

THE ROLE OF MORAL PREFERENCES IN PROSOCIAL AND HONEST BEHAVIOR: INSIGHTS FROM THE PUBLIC GOOD AND DIE ROLLING GAMES¹⁺

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ABSTRACT

This study explored the sustainability and persistence of prosocial and honest behaviors influenced by moral preferences—specifically deontological and consequentialist orientations—within two economic games: the Public Goods Game and the Die-Rolling Game. Drawing on existing literature, we sought to understand how individuals' ethical frameworks shape their decision-making processes, particularly in contexts involving prosociality and honesty. We replicated the Die-Rolling Game and Public Goods Game to assess cheating and contribution behavior across one-shot and repeated conditions. Results indicated that consequentialists displayed more variability in decision-making, while deontologists remained consistent regardless of repeated opportunities for dishonest behavior. In the Public Goods Game, moral preferences did not significantly influence contribution levels, suggesting both groups emphasized the act of contributing. These findings contribute to the understanding of ethical decision-making in economic settings and provide insight into the mechanisms underlying prosocial behavior.

Keywords: Consequentialist; Deontologist; Public Good Game; Die Rolling Game; Honesty; Prosociality

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1. INTRODUCTION

One of the most important findings in economic games is that humans care about and are motivated by the wellbeing of others. This social preference has been widely cited as building block of prosocial behavior (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Charness and Rabin, 2002; Falk and Fischbacher, 2006). It is also referred as voluntary kindness that are intended to benefit people, or society as a whole other than oneself (Batson and Powell, 2003), through any action including cooperating, contributing and helping others (Edwards et al., 2015). On the flip side, humans are also motivated to trade-off their integrity in pursuit of higher financial gain by engaging in anti-social behaviour such as dishonesty (Jiang, 2013; Gibson et al., 2016; Potters & Stoop, 2016). For example, employees might submit false claims to gain extra payoffs, such as medical bills for consultation that were never actually performed by the doctor. Several studies have shown that moral obligations, such as upholding integrity and incorruptibility, are positively associated with individuals who exhibit deontological preferences, rather than with those who hold consequentialist preferences (Tanner et al., 2008; Baron & Spranca, 1997; Megías et al., 2023).

Although individuals with deontological preferences are more ethically-driven, several experimental studies have demonstrated that their prosocial behavior was not necessarily more significant than those with consequential preferences (Bostyn and Roets, 2017a; Bostyn and Roets, 2017b; Everett, et al., 2018; Capraro et al., 2018). Deontologists were seen more cooperative in the trust game (Everett, et al., 2018) and prosocial in the one-shot public good game (Bostyn and Roets, 2017b) as compared to consequentialists, but, behaved more strategically in Bostyn and Roets (2017a) and Capraro et al., (2018). Deontologists did not transfer more money and share their wealth more than consequentialists in the trust game and the dictator game respectively. In contrast, the contribution of consequentialists was reported as being higher than deontologists in the one-shot public good game (Ch'ng & Narayanan, 2022).

While evidence shows differences in prosociality and honesty between deontologists and consequentialists, it remains unclear whether deontologists sustain these behaviors under repeated free-riding and cheating incentives. This gap is both theoretically and practically important, as most real-world economic decisions involve repeated rather than one-shot interactions. This paper examines the persistence of honest and prosocial behavior across deontological and consequentialist preferences using repeated die rolling games and repeated public good games.

Based on moral philosophy, individuals who always uphold their moral duty are known as deontologists, regardless of all situations (Armstrong et al, 2019). Conversely, those who often evaluate the benefit and cost of the outcomes and seek the optimal decision are known as consequentialists (Kreps & Monin, 2014). For example, in a moral dilemma game such as in Trolley problem (Foot, 1967), consequentialists will engage in strategy to save greater number of lives while deontologists will remain committed to upholding their morality. Similar moral dilemma situation can also be observed in the Heinz moral model (Haidt et al., 2000; Keefer, 2003). Individuals are asked to provide their justification as to whether Dr Heinz, the medical doctor, should steal the illegal drug to keep her wife alive and face the crime punishment, or abide by the law and let her wife die. In such circumstance, individuals who justify stealing the drug will lead to a longer life span of her wife are classified as consequentialists. Individuals who express strong intolerance of the breach of law are deontologists. Despite both models share conceptual

similarities, the Trolley Problem's straightforward binary choices have been widely used in experimental studies to elicit individuals' moral preferences (Capraro et al., 2018; Everett et al., 2018; Ch'ng & Narayanan, 2022). In general, deontological responses inferred from the trolley-type dilemmas capture individuals' adherence to rule-based moral commitments, moral absolutism, or duty-based reasoning, whereby moral actions are evaluated based on conformity to moral rules or duties rather than their consequences.

