and Variable Specification

To determine the individual-level drivers of cheating behavior, we employed a **logistic regression model**. The binary dependent variable is whether a participant engaged in **explicit**

cheating—defined as self-reporting more than one "winning" (red) marble in the second stage of the experiment.

The model takes the following form.

The Logistic Regression Model

$$\Pr(Cheating)_i = \alpha + \sum_{j=1}^{4} \boldsymbol{\beta_j Fairness_i} + \beta_5 Treatment + \sum_{q=6}^{10} \boldsymbol{\beta_q X_i} + \varepsilon_i \quad (2)$$

$\boldsymbol{Pr(Cheating)_i}$**:** 1 if the participant reported drawing a red marble, 0 otherwise
$\boldsymbol{Fairness_i}$**:** vector of dummy variables for Self-reported fairness score (Likert Scale)
$\boldsymbol{Treatment_i}$**:** Dummy for equity treatment
$\boldsymbol{X_i}$**:** vector of control variables

Table 3

Variable of Interests Used in the Model

Variable Type	Variable Name	$\boldsymbol{\beta}$	Description	Measurement / Coding
Dependent	Cheating Behavior (Z)	N/A	Indicates if the subject is a "sure cheater"	1 = Reported >1 red marble; 0 = Otherwise
Independent	Fairness1	β_1	Fairness perception: Completely Unfair	1 = Completely unfair; 0 = Completely fair
Independent	Fairness2	β_2	Fairness perception: Unfair	1 = Unfair; 0 = Completely fair
Independent	Fairness3	β_3	Fairness perception: Slightly Unfair	1 = Slightly unfair; 0 = Completely fair
Independent	Fairness4	β_4	Fairness perception: Fair	1 = Fair; 0 = Completely fair
Independent	Treatment	β_5	Type of incentive distribution	1 = Equality; 0 = Equity
Control	PRODUCTIVITY	β_6	Productivity in real-effort task	1 = High performer; 0 = Low performer
Control	PEERSCORE	β_7	Perceived fairness of peer rewards	1 = Felt unfair; 0 = Felt fair
Control	Sex	β_8	Biological sex of respondent	1 = Male; 0 = Female
Control	Course	β_9	Degree program	1 = Economics major; 0 = Otherwise
Control	Units	β_{10}	Academic load during the semester	Continuous (number of enrolled units)
Control	GWA	β_{11}	General Weighted Average	Continuous (lower = better performance)

Note. Created by the author.

Results and Discussion

This study analyzed how perceptions of fairness—specifically in equity and equality contexts—influence cheating behavior. The findings suggest that fairness perception significantly affects cheating propensity, with perceptions of unfair treatment increasing the likelihood of dishonest behavior. The results also highlight the role of individual differences, such as socio-demographic characteristics and performance levels, in shaping these behaviors.

Descriptive Profile of Participants

The experimental sample consisted of 98 undergraduate students enrolled in ECON 101 (Introduction to Macroeconomic Theory) at the University of the Philippines Los Baños. These students were randomly assigned into two treatment groups: Equity (n=41) and Equality (n=57). This setup ensured a balanced yet heterogeneous composition in terms of sex, college affiliation, course, year level, academic performance, and financial background.

A substantial proportion of participants were female, comprising approximately 75% of the sample in both treatments. This reflects a broader demographic trend observed in many undergraduate economics classes at the university. In terms of college affiliation, the majority (around 87%) belonged to the College of Economics and Management (CEM), while the remainder came from various colleges, such as the College of Agriculture and Food Science and the College of Development Communication. This diversity ensured that the findings could be contextualized across academic disciplines.

