DOES THE PEER MATTER? IF SO, THEN WHEN? PEER EFFECTS ON SHARING NORMS AND BEHAVIOR

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ABSTRACT

DOES THE PEER MATTER? IF SO, THEN WHEN? PEER EFFECTS ON SHARING NORMS AND BEHAVIOR

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We conduct two separate lab experiments to examine the effect of peers on both sharing norms and behavior. To measure social norms in sharing behavior, we used a monetary incentivized method that uses simple coordination games in which second-order beliefs are elicited. To compare actual behavior with elicited norms, we conduct an experiment in which a set of dictator games is used. Different from previous studies, we examine the effect of peers in multiple cases where the decision-maker has an opportunity to provide fair allocation between herself and the one in need. Results from the norm elicitation experiment show that scale manipulation matters in terms of perception of the norms across fair distribution opportunities. Although we do not find any linear relationship between peer transfers and transfers made by the decision-maker in terms of normative views, it is found that peer transfers increase the appropriateness of an action that enables decision-maker to provide fair allocation for all parties, including the peer. These normative suggestions are only partially observed in actual behavior. The individual-level heterogeneity explains this discrepancy. With the use of a novel model to explain actual behavior observed in our study, it is found

that the source of heterogeneous preferences for norm-driven behavior is the differences in selfish preferences of subjects across the games.

Keywords: social norms, coordination game, second-order beliefs, dictator game, norm-driven behavior

ÖZ

AKRAN ÖNEMLİ Mİ? ÖYLEYSE, NE ZAMAN? PAYLAŞIM NORMLARI VE DAVRANIŞLARI ÜZERİNDE AKRAN ETKİLERİ

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Paylaşım normları ve davranışları üzerindeki akran etkilerini ölçmek için iki ayrı laboratuvar deneyi düzenledik. Paylaşım davranışlarındaki sosyal normları ölçmek için basit koordinasyon oyunlarını kullanan ikinci dereceden inançların ortaya çıkarıldığı, parasal olarak teşvik edilmiş bir yöntem kullandık. Gerçekleşen davranışları, çıkarımı yapılan normlarla karşılaştırmak için diktatör oyunları kümelerinden oluşan bir deney düzenledik. Önceki çalışmalardan farklı olarak, karar alıcının kendisi ve ihtiyaç sahibi arasında adil bir dağılımı gerçekleştirebileceği çoklu durumlardaki akran etkisini inceledik. Norm çıkarımı deneyindeki bulgularımız, ölçek manipülasyonun adil paylaşım seçeneklerindeki norm algısı açısından etkili olduğunu göstermiştir. Normatif görüşler açısından, akran transferleri ve karar alıcı transferleri arasında lineer bir ilişki gözlemlemesek de, akran transferlerinin, karar vericilerin, akranı da içeren, tüm taraflar için adil paylaşımı sağlayan eylemlerinin uygunlukları üzerinde pozitif etkileri olduğunu gözlemledik. Normatif çıkarımlar, gerçekleşen davranışlarda sadece kısmen gözlemlenmiştir. Birey bazındaki hetorojenite bu uyuşmazlığı açıklamaktadır. Çalışmamızda, gerçekleşen davranışları açıklamak için

yeni bir modeli kullanarak, norm güdümlü davranışlardaki heterojenitenin kaynağının, deneklerin oyunlar arasındaki bencillik tercihleri farklılıkları olduğu gözlemledik.

Anahtar Kelimeler: sosyal normlar, koordinasyon oyunu, ikinci dereceden inançlar, diktatör oyunu, norm güdümlü davranışlar

To my beloved sister, Ecem.

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CHAPTER 1

INTRODUCTION

Scholars in different disciplines have long tried to estimate whether peers affect individuals' decisions and if it does, the magnitude. The study of peer influence on one's decision-making process is essential in several ways. First of all, in most real-life scenarios, information on peer behavior is naturally available in many environments where individuals do not make their decisions in social isolation. In contrast, people can interact with others and observe their choices frequently; as Elliot Aronson (2018) articulated in his book*: "individuals are social animals"*. Second, the examination of the peers is at the interest in various fields of social sciences ranging from economics to psychology, philosophy, and sociology since they are key determinants of norm-driven behavior.

In terms of economic decision-making processes, previous studies have found that social norms have important influences on participation to labor force (Görges, 2020), cooperative behavior (Reuben & Riedl, 2013), honesty (Abeler et al., 2018), corruption (Gneezy et al., 2019) and fair sharing (Krupka & Weber, 2013; Gachter et al., 2017). On the other hand, the investigation of social norms and norm-compliant behavior is still open to new inferences in the literature with the involvement of peers.

In this study, we aim to investigate the effect of peers on the transfer decisions of individuals in terms of both norms and norm-driven behavior. Although there are other studies in the topic (for example, see. Gachter et al., 2017), surprisingly, almost all of them investigated the fairness norms in tightly controlled settings where the effect of peers on norms and norm-driven behavior are examined through fair sharing across all parties. These settings used in previous studies limit the examination of the peer effects in both perception of norms and sharing behavior since fair sharing norms might go

further away from the cases where all parties share the endowment equally. Specifically, conditional on peer actions, decision-makers may behave differently in multiple cases where they are able to share their endowment fairly with the one in need. Moreover, previous studies have shown that both the size and the source of initial contributions are key determinants of the charitable behavior of others. Therefore, investigating the effects of peers in the form of initial contributors in charitable designs enables us to gain more insights on the topic. Another limitation of the existing research on the peer effects on social norms and norm-driven behavior might be the demand characteristics of the experimental designs since scale manipulations have important effects in dictator game designs (see., List, 2007; Bardsley, 2008; Ockenfels, 2014).

In this study, we would like to understand the effect of peers both on norms and norm-driven behavior when peer actions can reveal possible fair sharing opportunities between other parties in addition to the fairest outcome across all parties, including the peer. To do that, we have conducted two separate experiments. In the norm elicitation experiment, we use a monetary incentivized method to elicit norms of fair sharing for possible cases that arise conditional on peer actions; in the standard behavioral experiment we employ a sequential move multiplayer dictator game design to compare elicited normative views with the actual behavior of individuals.

Following the previous work of Gachter et al, (2017), we employ a three-player sequential-move dictator game in the standard behavioral experiment for treatments where the peer is present. In treatments without peers, our setting becomes a two-player traditional dictator game where the initial amount to be transferred to the recipient is determined randomly from the same set of actions. In our norm elicitation experiments, we asked subjects to rate each action second-dictator can take in each case arising conditional on the initial wealth of the recipient. In both experiments, we include two different, payoff-equivalent versions of the dictator game to gauge framing effects. Therefore, in both experiments, a 2x2 experimental design is used where treatments are defined based on the presence or the absence of the peer and the version of the game played.

Our results show a positive linear correlation between the appropriateness ratings and dictator transfers, whereas recipient wealth has a positive effect on the appropriateness only when the peer is absent. Moreover, normative views are malleable to scale manipulations since we found that the most appropriate fair sharing is the one when the dictator can equalize her earnings with the recipient at the midpoint element of her action set compared to other possible payoff equalizing actions that can be taken, conditional on the initial wealth of the recipient. Furthermore, we found that amount transferred by the peer increases the appropriateness of payoff-equalizing action only when it provides all parties, including the peer, the same payoff. This finding implies that the source of the initial wealth matters only when it results in fair allocation across all parties. The source of the initial wealth of the recipient is not an important factor for other payoff equalizing actions that leave the recipient and the second-mover with the same payoffs. In the standard behavioral experiments, we only partially observed the norm compliant behavior; only one experimental condition is in line with the elicited norms.

In terms of actual behavior, existence of peers affects dictators' actions as bystanders. The individual level heterogeneity for norm compliance explains the discrepancy between elicited norms and actual behavior as in the previous studies. Furthermore, applying a novel model demonstrates the source of discrepancy for norm-driven behavior as the differences in selfish preferences of subjects across the different versions of the game.

Our study contributes to the social norm literature at least in three ways. First, we can measure the effects of peers on social norms and norm-compliant behavior when the decision-maker is able to equalize her payoff with the recipient in multiple cases. Second, to the best of our knowledge, there is no existing research in the literature where the effect of scale manipulation on fairness considerations is examined. Third, although the ambiguity in the perception of norms is observed for the generous transfer levels of the decision maker, it has not been investigated in the presence of peers. In addition, we employ a seminal behavioral model to explain behavioral patterns observed in our setting.

The remainder of this thesis is organized as follows. In Chapter 2, we give an overview of the existing literature. In Chapter 3, we describe the theoretical framework of our study. In Chapter 4, we present our experimental design and procedures. Chapter 5 provides our behavioral hypotheses constructed based on previous studies. In Chapter 6, the results of our experiments are presented. Finally, in Chapter 7, we make our concluding remarks.

CHAPTER 2

LITERATURE REVIEW

Our study relates to the two dimensions of social norms literature: peer effects on the perception of social norms and the importance of peers for norm compliant behavior. Although social norms are considered one of the most important driving forces in the decision-making process, they have only recently received significant attention in the economics literature. A possible reason for this may be the difficulty of quantitative identification and measurement of social norms. Krupka and Weber (2013) have introduced a monetary incentivized method (hereafter, KW method) for identifying social norms that uses simple coordination games and shown that the elicited social appropriateness ratings of given actions that an individual can take, together with a simple utility framework where agents care about both pecuniary earnings and norm compliance, accurately predict the behavioral changes in variants of dictator games. The task requires randomly and anonymously matched participants in groups of two to read the description of a scenario and asks them to evaluate the social appropriateness of each action that a decision-maker in the scenario can take. To solve the game, players should find a way to coordinate. Although there are plenty of equilibria in the coordination games that may entice subjects to make decisions and coordinate in ways that have no relation to norms, the KW method argues that commonly shared views on social norms create focal points in coordination games (see. Schelling, 1960). To choose the same ratings as others, a player refers to her second-order beliefs about what most of the other players' ratings would be. Therefore, the potency of the KW method over the non-incentivized methods of norm elicitation, like the belief survey, comes from the clear external motivations of respondents to think hard about their second-order beliefs and to resist to any bias in responses that may incite them to misreport these beliefs (Erkut, 2020). The usefulness and the accuracy of the KW method, especially in the variants of dictator games, have been

proved in previous studies where the actions of rule-following subjects and the elicited social norms move in the same direction (Kimbrough & Vostroknutov, 2016), the consistent results of the method when applied to different dataset (Krupka & Weber, 2013; Kimbrough & Vostroknutov, 2016), the observed change in the respondents' actions when cross-nationality groups, in which social norms are perceived differently, are recruited (Krupka et al., 2012) and the observation of qualitatively identical results when the elicited social appropriateness ratings are compared to the personal first-order and second-order beliefs of respondents (König-Kersting, 2021).