Relative to other moral theories—such as the Honesty–Humility model (Ashton & Lee, 2007) and moral identity models (Black & Reynolds, 2016)—which rely on multi-item self-report measures and are susceptible to social desirability and demand effects, the trolley model offers two practical advantages for the present experimental design. First, its simple binary-choice structure imposes a low cognitive burden, thereby reducing participants fatigue and inattentive responding. Second, using a single moral measure limits demand effects arising from repeated moral questioning. We therefore adopt a single trolley decision to enhance the practicality of economic experiments.

The Public Good Game is a common economic game extensively used to study the relationship between individuals' pro-sociality and their honesty-humility traits such as greed avoidance, sincerity, modesty and fairness (Hilbig et al., 2014; Lawn, et al., 2022; Zhao et al., 2016). The game is designed to create a social dilemma, in which personal interest conflicts with societal interests. The Pareto outcomes would have all individuals to cooperate and contribute all of their endowments to the pool to ensure every individual is better off. However, the Pareto outcomes are hard to achieve because free-riders who contribute nothing can enjoy the community payoffs as much as those high contributors. Thus, to safeguard personal interest, the dominant strategy for every individual will be to contribute nothing to the public pool (Fehr & Gächter, 2000; Devlin-Foltz & Lim, 2008). Numerous experimental studies across decades have shown that individuals' contribution declined over subsequent periods in the repeated public good game (Camerer & Fehr, 2004; Chaudhuri et al., 2017; Gunnthorsdottir, Houser & McCabe, 2007; Weimann et al., 2019). The decline in contributions is primarily due to the persistent free-rider problems (Chaudhuri, Paichayontvijit & Smith, 2017; Gunnthorsdottir, Houser & McCabe, 2007). Majority of individuals reduced their contributions after learning that their prosocial behavior in the previous rounds was taken advantage of by free-riders who contributed nothing. From the psychology perspective, this behavioural pattern can be linked to depletion of pro-sociality. Individuals tend to exhibit diminished prosocial behavior after constantly helping others without receiving benefits (Gabriel et al., 2018; Koopman et al., 2016; Lin et al., 2020). The feeling of being drained arises due to the lack of social support (Garmendia et al., 2023) and the lack of satisfaction with achievements (Glicken & Robinson, 2013). In spite of that, several researches have shown that the depletion of pro-sociality depends on one's level of moral identity (Aquino et al., 2009; Joosten et al., 2015). For example, individuals who show less concern for moral values tend to exhibit a greater depletion of pro-sociality.

In dishonesty literature, the die rolling game is frequently used to study the relationship between individuals' cheating behavior and their honesty-humility traits – such as greed avoidance, sincerity, modesty and fairness (Kleinlogel et al., 2018; Hilbig & Zettler, 2015; Ścigała, Schild, Heck, and Zettler, 2019). The game developed by Fischbacher & Föllmi-Heusi (2013) renders individuals to misreport the outcome of the rolled die for higher financial gains without the fear of being caught, which yields to the emergence of partial liars and income-maximizing subjects. Partial liars are individuals who engage in dishonesty without exceeding their moral boundaries

(Mazar, Amir & Ariely, 2008), while income-maximizing subjects represent an extreme form of dishonest individuals who always seek to maximize the benefits of lying. In addition, research in behavioral economics also offer insights into the positive relationship between repeated cheating opportunities and dishonest behavior (Fischbacher & Follmi-Heusi, 2013; Necker & Paetzel, 2023). For example, Fischbacher & Follmi-Heusi (2013) detected a higher level of cheating behaviour when the same group of individuals participated in the die rolling game twice in a row. The increase in individuals' cheating behavior is caused by the depletion of their self-control (Mead et al., 2009; Gino et al., 2011). Self-control, also known as self-regulation or willpower, enabling individuals to resist immediate cheating temptations and adhering to established moral standards (Gino et al., 2011; Shalvi et al., 2012). Nevertheless, it can be depleted after being extensively used, leaving individuals with fewer resources to maintain similar self-control choices in subsequent decision (Muraven et al., 1998; Muraven & Baumeister; 2000). In line with this, criminal research has demonstrated that morality is highly correlated with self-control (Muraven et al., 2011; Schoepfer & Piquero, 2006; Silver & Silver, 2021; Wang et al., 2017). For example, individuals with low self-control experienced a greater effect of self-control depletion on unethical behavior (Wang et al., 2017).

Experimental studies (Kim et al., 2024; Zhao et al., 2019) using the one-shot die rolling game have demonstrated that moral reminders grounded in deontological principles like “don't be a cheater”, “don't cheat” or “be honest” did not reduce individuals' dishonest behavior. Instead, the fraction of income-maximizers increased with the explicit moral reminders (Zhao et al., 2019). Applying a similar cue, a behavioral study by Verschuere et al. (2018), also failed to replicate the effect of the moral reminders in the bible on reducing dishonesty as reported by Mazar et al. (2008) as one of the most cited authors in deception research. These findings prove that individuals are insensitive to the preaching of moral values. Deontology theory, on the other hand, postulates that individuals who exhibit deontological preferences will uphold their integrity, regardless of all circumstances (White, 2009).