Table 4

Summary Descriptive Statistics of Subjects per Treatment

Variable	Descriptive Statistics	
	Equity (n=41)	Equality (n=57)
Sex		
Male	10 (24.4%)	14 (24.6%)
Female	31 (75.6%	43 (75.4%)
Age		
Mean Age	19.3	18.6
College		
CEM	35 (85.4%)	50 (87.7%)
Others	6 (14.6%)	7 (12.3%)
Course		
Econ	8 (19.5%)	11 (19.3%)
Others	33 (80.5%)	46 (80.7%)
No. Of Units		
Mean No. of Units	17.9	17.8
Classification		
Sophomore	15 (36.6%)	29 (50.9%)
Others	26 (63.4%	28 (49.1%)
General Weighted Average (GWA)		
Mean GWA	2.33	2.17
Daily Allowance		
Mean Daily Allowance	268.5	248.9

Note. Created by the author.

With respect to course or degree program, only about 20% of participants were economics majors, with the rest coming from related fields such as Agricultural Economics, Agribusiness Management, Development Communication, and Applied Mathematics. Although participants varied in academic year classification, sophomores comprised most of

the sample, as the course is typically taken at that level. This distribution also serves as a useful proxy for relative maturity and exposure to academic norms—factors that may influence perceptions of fairness and tendencies toward dishonest behavior.

To assess academic ability and financial status, participants reported their General Weighted Average (GWA), number of academic units enrolled, and daily allowance. The mean GWA was comparable across treatments (2.33 for Equity and 2.17 for Equality), indicating similar academic performance. Likewise, the number of enrolled units and daily allowances did not significantly differ, with means of approximately 17.9 units and PHP 260, respectively. These variables helped contextualize participant stress levels and resource constraints, which may influence decision-making in tasks involving incentives and moral considerations

Cheating Behavior Across Treatments

Reported red marble outcomes were used to measure dishonest behavior. Participants were asked to privately report the number of red marbles they drew over seven trials, knowing that each red marble corresponded to a reward. Since the actual probability of drawing one red marble in seven attempts from a box with only one red and nineteen black marbles is low, deviations from this expected probability were interpreted as indicative of cheating.

First, we examine cheating at the aggregate level—particularly among participants who reported drawing at least one red marble. While a report of exactly one red marble could reflect either honesty or minimal cheating, it becomes meaningful when analyzed against expected probabilities.

The theoretical probability of drawing exactly one red marble in seven draws without replacement is approximately 42%. Applying this benchmark to the sample size, we expect 40 individuals to report at least one red draw. However, as shown in Table 5, 71 participants (72%) reported at least one, significantly exceeding the expected value.

Expected probability of drawing exactly one red marble in seven draws without replacement

$$\frac{\binom{1}{1}\binom{19}{0}}{\binom{20}{1}} + \frac{\binom{1}{1}\binom{18}{0}}{\binom{19}{1}} + \frac{\binom{1}{1}\binom{17}{0}}{\binom{18}{1}} + \frac{\binom{1}{1}\binom{16}{0}}{\binom{17}{1}} + \frac{\binom{1}{1}\binom{15}{0}}{\binom{16}{1}} + \frac{\binom{1}{1}\binom{14}{0}}{\binom{15}{1}} + \frac{\binom{1}{1}\binom{13}{0}}{\binom{14}{1}} = \mathbf{0.4176\ or\ 42\%} \quad (3)$$

Table 5

Actual and Expected Values of Subjects Reporting at least 1 Red Outcome

	Overall (n=98)	**Equity (n=41)**	**Equality (n=57)**
Expected True Value *(standard probability x sample size)*	40 individuals	17 individuals	23 individuals
Actual number of *subjects who reported at least 1*	71 individuals	22 individuals	51 individuals
Expected Percentage *(expected number / sample size)*	41%	41%	41%
Actual Percentage *(actual number / sample size)*	72%	54%	88%

Note. Created by the author.

The largest deviation was observed in the Equality Treatment, where the actual number of subjects who reported at least one red marble nearly doubled the expected figure (88% vs. 41%). The Equity Treatment, while lower, still showed a substantial increase (54% vs. 41%), indicating that cheating behavior exists even under performance-based incentives.