In this study, we check both how social norms of sharing are shaped in situations where peers are present and the importance of peers for compliance with these norms in actual sharing behavior. Furthermore, we extend our analysis to two variants of the dictator game; give and take games.

Despite the relatively large body of theoretical studies on the importance of peers for norm-driven behavior, experimental evidence on both measurements of social norms and the importance of peers on compliance for these norms is still scant. Moreover, in many of the previous studies in which peers are found as one of the driving factors that result significant changes in behavior (Keizer et al., 2008; Shang & Croson, 2009; Bicchieri and Xiao, 2009; Krupka & Weber, 2009; Gachter et al., 2012; Falk et al., 2013; Thöni & Gachter, 2015), there may be other behavioral forces that may explain the correlation between individuals' and peers' actions. Even in the settings where observed data does not accommodate for any other explanations rather than the peer effects themselves (McDonald et al., 2013), the effect of peers on both the perception of social norms and the norm compliant behavior is still inconclusive, especially in the variants of dictator games due to the lack of direct data.

Within this context, we have designed two experiments to gauge the effects of peers in both concepts. In this sense, the closest study to ours is Gachter et al. (2017), which examined the effect of peers both on individuals' perception of social norms of fair sharing and on actual sharing behavior. Using a 2x2 between subject design, the treatments were defined based on the peers' presence or absence and two variants of the dictator game; give game where the dictator is only allowed to give a part of her

endowment and the take game where the dictator may also choose to take away from the endowment of the passive subject. It was found that the existence of peers has significant effects on the perception of fair sharing norms and it is context-dependent. However, these significant effects of peers on fair sharing norms are only partially observed in the behavioral data. The study elicited the norms of fair sharing using the KW method and then compared the actual sharing behavior with the elicited norms of fair sharing.

In the give version of their study, one treatment had two dictators moving sequentially where both received an initial endowment of £12 and each can transfer an amount $g_{i\epsilon\{D_1,D_2\}} \in \{£0, £1, £2, £3, £4\}$ to the recipient, whose initial payment was £0. Payoffs were computed as $\pi_i = £12 - g_i$ for each dictator and $\pi_R = £0 + g_1 + g_2$ for the recipient. In other treatment where the peer was absent, the initial wealth of the recipient was determined randomly by the Nature, from the set $E = \{£0, £1, £2, £3, £4\}$ and the payoffs were computed as $\pi_D = £12 - g_D$ for the dictator and $\pi_R = E + g_D$ for the recipient. In the take version of the game, a similar setting was analogously employed. The treatments of the take game were also analogous to that of the give game. Again, there was either only one or two dictators depending on the treatment. In treatment where the peer was present, both dictators had the initial amount of £9 and the recipient started with the initial endowment of £6. The corresponding action set of the dictators was defined as $t_{i\epsilon\{D_1,D_2\}} \in \{-£3, -£2, -£1, £0, £1\}$ where they were able to take up to £3 from the recipient's initial endowment. Payoffs were computed as $\pi_i = £9 - t_i$ for each dictator and $\pi_R = £6 + t_1 + t_2$ for the recipient. In the absence of the peer, the initial amount of the recipient is randomly determined by the Nature from the set $E = \{£3, £4, £5, £6, £7\}$ and payoffs were computed as $\pi_D = £9 - t_D$ for the dictator and $\pi_R = E + t_D$ for the recipient. Dictators' choices were elicited using the strategy method (Selten, 1967) in all treatments. That is to say, second dictators in the treatments where the peer is present and the dictators in the absence of peers were asked to indicate amount they would like to transfer after observing recipient's initial wealth in each of the five possible sub-games of the game, corresponding to situations in which the first dictator or the Nature had endowed the recipient with £0, £1, £2, £3 or £4 in the give version of the game and £3, £4, £5, £6 or £7 in the take version of the game.

In norm elicitation experiment of the study, subjects were presented with the list of actions that an individual can take in different situations, then they were asked to rate the appropriateness level of these actions on a Likert scale ranging from "most socially appropriate" to "most socially inappropriate" with six options. Specifically, subjects in groups of two rated the actions of the second dictator in a three-person sequential move dictator game where she can transfer money to a recipient after observing the amount that peer had transferred. On the other hand, in treatments where the initial wealth of the recipient was determined randomly, subjects rated the amounts that the dictator can transfer after observing the initial wealth of the recipient. Payments were computed based on the similarity of appropriateness judgements subjects made. To be precise, one case out of five possible cases that could arise due to transfer choices of the first dictator or the Nature and one possible action that the second mover could take is randomly selected and social appropriateness ratings of the respondents are compared. If the ratings in the selected situations were the same, subjects earned £7. Therefore, the crucial difference between the two treatments was the source of the recipient's initial wealth in both experiments. Moreover, the inclusion of the two payoff equivalent variants of the dictator game provided a systemic investigation of the influence of peers on normative considerations and behavior.

The study found that, in all situations, the appropriateness ratings of second-mover's actions increase in generosity, and the initial amount of the recipient has a negative effect on the average appropriateness level of an action taken by the second dictator in the presence of the peer. In contrast, the effect changes direction when the initial amount is determined randomly by the Nature, indicating that average appropriateness ratings on the amount transferred by the dictator are more lenient when the peer is absent. Furthermore, these effects of peers on norm considerations are more robust in the give game than the take game. On the other hand, important effects of peers on normative views are only partially observed in the actual behavior data. Specifically, only norm-compliant negative effect of randomly determined initial wealth of the recipient is observed in the give game. The absence of the peer effect in both frames is in line with the previous findings of Panchanathan et al. (2013) where a multi-player dictator game setting led people to transform the situation into a Prisoner's Dilemma game and refuse to help to the recipient whatever others do. The observed

heterogeneity, in both perceived norms and norm-compliant behavior, explained this discrepancy between elicited norms and actual sharing behavior. However, the effect of altruistic options on elicited norms and actual behavior is still ambiguous in previous settings. Moreover, the effect of generosity cannot be differentiated from the norms of fair sharing since the fair outcome for all parties occurs at the transfer level, where the most generous action is taken by decision-makers. It is possible that some subjects might be relying on the considerations of generosity, while others might take fairness norms into account while rating the social appropriateness of the actions. In addition, Ockenfels & Werner (2014) has shown that scale manipulation of the action set can significantly affect economic decisions; therefore, the location of the fair sharing strategy in the action set may prevent dictators from complying with elicited social norms since it requires them to give from the upper bound of their action set. Thus, findings from the previous studies are obscure in terms of two interpretations. On the one hand, it is not clear whether the respondents in the norm elicitation experiment act regarding to fairest outcome or the most generous action that the dictators can take; on the other, composition of the action set can affect the actual sharing behavior due to the demand characteristics of the experimental designs in the standard behavioral experiment and may cause the inconsonant behavior with the elicited norms (see, for instance, List, 2007; Bardsley, 2008; Ockenfels & Werner, 2014; Erkut, 2022).

Our study differs from the previous studies in a way that we investigate the effect of peers on both actual sharing behavior and perceived social norms of sharing when the action set enables second-movers to compensate the recipient. This compensation can be up to the point where the recipient earnings are equal to the amount that results with fair sharing for all parties in the presence of the peer. Furthermore, this design enables us to examine peer effects on multiple cases where second dictator can equalize her payoffs with the recipient, conditional on recipient's initial wealth. In case of the most selfish action of the first dictator, second dictator is still able to equalize her payoffs with that of recipient's. Similarly, when the first dictator picks the most generous transfer level to be transferred to the recipient, second dictators, again, have an opportunity to equalize payoffs with the recipient. Thus, apart from the action that yields the fairest outcome that equalizes the earnings for all parties, we provide other

options for the second dictator to share her endowment fairly with the recipient. Analogously, in treatments where the peer is absent, there are three actions available for the dictator to equalize her payoff with that of the recipient, conditional on the initial wealth of the recipient which is determined randomly. Therefore, our design enables us to examine effects of the peers on fairness considerations of the dictators in multiple transfer levels that provide the fair allocations between the dictator and the recipient. Moreover, a sole examination on the effect of number of players that can end up with fair allocation can be made in our setting.

Following Gachter et al. (2017), we designed different sets of dictator games in order to differentiate the most generous and the fairest actions available for decision-makers defined in the action set. Therefore, we aim explicitly to examine the direct linkages between norms of fair sharing and actual sharing behavior using a similar setting that was used in Gachter et al. (2017). In addition to their study, we aim to investigate the effect of peer transfers on different options that dictator can fairly allocate her additional windfall allowance with the recipient, conditional on the initial amount determined for the recipient. Furthermore, investigation on the variation in the number of players that result with the fair distribution allows us to gain further insights on the payoff comparisons. Specifically, the amount of peer transfers may affect the fairness considerations of the dictator based on the treatment since it can include one more individual to fairness considerations where fair allocation does not require the selection of the most generous action in the set. This examination is also at our focus since previous studies have shown that payoffs of other parties can have significant influence on decisions even when it is completely exogenous and cannot be affected by the other players' decisions (McDonald et al., 2013).

To explore the above-mentioned questions, we conducted two different experiments to identify the norms specific to our design and to examine the compliance of individuals with the elicited norms. In the next chapter, we provide our theoretical framework based on the previous work of Krupka et al. (2013).