Drawing on the above literature, this paper conceptualizes honesty and prosociality as behavioral outcomes measured in monetarily incentivized tasks and interprets them as context-dependent behaviors. Specifically, individuals' honesty is measured by the amount of their self-reported payoff in the repeated die-rolling game, while their willingness to contribute in the repeated public goods game reflects their prosociality. The novelty of this research lies in examining how individuals with deontological or consequentialist preferences withstand the risk of exploitation by free riders and bear the economic costs of maintaining the moral high ground in competitive environments.

2. EXPERIMENTAL DESIGN

The experiments consisted of four sessions, each beginning with the Trolley Game to classify participants as deontologists or consequentialists, followed by a one-shot Public Good Game (Session 1), a repeated Public Good Game (Session 2), a one-shot Die Rolling Game (Session 3), and a repeated Die Rolling Game (Session 4).

Table 1: The experimental tasks for all sessions

| Sequence | Session 1 | Session 2 | Session 3 | Session 4 |
|----------|---------------------------|---------------------------|---------------------------|---------------------------|
| 1 | Trolley dilemma game | Trolley dilemma game | Trolley dilemma game | Trolley dilemma game |
| 2 | One-shot Public Good Game | Repeated Public Good Game | One shot Die Rolling Game | Repeated Die Rolling Game |

Conducting the Trolley dilemma game first in all sessions, as shown in Table 1, enables us to examine the extent to which moral preferences affect prosociality and honesty in one-shot and repeated economic decisions. A lab assistant first briefed participants on the Trolley dilemma game. Instructions for the economic games were then provided after individuals' responses to the Trolley dilemma game were recorded. They were paid immediately after each session while preserving their identities. Participants who had participated in previous session were not allowed to participate in other sessions. The experiments were conducted in the behavioral labs of two local universities in Malaysia, from June 2024 to July 2024.

2.1. Experimental Procedure

A total of 280 undergraduate students, aged between 20 and 24 years and from various faculties, were recruited to participate in the study. More than half of them were female, and the average age was 21.3 years. Student participants were widely used in experimental economics because they offer a controlled and internally valid environment for testing theoretically grounded behavioral mechanisms (see Chen & He, 2021; Hochman et al., 2021; Potters & Stoop, 2016). The primary objective of this study is not to estimate population-level prevalence of honesty or prosociality, but to identify causal relationships between moral orientation and behavior under controlled incentives and repeated temptation. For such mechanism-based investigations, student samples are appropriate and commonly accepted in the literature. They were randomly recruited through word of mouth or class announcements by a lab assistant whom they were unfamiliar with. To uphold the validity of the experimental findings, they were not informed of the nature of the experimental tasks during recruitment.

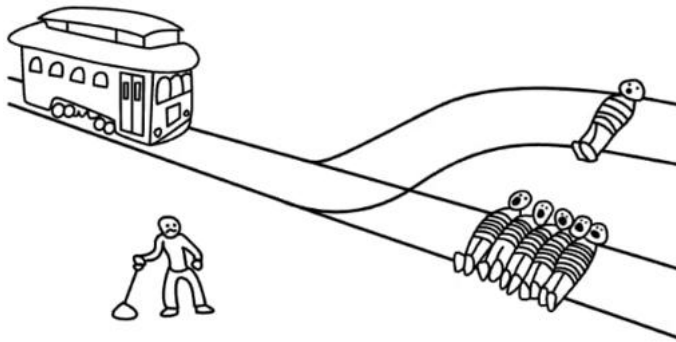
Upon arriving at the behavioral lab, participants were randomly assigned to computer stations and informed that their decisions during the experimental session would be processed anonymously. To alleviate concerns about anonymity, the experimenters initiated a trial run of the experiment by displaying the results of each decision on a public screen. This allowed participants to observe that individual decisions were not linked to any personal identities. Following this, they were asked to respond to a moral dilemma presented in the form of the Trolley Problem diagram. After completing their responses, participants were briefed on the instructions for the respective games.

The games commenced once all participant inquiries were addressed. The experiments were programmed and conducted using Z-Tree software (Fischbacher, 2007).

2.1.1. *The Trolley Problem*

The Trolley problem (Foot 1967; Greene et al. 2008) as shown in Figure 1 is a well-known ethical dilemma question used to resemble a moral dilemma situation where individuals must decide whether they want to adhere to their moral principle or violate it in pursuit of maximum overall welfare.

Figure 1: Moral Dilemma



According to Figure 1, six individuals were tied up and placed on two separate railway tracks. A speeding train was approaching the track with five individuals, while a single person was on the alternate track. Participants from both sessions were informed that they had the authority to determine the fate of the six individuals. They were required to choose between two options: Option 1—do nothing and allow the train to kill the five individuals; or Option 2—divert the train onto the other track, resulting in the death of the single individual but saving the five. Participants who selected Option 1 were classified as deontologists, whereas those who selected Option 2 were classified as consequentialists.