These deviations suggest that many participants likely overreported red marbles. The fact that such overreporting is significantly more pronounced in the Equality group reinforces earlier findings: equal reward systems, regardless of effort, may increase the tendency to cheat.

Notably, reporting one red draw—though not definitive proof of dishonesty—can be interpreted as incomplete or subtle cheating, particularly if the actual draw yielded none. As theorized by Shalvi (2011), individuals may balance material gain with maintaining a positive self-image, opting to cheat just enough to benefit while preserving a sense of integrity.

In sum, the aggregate data supports the central hypothesis: cheating is more prevalent under equal distribution systems, and even in equitable systems, some individuals still engage in dishonest behavior, albeit to a lesser degree.

A clear difference in behavior emerged between the two treatment groups. As shown in Table 6 and Figure 2, 52.7% of participants in the Equality group reported drawing two or more red marbles, while only 26.8% of those in the Equity group did so. These participants were classified as "sure cheaters" since their reports exceeded the expected probability and were statistically improbable. A test for equality of proportions confirmed that this difference is statistically significant ($p < 0.05$).

Table 6

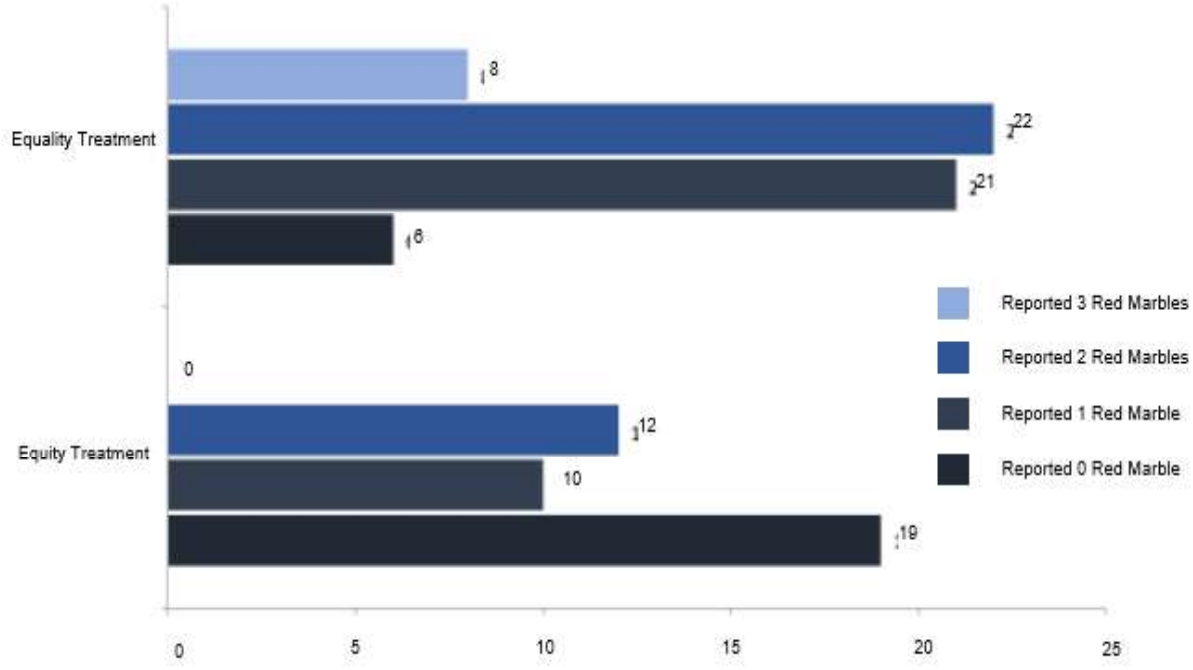
Frequencies and Percentages of Reported Red Outcomes across Treatments

Reported Red Outcome	Treatment				Total Percentage (n=98)
	Equity (n=41)		Equality (n=57)		
	Freq.	Percent	Freq.	Percent	
0	19	46.3%	6	10.5%	25.50%
1	10	24.4%	21	36.8%	31.60%
2	12	29.2%	22	38.6%	**34.70%**
3	0	0	8	14.1%	**8.10%**
3 and above	0	0		0	0.00%

Note. Created by the author.