CHAPTER 3

THEORETICAL FRAMEWORK

The theoretical framework that we base our experimental design was introduced by Krupka & Weber (2013). Their model assumes that decision-makers are motivated not only by self-interest but also by preferences for complying with social norms, which are the actions that are collectively viewed as appropriate in a society (Elster, 1989; Ostrom, 2000). The notion behind the model can be interpreted as the composition of these two motivations behind the decision-making process; the former is guided by the monetary earnings while the latter follows the dictated actions by the social norms. Thus, following Krupka & Weber (2013), utility function of the decision-maker i can be represented as follows;

$$U_i = \pi_i + \beta_i N(a_i|a_{-i})$$

Actions of the decision-maker and the others are represented in the model by a_i and a_{-i}, respectively. The term π_i, represents the pecuniary payoffs and the mapping between the decision-maker's utility and the collectively recognized social appropriateness of the actions available to the decision-maker is depicted by the second term, $N(.)$. The parameter β provides the measurement of the extent which the decision-maker cares about the social appropriateness of her actions. Therefore, an individual who cares about the social appropriateness, puts a positive weight on the actions that are collectively considered as socially appropriate ($\beta > 0$) and enjoys additional utility from the actions undertaken that are compliant with those appropriateness considerations ($N(.) > 0$). On the other hand, the same individual suffers from the disutility when the undertaken actions are not recognized as socially appropriate ($N(.) < 0$). At this point, we do not aim to define the norms that decision-makers may comply with. Instead, we measure these norms following the

KW method. So far, the only assumption we made on the norm function ($N(.)$), is its dependency on the social influences. In other words, what constitutes the social appropriateness of an action a_i depends on the action a_{-i}, the action of others that individual i can observe before undertaking her action.[1]

In order to measure the above-mentioned social norm function, $N(.)$, we start with the experiment where the KW method is employed for the norm elicitation process. Following Gachter et al. (2017), the effect of peers on actual sharing behavior is examined through two treatments that are specified based on the existence or the nonexistence of a peer, implying how the norm function, $N_i(a_i|a_{-i})$ varies when the action a_{-i} is chosen either by the peer or the nature; therefore, enabling us to observe the effect of social influence, if any. The inclusion of two payoff-equivalent, distinct settings also enables us to catch the role of contextual differences both in the perception of norms and in the sharing behvior of dictators. Specifically, the payoff-equivalency of these two distinct settings makes it possible to examine framing effects and the use of the norm function $N(.)$ in both versions of the game.

In the next section we explain our experimental design and procedures for both experiments in detail.

[1] Altohugh there may be other channels of peers effects on the social norms, rather than the transfer amounts such as supervising and advising (see. Schram and Charness, 2015), these channels are excluded from the model since the focus of the treatmens are on the actions of the peer.

CHAPTER 4

EXPERIMENTAL DESIGN AND PROCEDURES

In order to understand the effect of peers on the perception of sharing norms and on the observed sharing behavior, we conducted two separate experiments. Throughout the experiments, similar instructions and procedures to the ones in Gachter et al. (2017) were used for comparability reasons. All sessions in both experiments were conducted in Middle East Technical University Behavioral Economics Lab using oTree (Chen et al., 2016). Experiments were deployed to cloud service platform Heroku (https://www.heroku.com/) and the relevant experiment was run in the related session on a web browser. Subjects were invited to sessions of each experiment via e-mail which included the consent form, registration and session options. Later they were randomly assigned to treatments in both experiments. All subjects received a participation fee of 10 TL in both experiments. Subjects were at least 18 years old and native Turkish speakers and instructions were in Turkish. A total of 14 sessions were conducted between May and June 2022 with total number of 144 subjects. Each section lasted 40 minutes approximately. 44 of the subjects were rectuited in norm elicitation experirment and 100 subjects were recruited in the standard behavioral experiment.

In both experiments, subjects answered a short survey in which their demographic information was collected. Survey questions included gender information, age, monthly disposable income, number of siblings, participant's department, and whether taken any of the game theory, behavioral economics, or experimental economics courses before. Subjects were randomly given codes of two letters and a digit (PC1, PC2, etc.) and payments were made anonymously based on these participant codes. Detailed presentations of both experiments are given in the subsections below.

4.1. Experimental Design for Standard Behavioral Experiment:

In the standard behavioral experiment, we investigated the actual sharing behavior of subjects. We used a 2x2 between-subjects design, and the treatments were defined based on the two variants of the dictator game and whether the peer was present or not. Subjects were randomly and anonymously divided into groups of two or three, depending on the treatment. Roles are determined randomly for each participant within the same group. An experimental currency called "point" was used throughout the experiment, where 1 point is equal to 5 TL.[2]

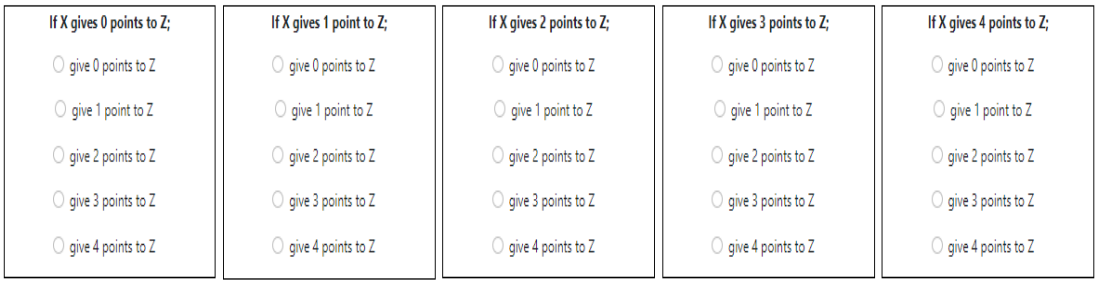
Following Gachter et al. (2017), the "Peer" treatment is defined as a three-player sequential move dictator game in which two dictators, which we call the peer (P) and the dictator (D) respectively in the rest of this thesis, are matched with a recipient (R). In the give version of the game, peer treatment consists of two dictators starting to game with 6 points whereas, recipient is bestowed with 0 points initially. Peer and dictator players are asked to decide amount they would like to transfer to the recipient from the set; $g_{i\epsilon\{P,D\}} \in \{\, 0\ points, 1\ point, 2\ points, 3\ points, 4\ points \,\}$.[3] Peer makes the decision on the amount to be transferred in an open form decision page, while the dictator observes the possible transfer level decisions that can be made by the peer and makes her transfer decision for each case using the strategy method. The payoffs are calculated for the recipient as the summation of the transfers received from both dictators, while earnings for the peer and the dictator are the amount that they keep for themselves after the amount they transfer. In the "NoPeer" treatment of the game, initial earnings of the recipient were determined randomly by the computer. Congruently with the "Peer" treatment, computer randomly decides the initial wealth of the recipient from the set $W_R \in \{\, 0\ points, 1\ point, 2\ points, 3\ points, 4\ points \,\}$.

[2] Transfer options were given in 1 £ increments in the previous work of Gachter et al. (2017), however, we use an experimental currency called points since purchasing power parity conversion factor rate between £ and TL is ~ 4 in terms of both GDP and private consumption as of 2021.
(source: https://data.worldbank.org/indicator/PA.NUS.PPP).

[3] Note that, although generous actions are available, we defined a truncated action set for decision-makers. This truncated action space decreases the complexity of the tasks faced by the subjects recruited in the norm elicitation experiment as we describe in the following section.

Again, the dictator observes the possible initial wealth levels of the recipient and makes her decision for each case.

Table 1: Decision screen for the Dictator (Give Game / Peer Treatment)



The TAKE version of the game was designed analogously to the GIVE version. In the "Peer" treatment of the TAKE game, the peer and the dictator were given an extra amount of 5 points and the recipient started to game with an additional amount of 2 points. Peer and dictator were asked to make decision on whether to transfer any amount from their endowment to the recipient or to take from recipient's additional endowment, action set is $t_{i\epsilon\{P,D\}} \in \{-1\ point, 0\ points, 1\ point, 2\ points, 3\ points\}$ where the negative value represents the amount that the peer and the dictator can take from the recipient.[4] Similar to the "NoPeer" treatment of the GIVE game, the initial wealth of the recipient was determined by the computer randomly from the set $W_R \in \{1\ point, 2\ points, 3\ points, 4\ points, 5\ points\}$ in the "NoPeer" treatment of the TAKE game.

In all treatments, dictators indicated the amount that they would like to transfer in each case without knowing the actual wealth of the recipient. Moreover, participants in the role of recipient indicated the amount they expect dictator to transfer in each case without knowing their actual initial wealth. Earnings from the experiment are computed by matching the actual initial wealth of the recipient with the dictator's transfer decision in the relevant case. Participants were informed about the "point"

[4] One may argue that there is a shift only by 1 point between the action sets in different versions of the game, creating lack of variation in the framing porcess. However, the effect of more selfish actions can be seen in the previous works of Gachter et al., 2017 while the effect of both the location of fair allocation actions in the set and the generous options are still ambiguous in the previous studies.

currency and its conversion rate to TL at the beginning of the experiment. Earnings information were shared with the participants at the end of the experiment and payments were made to subjects after converting experimental currency to TL.

Table 2: Treatments and Number of Participants in Standard Behavioral Experiment

	With Peer	Without Peer
GIVE GAME	Treatment 1 (GP) 30 participants 10 per role	Treatment 3 (GNoP) 20 participants 10 per role
TAKE GAME	Treatment 2 (TP) 30 participants 10 per role	Treatment 4 (TNoP) 20 participants 10 per role

4.2. Experimental Design for Norm Elicitation Experiment:

In the norm elicitation experiment, we elicited sharing norms with the use of simple coordination games which is first introduced to the literature by Krupka & Weber (2013). Norms were elicited for all treatments that were employed in the standard behavioral experiment (see. Table1) and similar to standard behavioral experiment, 2x2 between-subjects design was used. We asked subjects to report their social appropriateness ratings on the actions that the dictator can take in different situations that arise due to actions of the peer or the nature depending on the treatment. These ratings were reported with the use of a Likert scale questionnaire, where the appropriateness ratings could take six different values ranging from "1. very socially inappropriate" to "6. very socially appropriate".