2.1.2. *Session 1: One-Shot Public Good Game*

In this session, we conducted the One-shot Public Good Game in groups of 3. The participants were told that the experiment consisted of one decision round and they would be matched with two other anonymous members. During the experiment, the participants were endowed with RM20. With the RM20 endowment, they were required to decide how much they want to contribute to the public account and how much they want to keep in your private account. They were informed that their total earnings comprised of the sum of their earnings in private account and public account, as indicated in function $g(x)$.

$$g(x)_i = \text{Private Account} + 0.5 \text{ Public Account}$$

$$g(x)_i = (20 - x_i) + (0.5 \sum_{i=1}^3 C)$$

x_i represents subject i 's contribution to the group account, and C represents the total contributions by the three subjects. Each RM1 saved in the private account was worth its exact value to all participants after contribution. In contrast, each RM1 contributed to the public account was multiplied by 0.5. This means that it was only worth RM0.50 to every group member and the participant himself.

To illustrate individuals' total earnings, if subject i contributes nothing (RM0) to the public account while all others contribute RM20 each, his private and group accounts consist of RM20 and RM20 respectively. Eventually, the subject i 's total earnings from the game is RM40, and the other two participants in the same group receive RM20 each. The overall payoffs are RM80 (RM40+RM20+RM20). However, the three participants can be better off, if they contribute their endowment to the public account. For example, subject i , and the other two participants contribute RM20 each to the public account, all will receive RM30 each. The overall payoffs are RM90 (RM30 x 3).

2.1.3. Session 2: Repeated Public Good Game

In the repeated public good games, the rule and the nature of the game were the same as in the one-shot public good game. The only difference was that participants in this session were required to play the game for ten rounds. The matching protocol was that each round, participants were matched randomly with other 2 partners. The random rematching process prevents participants from relying on the same partners in future rounds, thereby reducing the influence of reputation or reciprocal strategies. This allows researchers to better isolate intrinsic prosociality from conditional cooperation. Furthermore, the identity of the group members was not revealed to the participants.

Similar to One Short Public Good Game, experiment began with participants decide how much to contribute to private and public pool from the RM20 endowment given by the experimenter. Contribution in the public pool was then multiplied with the factor of 0.5 and at the end of each round, the contribution in the public pool was equally was equally enjoyed by the participants.

New round commenced after participants viewed their previous total earnings and the group contribution on computer screens. Participants' final payoffs were randomly chosen from one out of ten rounds. This ensured decision in each round was equally important.

2.1.4. Session 3: One-Shot Die Rolling Game

In this session, participants were told to roll a dice and report the rolled number. The participants were informed that they would receive an amount of money depending on the number. If he rolled number one, he would receive RM10, he would receive RM20 for number two, RM30 for number 3, RM40 for number 4, RM50 for number 5 and RM0 for number 6.

Participants were assured that their decisions (i.e. the reported number) were not linked to their identity. In a trial period, each participant could observe that the reported number was not tied to any identity that could possibly reveal the decision maker. During the experiment, the experimenter and his assistant left the lab to allow participants to play the game without being monitored. After rolling a number, the participants inputted that number into the computer. At the end of the experiment, experimenter would ask each participant privately the number they rolled and paid them accordingly. The steps ensured that the participants were not observed and their decision in the lab was 100% anonymous.

2.1.5. *Session 4: Repeated Die Rolling Game.*

Same as One short Die Rolling Game explained above, participants in Repeated Die Rolling Game were told to roll a dice and report the number. The payment schedule depends on the number rolled as in the One Short Die Rolling Game.

The same steps to ensure anonymity were implemented, but now participants had to roll and report the number 10 times. Participants were asked to write down the number on a piece of paper for each round. The final payoff depended on the rolled number from a randomly decided round. During payoff the participants would refer to the number he jotted down on the paper. He would not pass the paper to the experimenter.

2.2. *Statistical Measurement of Dishonest Behavior in Die Rolling Game*

We use the definition of cheating in the paper by Fischbacher and Föllmi-Heusi (2013). The expected value for participants who roll any outcome is 0.1667 (1/6). Therefore, any outcome from number 1 to number 6 with a proportion above 0.1667 at the 10%, 5% and 1% significance levels was considered cheating. The dishonest behavior is further divided into two categories as in Fischbacher and Föllmi-Heusi (2013): income-maximizing subjects and partial liars. Income-maximizing subjects were those dishonest participants who maximize their income by misreporting the highest payoff (RM50) as their financial gain. Participants who engaged in cheating behavior and reported the second-highest payoff (RM40) as their financial gain were classified as partial liars.

