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AMBIGUITY AND LYING AVERSION

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Abstract

This study aims to explore lying aversion and the influence of ambiguity on lying aversion and individuals' willingness to pursue their self-interest. The research design includes a baseline condition that replicates the cheap talk sender-receiver game described in Gneezy's (2005) experiment. Additionally, two treatment conditions are introduced to assess the intrinsic lie aversion of the players and the impact of ambiguous lies on their inclination to pursue their self-interest. Consistent with existing literature, our findings confirm that individuals generally exhibit a strong aversion to lying. However, we also discover that ambiguity weakens this lying aversion, granting individuals more leeway to prioritize their self-interest. Understanding lying behavior and its underlying motivations holds significant importance in economic settings characterized by information asymmetry. The outcomes of this study contribute to such understanding by providing insights that can guide policies and strategies aimed at reducing dishonesty and promoting ethical behavior in various economic interactions.

Keywords: Lying, Lying aversion, Ambiguity, Behavioral Experiment.

Introduction

Instances frequently arise where individuals have the opportunity to deceive others by withholding or falsifying private information. Notable examples of this pervasive dishonesty and fraud can be observed in high-profile cases such as the FIFA's web of corruption, the Volkswagen Dieselgate emissions scandal, as well as the Petrobras and Odebrecht bribery cases in Brazil. Despite the prevalence of lying, both real-world and laboratory studies have provided compelling evidence that people sometimes refrain from telling lies even when it could lead to personal gains. This honest behavior can be attributed to a rational response driven by material incentives, as individuals recognize that dishonesty carries the risk of severe punishment. For instance, businesses may refrain from making false claims due to the substantial penalties they would face if their deception was uncovered.

Laboratory experiments further suggest that beyond these instrumental motivations, honesty holds intrinsic value for individuals, manifesting as an aversion to lying and that preferences for truthfulness are heterogeneous among individuals (Gibson, Tanner and Wagner (2013)). Some individuals possess such a strong aversion to lying that they are unwilling to engage in deceptive behavior, even when lying could result in mutually beneficial outcomes for themselves and others (Erat and Gneezy, 2011). However, research also reveals that various factors, including incentives, social norms, and reputation concerns, can influence lying behavior, counteracting this intrinsic aversion to lie.

Kajackaite and Gneezy (2018) demonstrate that many individuals make decisions to lie based on a simple cost-benefit analysis. They weigh the inherent costs of lying against the potential incentives, and when the benefits outweigh the costs, they transition from telling the truth to engaging in deception. Gneezy (2005) presents a study indicating that participants are more inclined to lie when doing so allows them to earn more money. Conversely, the probability of lying decreases when the recipient of the lie would experience significant losses.

Research also indicates that individuals are more likely to pursue selfish interests through lying when the deception cannot be easily detected (Fischbacher and Heusi, 2008; Ploner and Regner, 2013; Pascual-Ezama, Prelec and Dunfield, 2013). However, when the experimenter can monitor participants' behavior, lying tendencies diminish due to individuals' concerns about their perceived honesty.

In this paper, I aim to measure lie aversion and demonstrate how ambiguity can erode this aversion, enabling individuals to increase their material gains. Previous research has already shown that individuals are more likely to pursue selfish interests when circumstances provide sufficient flexibility to offer plausible justifications for simultaneously acting selfishly while maintaining a moral facade. Dana, Weber, and Kuang (2007) present a series of experiments illustrating how participants strategically exploit moral ambiguity to favor themselves while still appearing fair. For instance, participants may intentionally avoid information about the consequences of their decisions for the recipient, even when acquiring such information incurs no cost. By maintaining ignorance, they absolve themselves of the moral obligation to act generously and can retain more money for themselves. Additionally, the study reveals that individuals make more self-serving decisions when making choices in groups, as they share the responsibility for the outcome with other decision-makers, thus feeling less personally accountable.

Further contributing to this line of research, Hamman, Loewenstein, and Weber (2010) demonstrate that individuals strategically use delegation to pursue self-interest. When given the choice to hire an agent to make decisions on their behalf, they often select agents who subsequently provide less to the recipients. Moreover, they replace agents who are perceived as "too generous" to recipients with agents who contribute little or nothing. These findings highlight how individuals exploit ambiguous situations to pursue self-interest while maintaining the appearance of fairness.

Consistent with existing research, Erat (2013) uncovers evidence of "delegated deception," wherein individuals hire others to lie on their behalf to avoid the disutility associated with lying while still securing higher payoffs. The experiment demonstrates that a significant fraction of people employs an agent to lie, even when they could lie themselves. Furthermore, the likelihood of delegating to an agent depends on the incentives, with more individuals choosing to delegate when the lie disproportionately harms the person being deceived. Mazar, Amir, and Ariely (2008) discovered that when individuals had the opportunity to cheat, they engaged in dishonest behavior, but the magnitude of their dishonesty was relatively limited compared to the maximum potential amount (see also Pascual-Ezama, Prelec and Dunfield 2013). They conclude that individuals who held themselves in high regard regarding their honesty felt uncomfortable engaging in significant levels of cheating, opting instead for a limited amount of dishonesty that allowed them to preserve their positive self-perception. The study also found that the level of dishonesty decreased when individuals were compelled to pay greater attention to honesty standards, such as by signing an honor code, and increased when categorization malleability was heightened.