Figure 2

Differences in Reported Payoffs across Treatment



Note. Created by the author.

Notably, no participant reported more than three red marbles, indicating that even among cheaters, there was a tendency to moderate dishonesty—possibly due to internal moral thresholds (Mazar & Ariely, 2007). Moreover, the Equality group still included many honest individuals, suggesting that perceived injustice does not uniformly lead to unethical behavior. The Equity Treatment, though more effective in reducing cheating, still saw dishonest behavior among some participants. This may reflect a calculated cost-benefit analysis, where perceived gains outweighed moral costs, consistent with rational choice theory.

Interestingly, while the cheating rate in the Equality treatment was notably higher, a significant portion of participants in the Equity group also engaged in dishonest reporting. This suggests that even in systems perceived as fair, individuals may still choose to cheat when the

potential rewards outweigh the perceived moral or reputational costs. These findings align with behavioral economic theories, which posit that individuals are not purely rational actors but weigh both internal moral constraints and external incentives in their decision-making.

The results also reflect the phenomenon of "justified dishonesty." In non-meritocratic systems, individuals may rationalize cheating as compensation for perceived unfairness. The Equality treatment, by failing to differentiate rewards based on effort, may have inadvertently encouraged this rationalization. Conversely, in the Equity treatment, where rewards were aligned with effort, the moral cost of cheating may have been perceived as higher, contributing to lower rates of dishonest behavior.

Overall, the data provide robust evidence that the structure of incentives plays a critical role in shaping ethical behavior. Systems that recognize and reward individual effort not only promote fairness but may also serve as an effective deterrent to dishonesty.

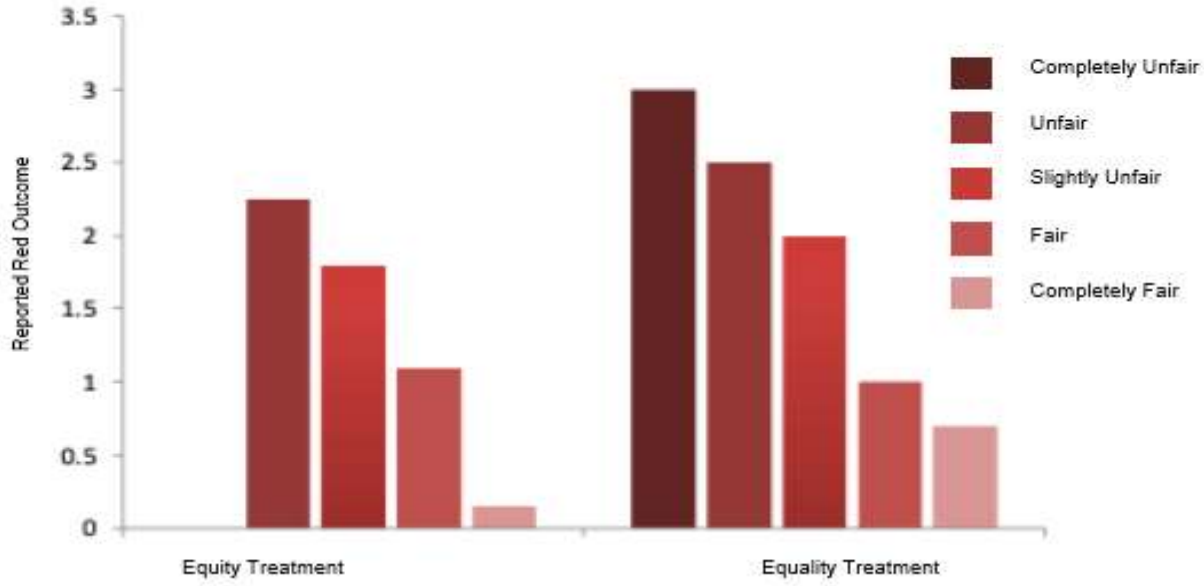
Association Between Fairness Perception and Cheating Behavior