2.3. *Statistical Measurement of Pro-sociality in Public Good Game*

The amount of contribution in the public good game serves as a proxy for individuals' prosocial behavior (Kleinlogel et al., 2018; Hilbig & Zettler, 2015; Ścigata et al., 2019). In the public good game, individuals who contribute more to the public pool are classified as more prosocial than those who contribute less. This behavioural pattern is aligned with the definition of pro-sociality, that prosocial individuals intend to benefit people, or society as a whole other than themselves (Batson & Powell, 2003). In this paper, we intend to examine the effect of individuals' moral preferences on their prosocial behavior. The difference in contribution between deontologists and consequentialists in the one-shot die game and the repeated public good game is considered significant when the statistical results are at the 10%, 5% and 1% significance levels.

2.4. Hypotheses

Based on the experimental design, we form the following hypotheses:

Honesty and Deontological preference are positively correlated. As such, Deontologists should be more resistant to single or multiple cheating temptations than Consequentialists who are willing to trade-off their morality in pursuit of optimal outcomes.

Hypothesis 1: Deontologists are expected to exhibit a lower propensity to cheat than consequentialists in both one-shot die game and repeated die game.

Second, the literature associates prosociality with moral preferences. Deontologists, characterized by high integrity and incorruptibility, are shown to exhibit higher levels of prosocial behavior than consequentialists. Based on this, we derive our third hypothesis.

Hypothesis 2: The difference in contribution between Deontologists and Consequentialists should be significant across the one-shot public good game and the repeated public good game.

Third, the persistent free rider problems in the repeated Public Good Game will motivate Consequentialists to prioritize their personal interest over all societal interest. In the context of the game, focusing on personal interests will cause one to exhibit diminished prosocial behavior. From this, we derived our third hypothesis.

Hypothesis 3: The pro-sociality of Consequentialists is expected to deplete in the repeated public good game but not among the Deontologists.

3. RESULTS AND DISCUSSION

We will first report the result and analysis from the Die Rolling Game followed by Public Good Game.

Table 2 shows the frequency of each rolled number by Consequentialist and Deontologist in One Shot Die Rolling Game and Repeated Die Rolling Game.

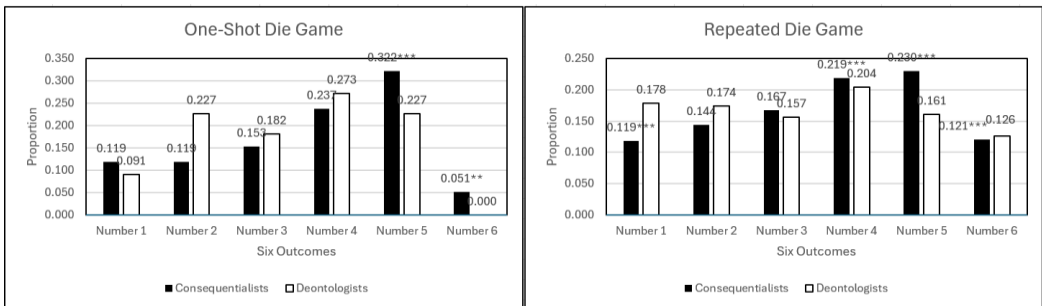
Table 2: Rolled numbers according to moral preferences in one-shot and repeated die games

| One-Shot Die Game | | | | | | | |
|-------------------|----------|----------|----------|----------|----------|----------|-------|
| Consequentialists | Number 1 | Number 2 | Number 3 | Number 4 | Number 5 | Number 6 | Total |
| | 7 | 7 | 9 | 14 | 19 | 3 | 59 |
| Deontologists | Number 1 | Number 2 | Number 3 | Number 4 | Number 5 | Number 6 | Total |
| | 2 | 5 | 4 | 6 | 5 | 0 | 22 |

| Repeated Die Game | | | | | | | |
|-------------------|----------|----------|----------|----------|----------|----------|-------|
| Consequentialists | Number 1 | Number 2 | Number 3 | Number 4 | Number 5 | Number 6 | Total |
| | | 51 | 62 | 72 | 94 | 99 | 52 |
| Deontologists | Number 1 | Number 2 | Number 3 | Number 4 | Number 5 | Number 6 | Total |
| | 41 | 40 | 36 | 47 | 37 | 29 | 230 |

To address the potential impact of unequal group sizes in the one-shot die game (consequentialists: N = 59; deontologists: N = 22) on comparability and estimate precision, we employ Ordinary Least Squares (OLS), which provides consistent and unbiased estimates across groups with different sizes. This approach allows us to make more robust inferences regarding the effect of moral orientation. Furthermore, the primary objective of this study is to identify the causal impact of moral orientation on behavior under controlled incentives and repeated temptation. Figures 2 presents the outcomes detailed in Table 1 as proportions for easy analysis.

Figure 2: Proportion of payoff claims made by consequentialists and deontologists in all types of die game.