First, subjects were randomly and anonymously divided into groups of two and they were given the information about standard behavioral experiment. Second, they were informed about the group composition and their reports were incentivized through monetary earnings. Specifically, to earn the additional payment subjects were told to match their appropriateness ratings within the anonymously and randomly paired groups. Then, they were asked to report their appropriateness ratings on the amounts that the dictator can transfer to the recipient in five different situations. These

situations are defined based on the initial wealth of the recipient which is determined either by the peer or by the Nature depending on the treatment subjects recruited.

Table 3: Decision screen in the Norm Elicitation Experiment (Give Game / Peer Treatment)

	Y chooses to				
	Give 0 points to Z	Give 1 point to Z	Give 2 points to Z	Give 3 points to Z	Give 4 points to Z
1. Very socially inappropriate	○	○	○	○	○
2. Socially inappropriate	○	○	○	○	○
3. Somewhat socially inappropriate	○	○	○	○	○
4. Somewhat socially appropriate	○	○	○	○	○
5. Socially appropriate	○	○	○	○	○
6. Very socially appropriate	○	○	○	○	○

Payments were determined as follows, one situation that arises due to the possible initial wealth of the recipient and one possible action that the dictator can take under that situation were randomly selected by the computer with a uniform distribution within each group. If the appropriateness ratings in the selected case were the same between the two subjects, they earned 40 TL additional to the participation fee; if not, they earned extra amount of 0 TL.[5]

Table 4: Treatments and Number of Participants in Norm Elicitation Experiment

	With Peer	Without Peer
KW Norm Elicitation (Give Version)	Treatment 1 (GP) 12 participants	Treatment 3 (GNoP) 10 participants
KW Norm Elicitation (Take Version)	Treatment 2 (TP) 12 participants	Treatment 4 (TNoP) 10 participants

[5] Earnings in the Norm Elicitation Experiment are determined so that they are equal to the minimum and maximum possible earnings in the Standard Behavioral Experiment. Although subjects recruited in behavioral experiment had possible earnings in the interval, we aimed to have full attention of the subjects in social appropriateness rating tasks. Therefore, earnings in the interval are avoided from causing any misreport due to sufficient monetary earnings.

In both experiments, a neutral language was used by avoiding the use of terms like "Dictator", "Peer" and "Recipient". Instead, roles were introduced to participants as "Individual X", "Individual Y" and "Individual Z" representing the peer, the dictator and the recipient respectively in Peer treatments. In NoPeer treatments, dictators were introduced as "Individual X" and recipients were introduced as "Individual Y".[6] We had participants from various departments of METU, however, majority of the participants were from the department of economics (29% in standard behavioral experiment and 43% in norm elicitation experiment). Age range of the subjects were between 19 and 28 in the standard behavioral experiment and between 20 to 34 in the norm elicitation experiment. The average age was 21.54 and 23.9 respectively. 45% of participants were female in the standard behavioral experiment, on the other hand, proportion of female participants was 56% in the norm elicitation experiment. Most of the subjects were in the second income category, which is 1000-2000 TL monthly, in standard behavioral experiment. In norm elicitation experiment, most of the subjects were in the third income category, stating monthly income of 2000-3000 TL. Average earnings of participants, including the participation fee, were 23.6 TL in the norm elicitation experiment and 30.32 TL in standard behavioral experiment.[7]

[6] See Appendix A for full instructions.

[7] The minimum hourly wage in the country was ~19 TL when the experiments were conducted.

CHAPTER 5

BEHAVIORAL HYPOTHESES

In this chapter, we present our behavioral hypotheses based on previous studies. Findings from Darley & Latane (1968) and Latane & Rodin (1969) revealed that in case of an emergency, individuals are less likely to take an action when they are in pairs. This well-known phenomenon is called the "bystander effect" in the literature. Furthermore, the effect of bystanders is not limited to situations where one is in need of an emergency action. Indeed, it also has an influence on economic decisions that agents make. For example, the presence of peers can result with lower amounts of transfers when the groups of people are asked to contribute to charitable donations (see. Wiesenthal et al., 1983). The effect of bystanders can also be seen in the multi-player dictator game settings where dictators can share the burden of helping and the recipient welfare increases as the transfers increase. Panchanathan et al. (2013) have shown that the increased number of dictators result with both lower earnings of recipients and lower amounts of transfers made by the dictators. Therefore, in our first hypothesis, we claim that dictators to be more generous in GNoP\TNoP treatments than in GP\TP treatments when the initial wealth of the recipient is at its possible minimum level.

Hypothesis 1: Proportion of dictators who equalize their payoffs with that of recipient is higher in "NoPeer" treatment than the "Peer" treatment when the recipient initial wealth is at its possible minimum.

Our second hypothesis is attributed to the importance of initial contribution in charitable donations. When the recipient's initial wealth is determined from the greatest element of the action set, we expect a greater proportion of dictators that equalize their payoffs with that of the recipient, compared to the case when the

recipient's initial wealth is determined by the most selfish action in the set (see. Vesterlund, 2003; Eckel et al., 2005; Gneezy et al., 2014; O'Garra & Sisco, 2020). Furthermore, Cox et al. (2017) have shown that individuals with reciprocal preferences are more sensitive to acts of commissions that invert the status-quo compared to the acts of omissions. We argue that this reciprocal sensitiveness may extend to distributional preferences of the individuals in multi-player settings. Specifically, an agent who is about to equalize her payoffs with that of the recipient in a sequential-dictator game would be more inclined to do so, if the observed act proves a degree of commitment. Therefore, our second hypothesis is as follows;

Hypothesis 2: In comparison to the lowest possible initial wealth of the recipient, dictators are more likely to choose the action that equates their payoffs with that of recipient at the possible maximum of the recipient's initial wealth across all treatments.

Third, as a result of our experimental design, we expect that fair sharing to occur more frequently between the dictator and the recipient when the payoff equalizing action results with the status-quo (see. Samuelson & Zeckhauser, 1988; Kahneman et al. 1991).

Hypothesis 3: Proportion of dictators who equalize their payoffs with the recipient is higher in TAKE game than that of GIVE game when the initial wealth of the recipient at the possible maximum.

In addition to the behavioral hypotheses that we constructed based on the previous studies, results from the norm elicitation experiment would enable us to gain further insights on the actions that norm-following individual would take and the degree of leniency, if any, towards the behavioral expectations in terms of norms.

CHAPTER 6

RESULTS

In this chapter, we provide main results from both experiments. First, we present results from the Norm Elicitation Experiment and provide additional hypotheses for the norm-driven actions that an individual may take. Second, we present the results from our Standard Behavioral Experiment and compare the findings from both, along with the hypotheses given in the previous chapter.

6.1. Results from the Norm Elicitation Experiment:

First, the data from the norm elicitation experiment is examined in terms of behavioral hypotheses we have constructed in the previous chapter. Moreover, we ran an OLS regression to reveal effects of peers on the perception of norms more formally. In order to measure elicited norms quantitatively, options presented in the Likert scale are transformed to numerical scores. A rating of "very socially inappropriate" given the score of -1, "socially inappropriate" a score of -0.6, "somewhat socially inappropriate" a score of -0.2. Similary, a rating of "very socially appropriate" given the score of 1, "socially appropriate" a score of 0.6, "somewhat socially appropriate" a score of 0.2 as in the work of Gachter et al. (2017).[8] In addition, we rescaled the transfer levels in the TAKE game since the consequences are the same with those in the GIVE game. Specifically, in order to ease the examination of the framing differences, transfer levels

[8] This scoring is intuitive since it values the appropriateness ratings as negative and positive numbers and allows the same amount of changes in the absolute magnitude. It is also simple since it is over the interval of -1 and 1.

in the TAKE game are given the relevant values of the transfer levels in the GIVE game that result with the same consequences.[9]

In terms of elicited norms, we found that average appropriateness rating of fair share is 0.58 in the NoPeer treatment whereas it is 0.50 in the Peer treatment when the recipient wealth is at the possible minimum. This result is in line with our behavioral Hypothesis 1, indicating there may be a leniency for bystander effect in terms of norms. However, this difference is not statistically significant (t-test for difference in means, $p = 0.645$). Furthermore, proportion of subjects who rated the fair share as appropriate is 1.7% higher in the NoPeer treatment compared to the Peer treatment for the selected case. However, this difference is not statistically significant (Fisher's exact test, $p = 0.606$; chi^2 test, $p = 0.880$).[10] In addition, we observe no difference in the distribution of appropriateness ratings between the treatments for the selected case (Peer vs NoPeer treatments, Mann-Whitney test, $p = 0.400$).

A similar examination was also done for Hypothesis 2, however, elicited norms reveal that payoff equalizing strategy is indeed less appropriate when the recipient wealth is at its possible maximum (average appropriateness rating is 0.300). On the other hand, average appropriateness rating on the fair share is greater when the recipient income is at its possible minimum (average appropriateness rating is 0.536). These findings are contradictory to our second hypothesis in terms of norms. Furthermore, this difference between average appropriateness ratings is significant at 5% significance level (t-test for difference in means , $p = 0.048$). Subjects who rated the fair share action as appropriate is 16% higher when the recipient initial wealth is at its possible

[9] For example, the action of taking 1 point (-1) in the TAKE game converted to 0 of the GIVE game, since both have the same consequences. Similarly, transfers of 0, 1, 2, 3 in the TAKE game are converted to levels of 1, 2, 3, 4 respectively as in the GIVE game (see. Gachter et al., 2017).

[10] To conduct the relevant tests of Fisher's exact and chi^2, 2x2 contingency tables are created between the variable in interest and the social appropriateness ratings by clustering the negative and positive values of appropriateness ratings to create a binary variable of ratings. In fact, we conducted all our tests in nonbinary format as well and did not find any difference between the results, as expected.

minimum compared to possible maximum initial wealth of the recipient and this difference is significant (Fisher's exact test, $p = 0.066$; chi^2 test, $p = 0.080$).

In terms of Hypothesis 3, we found that the proportion of subjects who rated the payoff equalizing strategy of the dictator as socially appropriate when the initial wealth of the recipient is at the possible maximum is 26% greater in the TAKE game compared to the GIVE game. This finding is supportive for our Hypothesis 3; moreover, the difference is significant between the versions of the game (Fisher exact test, $p = 0.052$; chi^2 test, $p = 0.052$) and the difference in the distribution of the ratings across the games is significant for the selected case (GIVE vs TAKE games, Mann-Whitney test, $p = 0.016$). To gauge the effects of peers in social appropriateness ratings more formally, we also ran an OLS regression model.