Using sender-receiver cheap-talk games akin to those employed by Gneezy (2005), this paper demonstrates how ambiguity erodes lying aversion, leading more individuals to pursue self-interest when the lie remains sufficiently ambiguous.

Examining this topic is crucial because interactions within the marketplace are often characterized by asymmetric information, tempting individuals to manipulate their private information through deceit to gain an advantage. The economic ramifications of lying are significant, making it vital to understand the factors that influence individuals' decisions to lie in order to gain insight into various economic behaviors.

Study Design

1. Baseline Condition

Our baseline treatment follows the Cheap Talk Sender-Receiver game, as described in Gneezy (2005). The game involves two players: one with private information and the other who takes an action based on a message received from the first player. The message is given before the action, and both players are aware of the game's rules. The payoffs for both players depend on the action chosen, not on the message.

There are two possible monetary distributions, labeled as A or B. Only player 1 (the Sender) is aware of the monetary consequences associated with each option, while player 2 (the Receiver) has no information about the distributions.

Player 1 can send one of two possible messages to player 2:

Message 1: "Option A will earn you more money than option B."

Message 2: "Option B will earn you more money than option A."

In this game, Option A maximizes the payoff for Player 1, while Option B maximizes the payoff for player 2. Only Player 1 knows that message 1 is false and that message 2 is true. After receiving a message, Player 2 selects either option A or option B for implementation.

Similar to Gneezy (2005), our primary focus is on the message sent by player 1. Gneezy (2005) demonstrates that in a cheap talk game where the receiver has no information about the incentives, most senders expect the receivers to blindly follow their messages. As it turned out, in Gneezy (2005) 78% of the participants assigned as receivers followed the sender's message and chose the option "recommended" by the sender. Therefore, following Gneezy (2005), within the context of this experiment, if the sender aims to maximize their own payoff, they should always lie. The sender understands this, and their main concern is the fairness of lying.

2. Treatment 1 - Dictator Game

In this treatment condition, we modify the game to make Player 1 a dictator who decides between options A and B. Similar to the baseline condition, only Player 1 is aware of the monetary consequences associated with each option. Player 2 has no information about the distributions and he plays no active role in this game. After Player 1 makes her decision, it is implemented, and both players receive their payoffs.

Treatment 1 measures the intrinsic preference of Player 1 (the Dictator) regarding the allocation. Since the Baseline Condition measures Player 1's preference to lie in order to maximize his payoff, the difference between Treatment 1 and the Baseline Condition serves as a measurement of Player 1's lie aversion.

3. Treatment 2 - Ambiguous Lie

In this treatment condition, we modify the messages that player 1 can send to the player 2. In this treatment, the sender can choose between two messages:

Message 1: "I advise that you choose option A."

Message 2: "I advise that you choose option B."

Apart from the messages, this experiment is identical to the baseline experiment. In this case, Player 1 sends a "recommendation" or "advice" to the receiver. As player 1 expect the receiver to follow his advice, we consider this condition an ambiguous lie. It is technically not a lie, but it is a misleading message, and the sender expect the receiver to follow it.

Procedure

A total of 300 participants were recruited from M-Turk and randomly assigned to different treatments and roles as outlined below:

Treatment	No. of Players 1	No. of Players 2
Baseline	50	50
Treatment 1	50	50
Treatment 2	50	50

Only Player 1 was informed about the monetary consequences of each option, and player 2 was kept unaware of the payoffs.

In our experiment, the payoffs for each option were as follows:

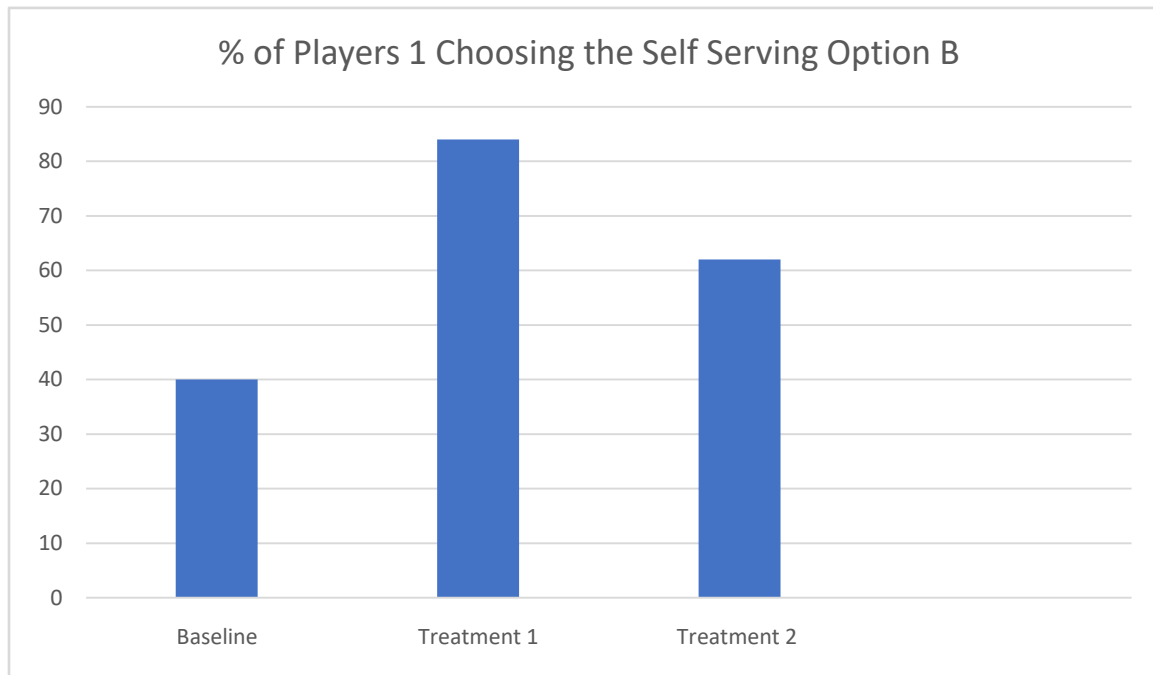
Option A – Player 1 received 60 cents, and player 2 received 50 cents.

Option B – Player 1 received 50 cents, and player 2 received 60 cents.

To clarify, in Option A, Player 1 expected a relative gain of 10 cents for themselves and a relative loss of 10 cents for the receiver. In Option B, Player 1 expected a relative loss of 10 cents for themselves and a relative gain of 10 cents for the receiver. These payoffs were chosen to closely mimic the experiment conducted by Gneezy (2005)¹.

Results

The results of our experiments are summarized in the following chart.



In the baseline treatment, 40% of players 1 chose to send message B, indicating that 40% of the senders lied (20 out of 50 senders). These results are consistent with Gneezy's (2005) findings, which reported a 36% lying rate among senders. These findings demonstrate the successful replication of the original, albeit costly, lab experiment using M-turk.

In Treatment 1, when players 1 needed to make the allocation on their own in a dictator game, 84% of them (42 out of 50 senders) chose the self-serving option (Option B). This suggests a strong aversion to lying, as 84% of decision makers selected Option B when their decision affected the payoffs of both players. However, when choosing Option B required lying, only 40% of them opted to lie. This implies that 44% of decision makers who initially chose Option B would not choose it if lying was involved. These results are statistically significant ($Z = 4.53$, two-tailed P value = 0).

In Treatment 2, where the lie was ambiguous, 62% of players 1 (31 out of 50 senders) chose to recommend the self-serving Option B to the Receiver. This indicates that a considerable number of decision makers (22%) would not deliver a direct lie message but are willing to send a misleading message when the lie is ambiguous enough. This difference is statistically significant ($Z = 2.20$, two-tailed P value = 0.027).

¹In Gneezy's more expensive lab experiment, the payoffs were \$5 instead of 50 cents, and \$6 instead of 60 cents. Consequently, the relative gain/loss to the players in Gneezy's (2005) experiment was \$1

Conclusions

This paper investigates the phenomenon of lying and its underlying motivations in decision-making contexts. It contributes to the existing literature by examining the impact of ambiguity on lying aversion and individuals' willingness to pursue self-interest. The findings shed light on the factors that influence lying behavior, providing valuable insights into economic behaviors in situations involving asymmetric information.

The study design includes a baseline condition that replicates Gneezy's (2005) experiment, serving as a benchmark for comparison. Two additional treatments explore the impact of decision-making contexts: Treatment 1 measures the intrinsic lie aversion while Treatment 2 investigates the effects of ambiguous lies. The results show that individuals exhibit a strong aversion to lying when their decisions affect the payoffs of both themselves and others. However, ambiguity plays a crucial role in eroding lying aversion. When the lie remains sufficiently ambiguous, individuals are more likely to pursue self-interest by sending misleading messages rather than outright lies. Those findings are consistent with previous research on lying that shows that individuals tend to engage in limited levels of dishonesty to preserve their positive self-perception, and with previous research on pro-social behavior that shows that individuals are more likely to pursue selfish interests when circumstances provide sufficient flexibility to offer plausible justifications for simultaneously acting selfishly while maintaining a moral façade.

Understanding lying behavior and its underlying motivations is crucial in economic contexts characterized by asymmetric information. The economic ramifications of lying are significant, emphasizing the importance of comprehending the factors that influence individuals' decisions to lie. The findings of this paper contribute to this understanding, providing insights that can inform policies and strategies aimed at reducing dishonesty and promoting ethical behavior in various economic interactions.

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