Notes: *** and ** display the significance of a two-sided binomial test at 1% level and 5% level respectively that the observed fraction differs from 0.1667.²

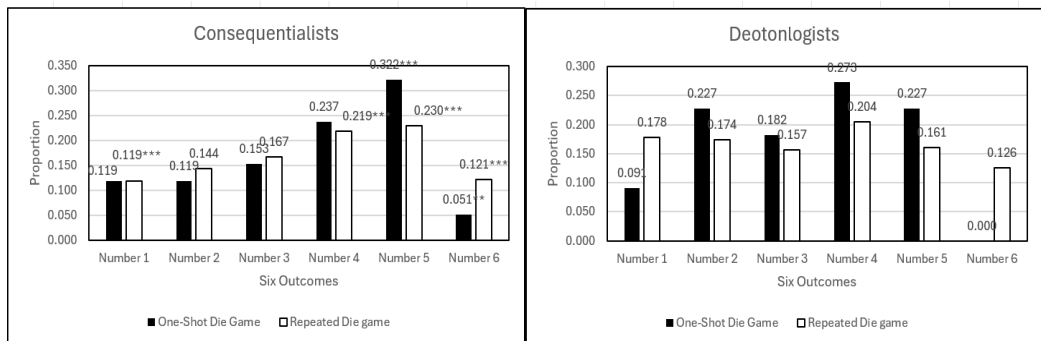
Based on Figure 2, in the one-shot game, Consequentialists show more variation, with the proportion of number 5 significantly above the expected value of 0.1667 (Binomial Test, $p=0.0042$). However, the proportion of number 4 remained insignificant compared to the expected value (Binomial Test, $p=0.1603$). On the other hand, Deontologists have more even distribution, though number 2-5 are higher than expected value, but not at statistically significant levels. The absence of significant deviation suggests that Deontologists show greater consistency and adherence to ethical decision making compared to Consequentialists. In contrast,

² Although N=22, the proportion of each reported outcome did not significantly differ from 1/6, as indicated by the statistical results. We thank the reviewer for noting that the sample of deontologists was small, which may affect the validity of the data and findings. The small sample size was due to insufficient funding to recruit more students for the one-shot treatment. Furthermore, the main focus of the study is to examine how moral preference moderates dishonesty under repeated cheating temptation.

Consequentialists display more variability, particularly with extreme outcomes such as number 4 and 5, suggesting a more flexible approach to moral boundaries, where ethical consistency can be adjusted to better align with desired outcomes or specific goals.

From the same Figure 2, in repeated game, Consequentialists show significant variation in proportions for number 4 (Binomial Test, $p=0.0007$) and number 5 (Binomial Test, $p=0.0052$). Particularly number 5 stands out with much higher proportion than other numbers (23%). Whereas Deontologists demonstrate a more even distribution, with none of the numbers showing statistically significant deviation from the expected proportions of 0.1667. In both one shot and repeated scenarios, Consequentialists show greater variability in decision making, number 4 and 5 deviate significantly, suggesting a flexible approach when outcomes influence decisions. This inconsistency implies that Consequentialists may compromise on ethics if end result is considered favorable. Deontologists, on the other hand, demonstrate consistency across both scenarios. Their results show no significant deviations from expected proportion, indicating a strong adherence to ethical principles, regardless of potential outcomes.

Figure 3: Comparison of the outcomes between the one-shot die and repeated die games



Note: *** and ** display the significance of a two-sided binomial test at the 1% and 5% levels, respectively, that the observed fraction differs from 0.1667.

Figure 3 presents the behaviors between one shot and repeated conditions in die game. One can observe Consequentialists display variability in their decision making across both conditions³. However, the statistical significance in repeated condition becomes more evident particularly in numbers 1 (one shot $p=0.3853$ vs. repeated $p=0.0064$), 4 ($p=0.1603$ vs. $p=0.0052$) and 5 ($p=0.0042$ vs. $p=0.0007$).

³ We aggregated the repeated outcomes for group comparisons, particularly to compare the reported outcomes between deontologists and consequentialists.

From the same Figure 3, when we look at Deontologists' behavior in both conditions, it is apparent that Deontologists show relative consistent behavior, with minor shifts in proportions. Generally, Deontologists' decisions show no statistical evidence of significant deviation and remained close to the expected random proportions 16.67%. While there are minor shifts in number 6, this remains statistically insignificant. The overall result suggests Deontologists' ethical decisions might not be sensitive to repetition in this context.

Table 3 presents the result from OLS regression with dependent variable as self-reported payoffs and independent variable as the moral preferences: Deontologists or Consequentialists. Deontologists were coded as 1, while consequentialists were coded as 0.