Table 5 reports the results from the OLS regression, the dependent variable is the "*social appropriateness ratings"* of the subjects. The independent variables are the transfers made by the dictator, peer or nature transfers depending on the treatment, an interaction term between dictator transfers and peer or nature transfers, the dummy variable of *"Take"* that takes value of 1 if the TAKE version of the game is played and 0 otherwise, interaction term between dummy variable *"Take"* and peer/nature transfers and the control variables obtained through a survey at the beginning of the experiment. Control variables are the "*Age"*, a dummy variable of "*Gender"* that takes the value of 1 if the subject is male and 0 if the subject is female, "*Income"* represents the monthly income of the subject across 5 categories, "*Siblings"* is the number of siblings subject have, "*Economics"* is a dummy variable which takes the value of 1 if the subject is economics student and 0 otherwise, and "*Course"* is another dummy variable which takes the value of 1 if the subject has ever taken a course on Game Theory, Experimental Economics or Behavioral Economics and 0 otherwise.

In model (1) of the Peer treatment, we introduced the amount transferred by the dictator, the amount transferred by the peer, an interaction between them, the "*Take"* dummy, and the interaction between *"Take"* and the amount transferred by the peer to our regression. The only significant variable is the amount transferred by

Table 5: Social Appropriateness Ratings – OLS Results

	Social Appropriateness			
	Peer	Peer	NoPeer	NoPeer
	(1)	(2)	(1)	(2)
Dictator Transfers	0.242***	0.242***	0.298***	0.298***
	(0.063)	(0.063)	(0.069)	(0.070)
Peer/Nature Transfers	0.066	0.066	0.164**	0.164**
	(0.062)	(0.062)	(0.068)	(0.069)
Dictator x Peer/Nature Transfers	-0.017	-0.017	-0.059**	-0.059**
	(0.021)	(0.021)	(0.023)	(0.024)
Take	0.145	0.252**	0.074	-0.017
	(0.089)	(0.103)	(0.074)	(0.091)
Peer/Nature Transfers x Take	-0.037	-0.037	-0.022	-0.022
	(0.044)	(0.045)	(0.050)	(0.050)
Age		0.054***		0.042***
		(0.011)		(0.011)
Gender		-0.019		0.022
		(0.085)		(0.085)
Income		0.027		0.079**
		(0.026)		(0.036)
Siblings		-0.057*		-0.118**
		(0.033)		(0.046)
Economics		-0.065		-0.016
		(0.072)		(0.070)
Course		0.147		-0.013
		(0.136)		(0.099)
Constant	-0.487***	-1.742***	-0.687***	-1.681***
	(0.133)	(0.305)	(0.130)	(0.370)
Observations	600	600	500	500
Adjusted R-Squared	0.168	0.224	0.165	0.206

Note: * p<0.10, ** p<0.05, *** p<0.01. OLS regressions, dependent variable is social appropriateness ratings. Standard errors clustered at the individual level.

the dictator, and the sign is positive, indicating that the more generous the dictator is more socially appropriate the action. Indeed, these positive relation between the amount transferred by the dictator and the social appropriateness ratings is valid for all models. This finding validates the previous results of Gachter et al. (2017) who found that more generous transfers are viewed as more appropriate. In model (2), we add control variables to our regressions. It seems that dummy variable *"Take"* becomes significant and the appropriateness ratings of the actions differ between the two versions of the game. Specifically, social appropriateness ratings are more lenient when the game version is TAKE. Moreover, we found that *"Age"* variable has positive and significant coefficient on social appropriateness ratings whereas number of siblings has a negative coefficient.

To measure the relevant effects in the NoPeer treatment, we constructed similar models that we have esitimated in the Peer treatment. In model (1) of the NoPeer treatment, we only add the variables that are in question. It is found that both amount transferred by the dictator and the initial wealth of the recipient randomly determined by the computer have positive influence on the social appropriateness. On the other hand, the positive effect of the amount transferred by the Nature decreases as the dictator transfer increases, indicating that positive effect of the Nature transfers are especially marked for ungenerous dictator transfers since the interaction term between dictator transfers and Nature transfers has negative coefficient. In model (2), we add control variables to the model and as in the Peer treatment, we found that age and number of siblings have significant coefficients, while the former has positive and the latter have negative sign.

Although OLS regression results suggest that there is no effect of peer transfers on appropriateness ratings, we suspect that there may be a nonlinear relationship between both variables.[11] Besides, existence of the peer may have effects on social appropriateness ratings of multiple payoff equalizing actions between the dictator and the recipient. Therefore, we conduct additional probit regressions to reveal if any relationship exists. In particular, we transformed the numerical appropriateness ratings

[11] Results from the ordered probit model are similar with those observed in the OLS regression. See Appendix B.

Table 6: Payoff-Equalizing Transfers – Probit ME for Appropriateness Ratings

	Social Appropriateness (Binary) Conditional on other gives 0		*Social Appropriateness (Binary) Conditional on other gives 2*		*Social Appropriateness (Binary) Conditional on other gives 4*	
	(1)	(2)	(1)	(2)	(1)	(2)
Give 3 / Give 2 / Give 1	0.422***	0.422***	0.722***	0.731***	0.123	0.126
	(0.076)	(0.074)	(0.115)	(0.119)	(0.083)	(0.079)
Peer	0.059	0.052	0.110*	0.129**	0.010	0.038
	(0.063)	(0.063)	(0.058)	(0.059)	(0.066)	(0.065)
Take	0.141**	0.163*	-0.032	-0.008	0.065	0.147*
	(0.061)	(0.073)	(0.059)	(0.074)	(0.066)	(0.076)
Age		0.019		0.014		0.046***
		(0.011)		(0.011)		(0.013)
Gender		-0.114		0.017		-0.067
		(0.070)		(0.067)		(0.073)
Income		0.046*		0.045*		0.079***
		(0.026)		(0.025)		(0.026)
Siblings		0.021		-0.009		-0.083*
		(0.039)		(0.038)		(0.039)
Economics		-0.082		0.012		0.077
		(0.078)		(0.077)		(0.080)
Course		0.248**		-0.066		-0.117
		(0.122)		(0.116)		(0.122)
Observations	220	220	220	220	220	220
Pseudo R-Squared	0.099	0.139	0.201	0.218	0.015	0.083
Log- Likelihood	-137.188	-131.130	-121.617	-119.089	-147.018	-136.878

Note: * p<0.10, ** p<0.05, *** p<0.01. Probit regressions (ME), dependent variable is 0 if appropriateness rating is negative and 1 otherwise.

to a binary variable in which ratings that are negative (i.e. socially inappropriate) are given the value of 0 and the positive ratings (i.e. socially appropriate) are assigned the value of 1.

Table 6 reports the probit regression results conditional on the possible fair allocations between the dictator and the recipient. The binary variable *"Give 3 / Give 2 / Give 1"* represents the payoff equalizing actions of the dictator between herself and the recipient conditional on the initial wealth of the recipient in each case respectively. Again in model (1), we exclude control variables from the regression model and regressed the binary variable of appropriateness ratings on the binary variables of the fair allocations between the dictator and the recipient in relevant cases, dummy variable of *"Peer"* which takes the value of 1 if the peer is present and 0 otherwise and the *"Take"* dummy. In model (2), we also add the control variables in our regressions. In all cases, except the one when the recipient's initial wealth is determined at the possible maximum level, payoff equalizing actions have positive marginal effects on the appropriateness ratings. Indeed, our model (1) has no explanatory power without control variables for the the case when the possible initial wealth level of the recipent is at its maximum. On the other hand, TAKE dummy becomes significant but only at 10% significance level, when the control variables are introduced into the model (2). This finding indicates that there is a leniency for status quo bias since appropriateness ratings are 14.7% points higher in TAKE version of the game compared to the GIVE version for any transfer level that dictator can pick when the recipient initial wealth is at its possible maximum. In fact, we found that the difference in proportions of subjects who rated the action of fair allocation was 26% greater in the TAKE version of the game when the recipient wealth is at its posible maximum compared to the GIVE version, moreover this difference was significant.

The marginal effect of payoff equalizing strategy has the greatest appropriateness ratings in both games at the midpoint of the action set. This finding is in line with the previous results of Ockenfels & Werner (2014), where it is found that dictators with greater midpoint in their action set are more prone to be more generous. The effect of scale manipulation can be observed in our data in terms of social appropriateness of fair actions as well. Conditional on the recipient's initial wealth, it is more socially

appropriate for dictator to allocate endowments fairly between herself and the recipient, when the fairest outcome can be obtained by the action that is located in the midpoint of the set, compared to other actions that also result with the fairest outcome. It can be argued that this finding is related to amount required for fair distribution to take place. However, our OLS regressions revelaed that appropriateness ratings have positive correlation with the generosity of the dictator, therefore if that was the case, then we would expect a greater coefficient in the case where the payoff equalizing action requires more generous transfer levels.

In addition, we observe a positive and significant peer effect when all parties can share the endowments equally, indicating that peer's actions do matter only when they settle for a fair distribution across all parties and increase the appropriateness ratings of dictator's payoff-equalizing action with the recipient when one more individual can end up with the same payoffs. This finding indicates that payoff comparisons between different number of players do matter when all players can end up with the fair allocation. The appropriateness ratings on the fair allocation occuring in the midpoint element of the set is ~13% points higher in the Peer treatment compared to the NoPeer treatment.

Results from the norm elicitation experiment give us insights on how a norm-following individual should act and how norm driven behavior is to be shaped. Our main findings form the norm elicitation experiment can be presented as follows;

Result 1: There is no linear correlation between peer transfers and appropriateness ratings of dictator actions.

Result 2: In Peer treatment, appropriateness ratings are higher in the TAKE version of the game compared to the GIVE version.

Result 3: There is a positive correlation between recipient's inital wealth and the appropriateness ratings of the dictator actions, when the initial wealth of the recipient randomly determined by the Nature. This effect is particularly marked for ungenerous transfers of the dictator.