A key objective of this study was to determine whether fairness perceptions influence individuals' propensity to cheat. As established in previous sections, fairness perceptions are significantly shaped by the treatment condition—Equity or Equality—making them valid outcomes of the experimental setup. A series of statistical tests were conducted to examine the link between fairness perception and cheating behavior. A Chi-squared test confirmed a significant association between fairness perception and reported red marble outcomes ($p < 0.01$, Pearson $\chi^2 = 106.82$), providing initial evidence of this relationship.

Figure 3 illustrates this association. Participants who rated the reward system as less fair were more likely to report higher red marble outcomes, reflecting greater cheating behavior. This trend holds across both treatment groups, though it is especially pronounced in the Equality treatment, where perceptions of unfairness and reported cheating were both substantially higher.

Figure 3

Association of Fairness Perception and Cheating Behavior across Treatments



Note. Created by the author.

To further validate these findings, a Kruskal-Wallis H test was performed to test for differences in cheating across five fairness perception categories: Completely Unfair, Unfair, Slightly Unfair, Fair, and Completely Fair. Results indicated a statistically significant difference in cheating levels across these groups ($\chi^2(2) = 31.85$, $p < 0.01$), confirming that those who perceived the system as less fair were more likely to cheat. Conversely, those who found the system fair or completely fair had the lowest cheating rates.

These results are consistent with the idea that perceived injustice increases moral disengagement, allowing individuals to justify unethical actions. However, the presence of honest individuals, even in the most unfair settings, reflects internal moral thresholds, supporting theories like Mazar and Ariely's (2007) self-concept maintenance model.

Logistic Regression Results: Predictors of Cheating Behavior

To deepen the analysis, a logistic regression model was estimated using a binary dependent variable: 1 for cheaters (those who reported 2 or more red marbles), and 0 for non-cheaters (those who reported 0 or 1). This classification avoids selection bias while preserving sample size for robust estimation. The regression results, presented in Table 7, identify both fairness-related variables and individual characteristics that significantly predict cheating behavior.

Table 7

Logistic Regression Results

Independent Variables	Coefficient	Std. Error	P-value	dy/dx
Unfair5	5.308*	1.38132	0.089	0.7599413
Unfair4	5.280***	1.464073	0.003	0.751231
Unfair3	2.232**	0.9192245	0.015	0.5038609
Unfair2	-0.442	0.8955806	0.622	-0.0876769
Treatment	0.972*	0.75763	0.096	0.1932053
Productivity	0.137*	0.6790504	0.084	0.0282767
Peers' Scores Perception	2.053***	0.7418467	0.006	0.4107985
Pooled Points Perception	0.440	0.6902973	0.524	0.0905382
Sex	-2.03**	1.000758	0.042	-0.3212861
Course	-2.072*	1.075433	0.054	-0.3074668
Units	-0.061	0.1537402	0.691	-0.0126005
GWA	1.534*	0.8588553	0.074	0.3159472
Constant	-4.967	3.688244	0.178	

Note. Created by the author.

Fairness perception emerged as a strong and consistent predictor of cheating. Compared to those who perceived the system as completely fair, individuals who viewed it as slightly unfair, unfair, or completely unfair were significantly more likely to cheat. The marginal effects increased with the level of perceived unfairness, with the highest cheating propensities observed among those who rated the system as completely unfair (dy/dx = 0.76) and unfair (dy/dx = 0.75). Those who perceived the system as slightly unfair also had a significantly elevated likelihood of cheating (dy/dx = 0.50). Interestingly, the marginal effects for the two most severe unfairness levels were nearly identical, suggesting that once the system is perceived as unfair, further increases in perceived unfairness have limited additional effect on cheating behavior. In contrast, participants who rated the system as merely fair did not significantly differ from those who found it completely fair.