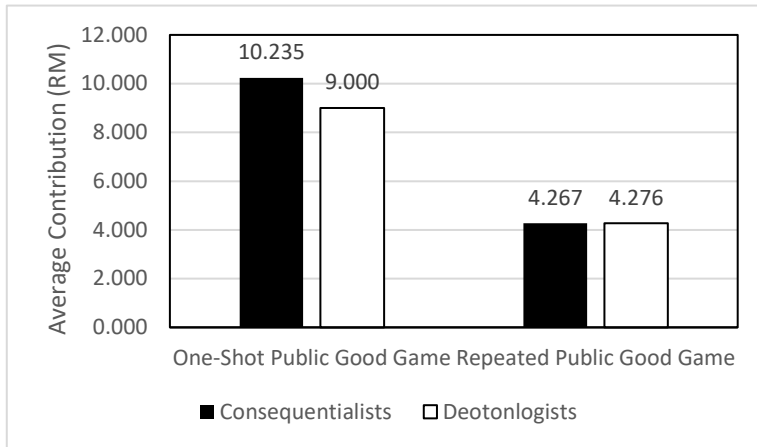
Table 3: Regression result with self-reported payoff as dependent variable in both die games

| Independent Variable | One Shot Die Game | Repeated Die Game |
|---|----------------------|----------------------|
| Constant | 33.728*** (1.968) | 29.348*** (0.808) |
| Moral Preference (1=Deontologists, 0 = Consequentialists) | -0.546 (3.776) | -3.174** (1.369) |
| Observation | 81 | 660 |
| R ² | 0.0003 | 0.0081 |

Notes: *** statistically significant in Z-Statistic at 1 percent level, ** statistically significant at 5 percent level.

The difference in self-reported payoffs between Deontologists and Consequentialists was not significant in the one-shot die game, but it became significant in the repeated condition. In the one-shot die game, the self-reported payoffs among deontologists were not significantly lower than consequentialists by RM0.546 ($t = -0.14$, $p = 0.885$). However, in the repeated die game, the total payoffs claimed by deontologists were reported as being RM3.174 significantly lower than consequentialists ($t = -2.32$, $p = 0.021$). Although the R² value is low, the coefficient for moral preference in the repeated die game is significantly negative, suggesting that deontologists reported payoffs that were RM3.174 lower than those of consequentialists. The low R² may be due to variation in self-reported die outcomes, which is largely driven by individual misreporting behavior. This finding supports the hypothesis that deontologists' ethical rigidity contrasts with the more flexible ethical decision-making of consequentialists.

We next examine the contributions of these two ethical orientations. Figure 4 shows the average contributions of Consequentialist and Deontologists in One shot and Repeated Public Good Game.

Figure 4: Average contributions of Consequentialist and Deontologist in Public Good Game

From Figure 4, in the One-shot Public Good Game, Consequentialists contributed slightly more on average (RM10.235) than Deontologists (RM9.000). However, the p-value ($p=0.9223$) shows this difference is not statistically significant, meaning any observed difference in contributions is likely due to random chance. In the Repeated condition, Deontologists marginally outperformed Consequentialists (RM4.276 vs. RM4.267), but again the p-value ($p=0.8223$) shows no significant difference between the groups, reinforcing the observation that the contributions from these two groups are similar. The result may imply that ethical orientation (Consequentialism vs. Deontology) does not significantly influence contribution behavior in these games.

When compare contribution between the two conditions, the contributions in One-shot Public Good Game are significantly higher than contributions in Repeated Public Good Game. The decline in contributions under repeated conditions has been documented in the literature as a response by cooperators to their group's contribution history (Gunnthorsdottir et al., 2007; Noussair & Tucker, 2007). In the One-shot scenario, Consequentialists contributed RM10.23 on average compared to RM4.26 in Repeated condition. Statistical tests show the difference is significant ($z=-2.039$, $p=0.0145$). Contribution decay also happened among the Deontologists from One-shot scenario (RM9) to Repeated condition (RM4.27), however, the difference is not significant ($z=-1.215$, $p=0.2244$).

To investigate further whether the ethical preferences can affect contributions, we run a simple OLS regression comparing contributions in the two conditions. Table 4 shows the result.

Table 4: Regression result for One-shot and Repeated Public Good Games

| Independent Variable | One Shot Public Good Game | 1st round | 2nd round | 3rd round | 4th round | 5th round | 6th round | 7th round | 8th round | 9th round | 10th round |
|---|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Constant | 10.235*** (-1.149) | 6.638*** (-1.083) | 4.888*** (-0.988) | 4.333*** (-0.801) | 4.805*** (-0.869) | 3.333*** (-0.888) | 5.027*** (-0.902) | 2.777*** (-0.864) | 2.388*** (-0.706) | 3.861*** (-0.885) | 3.916*** (-1.245) |
| Moral Preference (1=Deontologists, 0 = Consequentialists) | -1.235 (-1.728) | 0.444 (-1.532) | -0.055 (-1.397) | -0.861 (-1.133) | -1 (-1.229) | 0.972 (-1.255) | -1.5 (-1.276) | 0.833 (-1.223) | 0.861 (-0.999) | -0.333 (-1.252) | 2.027 (-1.76) |
| Observation | 61 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 |
| R2 | 0.0086 | 0.0012 | 0 | 0.0082 | 0.0094 | 0.0085 | 0.0194 | 0.0066 | 0.0105 | 0.001 | 0.0186 |