Result 4: There is a positive effect of the amount transferred by the peer on the appropriateness ratings of the dictator's fair allocations between herself and the recipient, only when the number of players that can end up with the same payoff increases.

We found partial supportive results for the behavioral hypotheses we have constructed in Chapter 5 in terms of norms. Basically, elicited norms have no leniency for the expected bystander effect in the actual behavior and the expected effect of the acts of comissions on the dictator's fair allocation between herself and the recipient. On the other hand, there is leniency for the status quo bias that may arise due to our setting.

Based on the results from the Norm Elicitation Experiment, we can construct additional hypotheses regarding to norm-following individuals' actions. These additional hypotheses can be listed as follows;

Hypothesis 4: There is no linear relationship between the amount transferred by the peer and the amount transferred by the dictator.

Hypothesis 5: Dictators behave more selfishly in the Peer treatment when the TAKE version of the game is played.

Hypothesis 6: There is a negative correlation between the Nature transfers and the dicator transfers.

Hypothesis 7: Proportion of dictators who equalize their payoffs with that of recipient is higher in Peer treatment compared to NoPeer treatment, when the initial wealth of the recipient is determined by the midpoint of the action set.

In the next section, we provide results from our standard behavioral experiment and compare our findings with those found in the norm elicitation experiment.

6.2. Results from the Standard Behavioral Experiment:

In this section, we present the results from our standard behavioral experiment. First, we test our hypotheses constructed in the previous chapter. Although we did not find supportive results for our behavioral Hypothesis 1 and Hypothesis 2 in the norm elicitation experiment, actual behavior may diverge from the elicited norms. Moreover, we also investigate the conformity of actual behavior to those normative views obtained in the norm elicitation experiment.

Behavioral data show that proportion of the dictators who equalize their payoffs with that of recipient, when the recipient wealth is at its possible minimum is 20% greater in NoPeer treatment compared to the Peer treatment. Furthermore, this difference is statistically significant (Fisher's exact test, $p = 0.091$).[12] This finding is in line with our Hypothesis 1 and the bystander effect is observed in the behavioral data when the possible minimum earnings of the recipient is determined by the Peer rather than the Nature. Although we found a similar difference in the same direction in terms of norms, that difference was not statistically significant. Moreover, average sharing of the dictators is 0.50 points higher in the "NoPeer" treatment than the "Peer" treatment when the initial wealth of the recipient is at its possible minimum (one sided t-test for mean comparison, $p = 0.101$). This difference indicates that dictators are more prone to transfer higher amounts to the recipient if her initial wealth is determined at the possible minimum randomly by the Nature rather than it is determined by the Peer.

In addition, we also found that proportion of the dictators who equalize their payoffs with that of recipient when the recipient's initial wealth is at its possible maximum is 5% greater compared to the possible minimum level of initial wealth of the recipient. This finding is in conformity with our Hypothesis 2. However, this difference is not significant (Fisher's exact test, $p = 0.385$).[13] In terms our third hypothesis, we found that proportion of the dictators who equalize their payoff with the recipient when the

[12] Chi^2 test; Peer versus NoPeer treatments; $p = 0.071$.

[13] Chi^2 test; Peer versus NoPeer treatments; $p = 0.556$

recipient wealth is at its maximum does not differ between the games. In fact, in both GIVE and TAKE versions of the game, the proportion is 20%.

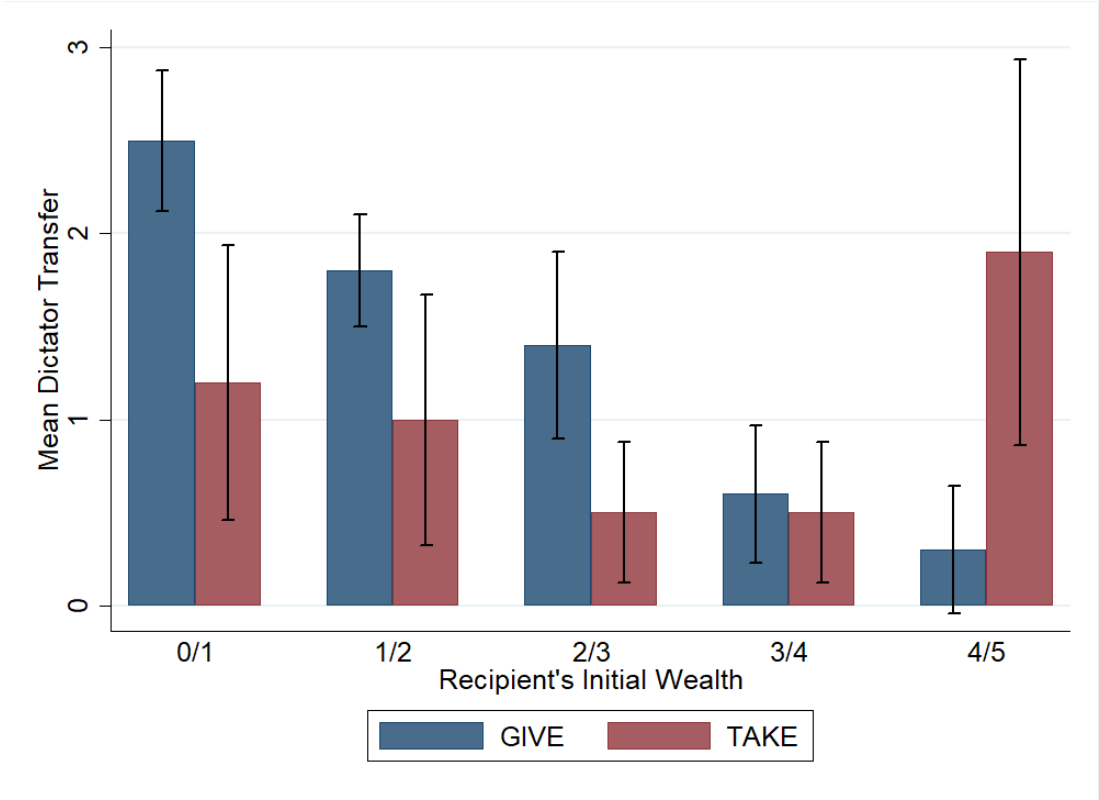


Figure 1: Average Dictator Transfers – Peer Treatment

Figure 1 shows the average transfers made by the dictator in the Peer treatment. The negative relationship between the initial wealth of the recipient and the amount transferred by the peer can be clearly seen in the GIVE version of the game. Although a similar relationship can be observed in the TAKE version, this relationship is not continuous when the recipient's wealth is at its possible maximum. Therefore, we expect the negative relationship to be more profound in the GIVE game. Similarly in Figure 2, we observe a negative relationship between the recipient's initial wealth and the amount transferred by the Nature. This negative relationship persists in the GIVE version of the game. On the other hand, the relationship between dictator transfers and the initial wealth of the recipient seems quite ambiguous when the TAKE version of the game is played.

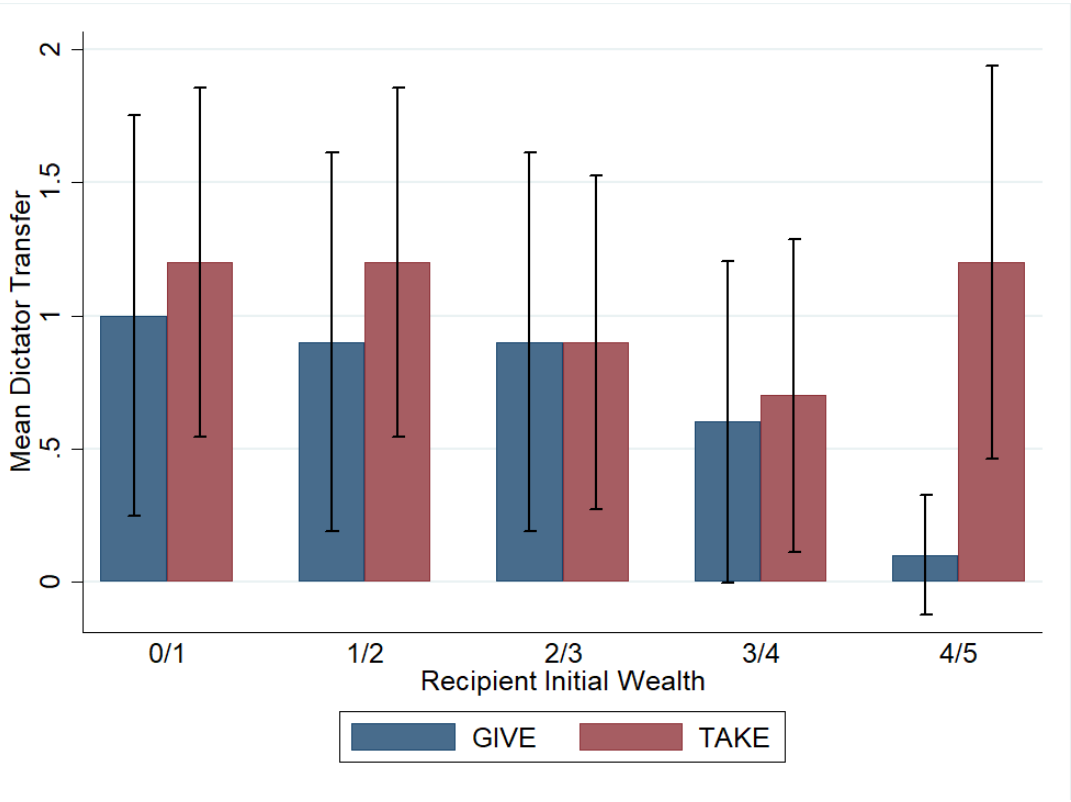


Figure 2: Average Dictator Transfers – NoPeer Treatment

A more formal analysis to examine the compliance between elicited norms and actual behavior is done with the help of regression models. In Table 7, we report the OLS regression results where the dependent variable is dictator transfers. The explanatory variables in model (1) are the Peer or the Nature transfers depending on the treatment, the dummy variable of *"Take"* and the interaction between the *"Take"* dummy and the Peer/Nature transfers. In both treatments, there is a negative correlation between the initial wealth of the recipient and the amount transferred by the dictator. In Peer treatment, this negative relationship is stronger in the GIVE version of the game since the interaction term between the *"Take"* dummy and the amount transferred by the peer has a positive and significant coefficient. However, in both versions of the game, the initial wealth of the recipient negatively influences the dictator transfers since the effect of increasing initial transfers on its evaluation on the TAKE version of the game is negative as well (-0.210 + 0.160). On the other hand, in the NoPeer treatment we observe a kink since the negative coefficient on the Nature transfers changes both its sign and the magnitude (-0.560 + 0.650), implying that the initial wealth of the recipient and dictator transfers are positively correlated when the game is the TAKE