The treatment condition also had a significant impact. Participants assigned to the Equality Treatment were more likely to cheat than those in the Equity Treatment (dy/dx = 0.19). This finding reinforces earlier results indicating that non-meritocratic reward structures heighten the risk of dishonest behavior.

Several individual-level control variables were also found to significantly affect the likelihood of cheating. Sex had a notable impact: female participants were significantly more likely to cheat than males (dy/dx = –0.32), aligning with earlier descriptive statistics and challenging commonly held gender stereotypes. This pattern is consistent with findings from Friesen and Gangadharan (2012), who argue that women are not necessarily more honest but may exhibit comparable or greater cheating behavior under certain conditions.

Course of study also played a role. Non-economics majors exhibited a higher probability of cheating than economics students (dy/dx = –0.31). One plausible explanation is that economics majors, having greater exposure to concepts such as rational behavior, incentives, and opportunity cost, may be more attuned to the potential risks and consequences of dishonest behavior. In contrast, students from other disciplines may lack the same cognitive framework for evaluating the trade-offs involved in cheating.

Another significant predictor was academic performance. Students with higher GWAs (i.e., lower numerical grades) had a greater likelihood of cheating (dy/dx = 0.32). This may reflect higher performance pressure or competitiveness among academically strong students. Conversely, number of enrolled units, which could indicate academic workload, was not a significant predictor.

Among perception-based variables, the belief that peer rewards were unfair strongly predicted cheating (dy/dx = 0.41). This highlights the role of social comparison and peer-based inequity aversion in shaping dishonest behavior. In contrast, perceptions related to the pooled points system did not significantly affect cheating propensities.

In sum, the regression results provide robust support for the hypothesis that perceptions of unfairness increase the likelihood of cheating. The effect remains significant even after accounting for demographic and academic factors, underscoring the importance of procedural fairness in reducing dishonest behavior.

Conclusion

This study offers compelling empirical evidence that perceptions of fairness significantly influence dishonest behavior. Participants who perceived their environment as unfair were consistently more likely to cheat, particularly when reward systems disregarded individual effort. The Equality Treatment, designed to mirror non-meritocratic systems, resulted in substantially higher cheating rates compared to the Equity Treatment, which rewarded performance.

Importantly, the findings highlight that even when incentives are structured equitably, cheating does not vanish entirely—suggesting that other psychological and social factors also shape moral decision-making. Nevertheless, systems perceived as fair substantially reduce the motivation to cheat, validating the importance of procedural justice in ethical behavior.

Moreover, socio-demographic factors such as sex, course background, academic standing, and perceptions of peer fairness further illuminate the nuanced landscape of dishonest behavior. Female students, non-economics majors, academically high-performing individuals, and those who felt peers were unfairly rewarded were more prone to cheating. These patterns underscore that cheating is not merely a rational economic choice, but a complex interplay of fairness, identity, and perceived norms.

In a broader sense, this study emphasizes the ethical implications of institutional design. Policies and environments that prioritize equity over blind equality can foster not only better performance but also integrity. As educational institutions and organizations seek to build systems that encourage honest conduct, acknowledging the psychological weight of fairness perception is a necessary step toward cultivating more ethical communities.

References

Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, *2*, 267–299. https://doi.org/10.1016/S0065-2601(08)60108-2

Alesina, A., & Angeletos, G. M. (2005). Fairness and redistribution. *American Economic Review*, *95*(4), 960–980. https://doi.org/10.1257/0002828054825655

Ariely, D. (2010). *The upside of irrationality: The unexpected benefits of defying logic at work and at home*. HarperCollins.

Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, *76*(2), 169–217. https://doi.org/10.1086/259394

Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford University Press.