The contribution began high in One-shot scenario (RM10.235), but when compared with Repeated condition, it decreases overtime from RM6.638 in first round to final contribution at RM3.916. The decay in contribution happens in both groups. This supports the observation we made above in Figure 4. The moral preference variable fluctuates across rounds but generally it stays small and not statistically significant. The negative coefficients in most rounds suggest Deontologists tend to contribute less than Consequentialists, however, the difference is not strong and consistent. We then reject the Hypothesis that moral preference affects contribution.

4. CONCLUSION

This paper contributes to the literature by demonstrating that individuals' moral preferences, as measured by the single trolley-type dilemma, reflect only their persistence in honesty rather than their prosociality. Unlike prior studies that focus primarily on one-shot measures, our study provides experimental evidence on how moral preferences shape honesty in the context of repeated cheating temptation.

The research was operationalised using a self-reported Die Rolling Game and the Public Good Game. We replicated the Die Rolling Game from Fischbacher and Föllmi-Heusi (2013). In the self-reported Die Game, experimental participants were instructed to roll a die for monetary payoff which corresponded to the number from 1-5, with higher payoff for higher number, while rolling

a 6 yielded no reward. The experimenter could not directly observe the rolls, this allowed for potential dishonesty for increased profit. For comparison purposes, we conducted the Die Game in two treatments; one shot and repeated as in the paper by Fischbacher and Föllmi-Heusi (2013). While the Die Game tested honesty, we conducted Public Good Game to investigate the effect of moral preferences when they had to make decision that might conflict with societal interests.

Our results are consistent with prior studies showing heterogeneous honesty: a few participants remained fully honest, some maximized payoffs by always reporting the highest outcome, and many engaged in partial cheating by inflating reports without claiming the maximum payoff (Fischbacher & Föllmi-Heusi, 2013; Hao & Houser, 2010; Gneezy & Serra-Garcia, 2021). From the standpoint of moral preferences, we find that Consequentialists behaved more variably when come to extreme outcomes, such as rolling number 4 and 5. This aligns with philosophical discussions suggesting that Consequentialism is highly adaptable across contexts, sometimes at the expense of moral consistency (Scheffler, 1988; Hurley, 2006). In contrast, Deontologists displayed more consistent behavior, likely reflecting rule-based deontic reasoning (Beller, 2010; D'Altan et al., 1996).

When comparing decision-making behavior between the one-shot and repeated Die Rolling Game, we found no significant differences among deontologists across the two conditions. This suggests that deontologists' ethical stance was not influenced even when faced with repeated opportunities to behave dishonestly. Previous research has shown that such insensitivity to repetition in moral dilemmas can be attributed to the core principles of deontological ethics, which prioritize moral values over the consequences of actions (Broersen & Torre, 2012), the relative inflexibility in decision-making as deontologists adhere to norms (Lazar, 2017), and cognitive processes that emphasize harm avoidance (Christov-Moore et al., 2017).

In the context of the Public Good Game, moral preferences did not appear to play a significant role in decisions to contribute to the public pool. This may be attributed to both groups placing equal emphasis on contribution. From the consequentialist perspective, players are expected to contribute in order to maximize overall societal benefits, and the adaptive behavior of consequentialists drives cooperation even in competitive settings (Pichler & Shapiro, 2017). From the deontological perspective, individuals may prioritize the act of contributing itself, regardless of the outcome. This is supported by studies showing that individuals tend to self-select into groups based on shared moral commitments, which leads to higher contributions (Brekke et al., 2011).

The finding that deontologically inclined individuals are more persistent in upholding their honesty offers valuable insights for organizations aiming to promote integrity among employees. Simple moral screening tools, such as the trolley-type dilemma, may provide a cost-effective method for identifying individuals likely to maintain honesty over time, thereby mitigating the risk of misconduct and strengthening the enforcement of ethical policies. For example, individuals who reject the sacrificial strategy based on deontic reasoning—such as moral rules must be upheld regardless of the situation—should be prioritized. In contrast, interviewers may be more cautious when considering candidates who exhibit consequential preferences and justify the sacrificial strategy as a means of achieving Pareto-optimal outcomes.

The distinction between honesty and prosociality has implications for SDG 8, as ethical workplaces and sustainable economic performance depend on integrity and truthful reporting, not merely cooperative or prosocial behavior. This research, however, has two limitations. First, moral classification relies on a single-item trolley dilemma, which may be too coarse to capture the full spectrum of deontological and consequentialist reasoning. Second, the sample consists of students, which may limit generalizability to broader populations. Future research should address these limitations to more rigorously examine the effects of moral behavior on dishonesty and prosociality.

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