Table 7: Dictator Transfers – OLS Results

	Amount Transferred by the Dictator			
	Peer	Peer	NoPeer	NoPeer
	(1)	(2)	(1)	(2)
Peer/Nature Transfers	-0.210***	-0.210***	-0.560***	-0.560***
	(0.063)	(0.065)	(0.049)	(0.051)
Take	0.020	0.348	-1.600***	-1.896***
	(0.439)	(0.397)	(0.290)	(0.275)
Peer/Nature Transfers x Take	0.160*	0.160*	0.650***	0.650***
	(0.079)	(0.082)	(0.054)	(0.056)
Age		0.304*		0.105
		(0.147)		(0.084)
Gender		0.662		-0.235
		(0.542)		(0.292)
Income		-0.078		0.006
		(0121)		(0.138)
Siblings		0.015		-0.132
		(0.142)		(0.094)
Economics		0.043		0.207
		(0.391)		(0.553)
Course		-1.262**		-0.628**
		(0.549)		(0.292)
Constant	1.120***	-5.379	2.440***	0.610
	(0.344)	(3.487)	(0.150)	(1.822)
Observations	100	100	100	100
Adjusted R-Squared	0.091	0.241	0.337	0.397

Note: * p<0.10, ** p<0.05, *** p<0.01. OLS regressions, dependent variable is amount transferred by the dictator. Standard errors clustered at the individual level.

version. In both treatments, there is a negative effect of *"Course"* variable, implying that the dictators who have taken any of the Game Theory, Behavioral Economics and Experimental Economics behave more selfishly. In addition, we observe a positive effect of the *"Age"* variable on the amount transferred by the dictator in the Peer treatment.

Although elicited norms suggest that there is no linear relationship between the amount transferred by the peer and the amount transferred by the dictator, we observe a negative relationship between these two variables in our Peer treatment of the standard behavioral experiment. Therefore, our Hypothesis 4 that is constructed based on the results from the norm elicitation experiment can be rejected. Moreover, we observed that there is some leniency to selfish transfers made by the dictators in Peer treatment when the played version is the TAKE game. Nevertheless, we could not find any supportive results since the coefficient of the *"Take"* dummy is not significant. Therefore, we reject our Hypothesis 5 as well. On the other hand, our Hypothesis 6 is validated in the standard behavioral experiment. Specifically, we observe a negative correlation between Nature transfers and the amount transferred by the dictator.

In terms of Hypothesis 7, we found that proportion of dictators who equalize their payoffs with that of recipient is 10% higher in the Peer treatment compared to the NoPeer treatment when the recipient initial wealth is determined by the midpoint of the action set, equalizing the payoffs for all players in the presence of the peer. Although this finding supports our Hypothesis 7, the difference is not statistically significant (Fisher's exact test, $p = 0.366$).[14]

In a similar vein to analyses made in the norm elicitation experiment, a probit analysis is carried out for the dictator transfers that can equate the payoffs with that of recipient in multiple cases. Table 8 provides the results from the probit analysis. The dependent variables are the binary variables that takes the value of 1 if the action is selected by the dictator and 0 otherwise. The independent variable *"Other gives 0 / 2 / 4"* represents the cases where dictator has an action to share her payoff evenly with the

[14] Chi^2 test, Peer versus NoPeer treatments; $p = 0.490$.

Table 8: Payoff-Equalizing Transfers – Probit ME for Dictator Transfers

	3 Giving (Binary)		*2 Giving (Binary)*		*1 Giving (Binary)*	
	(1)	(2)	(1)	(2)	(1)	(2)
Other Gives 0 / 2 / 4	0.078**	0.095**	0.032	0.029	-0.078	-0.080
	(0.039)	(0.047)	(0.078)	(0.077)	(0.080)	(0.077)
Peer	-0.081**	-0.082	-0.011	0.030	-0.040	-0.012
	(0.039)	(0.057)	(0.063)	0.071	(0.062)	(0.069)
Take	0.007	-0.017	0.011	-0.009	0.005	0.021
	(0.035)	(0.046)	(0.063)	(0.064)	(0.062)	(0.060)
Age		0.012		0.028		-0.015
		(0.015)		(0.023)		(0.022)
Gender		-0.005		-0.100		0.129*
		(0.054)		(0.070)		(0.068)
Income		0.005		-0.032		0.014
		(0.020)		(0.027)		(0.027)
Siblings		-0.016		-0.034		0.043**
		(0.020)		(0.027)		(0.21)
Economics		0.042		-0.035		-0.159**
		(0.054)		(0.076)		(0.071)
Course		(omitted)		0.004		-0.213**
				(0.089)		(0.094)
Observations	200	160	200	200	200	200
Pseudo R-Squared	0.091	0.103	0.009	0.028	0.006	0.078
Log- Likelihood	-46.091	-42.598	-117.527	-114.325	-113.917	-105.733

Note: * p<0.10, ** p<0.05, *** p<0.01. Probit regressions (ME), dependent variable is 1 if the transfer amount selected by the dictator and 0 otherwise.

recipient in relevant models respectively, *"Peer"* and *"Take"* dummies are the other regressors. In model (1), we only add the variables that are in question, whereas in model (2) we also introduce our control variables to our analysis. Although we found a positive effect of the amount transferred by the peer on the appropriateness ratings of payoff equalizing strategy when the initial wealth of the recipient is determined by the midpoint element of the action set, there is no such effect of the peer transfers on the actual behavior. This result implies that increasing number of players with fair distribution is not a key determinant of dictator actions. In fact, our model is not explanatory at all for the selected case.

On the other hand, we observe that probability of *"3 giving"* action is 7.8% points higher when the recipient initial wealth is 0 points in the absence of the peer. Moreover, the probability of *"3 giving"* action decreases by 8.1% points when this initial wealth of the recipient is determined by the peer. However, when we the control variables are added into the regression, the *"Peer"* variable loses its significance in model (2). In fact, *"Course"* variable is omitted from the model since it predicts the variation in the dependent variable perfectly. However, the coefficient of the *"Peer"* variable is almost the same between two models, implying that loss of significance in the variable is due to the lack of observations in model (2) rather than any bias that can occur because of the omitted variables in model (1). Therefore, the bystander effect is in play for the case when the recipient's initial wealth is at its possible minimum. This finding is supporting the previous work of O'Garra & Sisco (2020) where they found that the lower initial transfers made by the previous dictator increase the likelihood of unconditional self-interested strategies of other parties.

In all other cases, either our models are not significant, therefore, do not explain the variations in the behavior of dictators, or the variables in question has no explanatory power. Therefore, observed effects of scale manipulation in the appropriateness ratings of fair allocations of the dictator do not translate to the actual behavior.

Our main results from the standard behavioral experiment can be summarized as follows;

Result 5: There is a negative correlation between the Peer/Nature transfers and the dictator transfers in the GIVE version of the game.

Result 6: This negative correlation between the amount transferred by the Peer and the dictator transfers is stronger in the GIVE game of the Peer treatment and becomes positive in the TAKE game of the NoPeer treatment.

Result 7: There is no effect of peer transfers on the dictator's fair allocation actions when the peer decision enables dictator to provide fair allocation for all parties.

Result 8: There is a negative effect of peer transfers on the payoff equalizing actions when the peer determines recipient's initial wealth at its possible minimum, indicating the bystander effect in the actual behavior for the case.

Results from the standard behavioral experiment show that there is a high level of discrepancy between the elicited normative views and the actual behavior. We observe the norm compliant behavior only in the GIVE game of the NoPeer treatment where there is a negative correlation between the Nature transfers and the amount transferred by the dictator. This finding is in line with Gachter et al. (2017) where they see a similar conformity in their setting. Results from the standard behavioral experiment are only partially in line with the observations obtained in the norm elicitation experiment. Therefore, additional explanations should be made for the observed actual behavior.

6.3. Possible Explanations for Behavioral Data:

In this section, we provide possible explanations for the observed discrepancy between the elicited norms and the actual behavior data. Both Gacther et al. (2017) and Krupka & Weber (2013) have shown that there can be less consensus on appropriateness ratings for some transfer levels in dictator game settings that may cause the discrepancy. In addition, heterogeneity in the preferences for norm compliance may also affect the dictators' transfer decisions (Gachter et al., 2017). Furthermore, there can be other behavioral forces that can explain the actual data rather than normative

approach, or at least together with the normative approach. In the next subsections we discuss these possible explanations.

6.3.1. Ambiguity in the Perception of Norms:

One possible source of the discrepancy between the elicited norms and actual behavior may be the disagreement among the subjects on what constitutes the appropriate behavior in the experiments. Krupka & Weber (2013) have shown that there is less consensus among the subjects on the appropriateness ratings of the actions leaving the recipient with more payoffs. In fact, our design enables dictators to transfer amounts that leave the recipient with more payoffs compared to the dictators. Therefore, one possible reason for the discrepancy can be the ambiguity of the norms. In order to examine whether there is such disagreement, we examine the social norms that we have elicited in our experiments more elaborately. Following Gachter et al. (2017), we clustered the appropriate ratings and inappropriate ratings separately that subjects could choose in the norm elicitation experiment. To be more precise, we say that an action is rated as appropriate if more than 50% of the subjects chose any of the "somewhat socially appropriate", "socially appropriate" or "very socially appropriate" options. Similarly, an action is called as inappropriate if more than 50% of the subjects chose any of the "somewhat socially inappropriate", "socially inappropriate" or "very socially inappropriate" options (see. Gachter et al., 2017). Based on the appropriateness ratings of each action and each situation across treatments, following figures on norm disagreement rates were constructed.