Fischbacher, U., & Heusi, F. (2008). Lies in disguise—An experimental study on cheating. *Journal of the European Economic Association*, *6*(4), 845–860. https://doi.org/10.1162/JEEA.2008.6.4.845

Friesen, L., & Gangadharan, L. (2012). Designing self-reporting regimes to encourage truth-telling: An experimental study. *Journal of Economic Behavior & Organization*, *84*(2), 537–553. https://doi.org/10.1016/j.jebo.2012.09.002

Galeotti, F., Kline, R., & Orsini, R. (2013). When unfairness leads to cheating. *Economics Letters*, *121*(1), 88–91. https://doi.org/10.1016/j.econlet.2013.07.009

Greenberg, J. (1990). Employee theft as a reaction to underpayment inequity: The hidden cost of pay cuts. *Journal of Applied Psychology*, *75*(5), 561–568. https://doi.org/10.1037/0021-9010.75.5.561

Hollinger, R. C., & Clark, J. P. (1983). *Theft by employees*. Lexington Books.

Houser, D. (2011). Preferences over equality and equity: Evidence from experimental data. *Economics Letters*, *110*(3), 208–212. https://doi.org/10.1016/j.econlet.2010.12.018

Kemper, T. D. (1966). Reference groups, socialization and achievement. *American Sociological Review*, *31*(1), 31–45. https://doi.org/10.2307/2090573

Mazar, N., Amir, O., & Ariely, D. (2008). The dishonesty of honest people: A theory of self-concept maintenance. *Journal of Marketing Research*, *45*(6), 633–644. https://doi.org/10.1509/jmkr.45.6.633

Shalvi, S., Gino, F., Barkan, R., & Ayal, S. (2011). Self-serving justifications: Doing wrong and feeling moral. *Current Directions in Psychological Science*, *20*(3), 190–193. https://doi.org/10.1177/0963721411408776

Ethical Commitee Approval/Etik Kurul Raporu

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2 March 2020

Subject: Research Ethics Clearance for *"Impacts of Fairness Perception on Cheating Behavior: An Experimental Study"*
Reference Code: UPLB-ECON-REC 2020-02-AGRAMON

Dear MS. AGRAMON,

The UPLB Department of Economics Research Committee has completed its review of your revised study protocol for the research project titled *"Impacts of Fairness Perception on Cheating Behavior: An Experimental Study."* We are pleased to inform you that your application has been **approved**, and you are hereby granted **ethical clearance to proceed** with the conduct of your study.

Your project has been assigned the reference code **UPLB-ECON-REC 2020-02-AGRAMON**, which should be cited in all official documentation and communication related to this research. This clearance will remain valid **until March 2, 2022**, subject to compliance with the conditions outlined below.

Approved Study Documents:

1. Study Protocol Version 2 (dated March 2, 2020)
2. Final Survey Instrument (dated March 2, 2020)

Requirements During the Study Implementation:

As the Principal Investigator, you are expected to notify the Committee and submit the appropriate forms should any of the following occur:

1. **Amendments** to the study protocol, particularly those that may impact participant well-being or data integrity. Use Form A – Protocol Amendment Submission Form.
2. **Changes to the informed consent process or content**, which must also be submitted through Form A.
3. **Adverse events**, whether observed or reported, using Form E – Serious Adverse Event Report.
4. **Early termination** of the study, along with justifications, using Form C – Early Termination Report Form.
5. Any incident or concern that may present **ethical implications** not previously covered.

We trust that you will adhere to the highest ethical standards in carrying out your research. We wish you continued success in your scholarly endeavors.

Sincerely,

Asst. Prof. Christian Marvin Zamora
Chair, Research Ethics Committee
UPLB Department of Economics

Expanding the frontiers of Economics Science towards inclusive growth and development in Asia and the Pacific

Information About the Article/Makale Hakkında Bilgiler

The Ethical Rules for Research and Publication / Araştırma ve Yayın Etiği

The authors declared that the ethical rules for research and publication followed while preparing the article.

Yazarlar makale hazırlanırken araştırma ve yayın etiğine uyulduğunu beyan etmiştir.

Conflict of Interests/ Çıkar Çatışması

The authors have no conflict of interest to declare.

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