Blue bars in Figures 3 to 6 represent that majority (more than 50% of the subjects) views that action as appropriate whereas the indicated percentage is the minority that views the action as inappropriate. In contrast, red bars represent that majority views that action as inappropriate and indicated percentage is the minority that views the action as appropriate. Cases without the bars represent the consensus among the subjects' appropriateness ratings on the relevant actions.

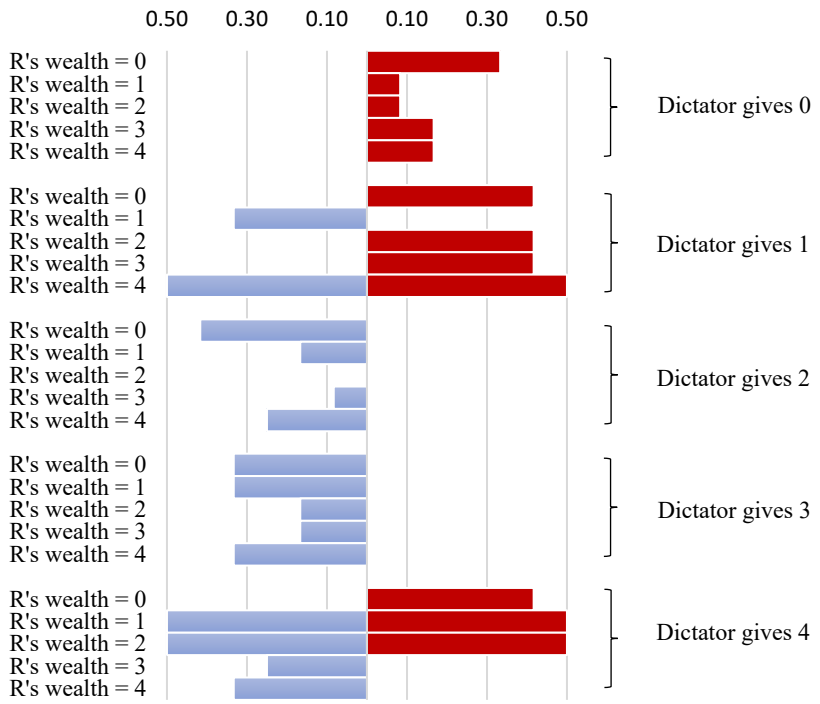


Figure 3: Give/Peer (GP) - Norm Disagreement Rates

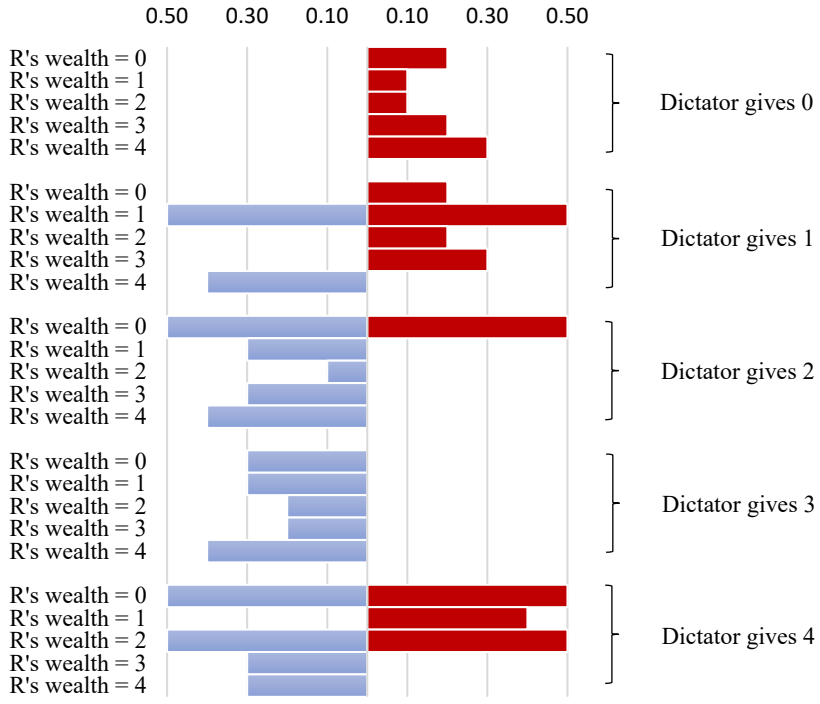


Figure 4: Give/NoPeer (GNoP) - Norm Disagreement Rates

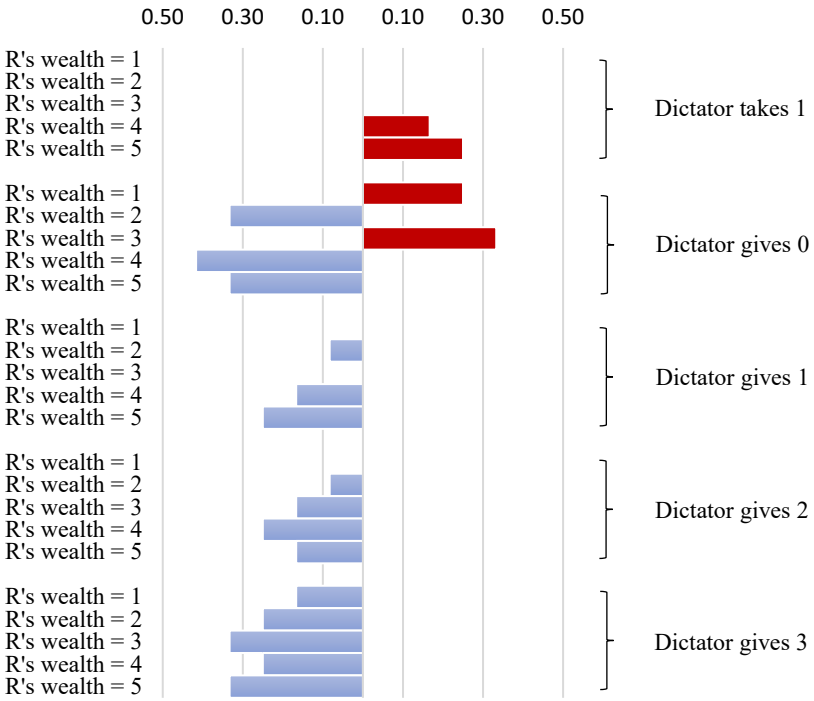


Figure 5: Take/Peer (TP) - Norm Disagreement Rates

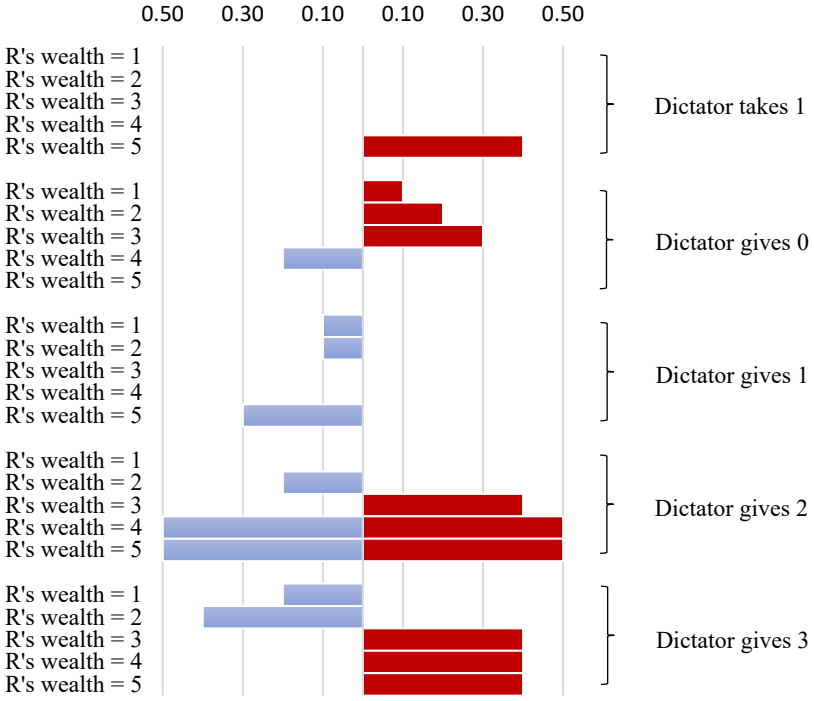


Figure 6: Take/NoPeer (TNoP) - Norm Disagreement Rates

One striking observation on the ambiguity of norms is that there is much more disagreement on the generous transfers. For example, consider GIVE version of the game in Figure 3 and Figure 4, there is a high level of conflict over the appropriateness assessments for the generous transfers. Specifically, high degree of ambiguity in the elicited norms is observed for giving 4 points in the GIVE version of the game and the ambiguity over giving 4 points action is consistent between the treatments. Similarly, in the TAKE version of the game, there is much more disagreement among the subjects for the generous actions that dictator can take. These results are in line with the previous findings of Krupka & Weber (2013) where they observe much less consensus on the actions that leave the recipient with more payoffs than the dictator.[15]

Another observation made on the TAKE frame is that actions greater than giving 0 points are indeed seemed appropriate to majority of the subjects in the Peer treatment. Conversely, there is a great deal of ambiguity in the NoPeer treatment, especially on the actions of giving 2 points and 3 points compared to the Peer treatment. This result is in line with our previous finding of overall appropriateness ratings to be higher in the Peer treatment of TAKE game compared to the NoPeer treatment. Moreover, although all of the subjects consider taking 1 point as inappropriate in the absence of the peer except for the case when recipient wealth is 5 points, presence of the peer increases the leniency up to 4 points, therefore increasing the ambiguity on norm ratings. On the other hand, presence of the peer decreases the ambiguity on social appropriateness ratings especially for the actions that locate in the middle of the action set in both games. This observation is in conformity with our previous findings in the probit analysis since we observed that inclusion of the peer increases the overall appropriateness ratings for the fair allocation action that occur in the midpoint of the action set.

In the TAKE version of the game, much of the subjects rated the action taking 1 point as inappropriate with much less ambiguity compared to the giving 0 points in the GIVE version, even though both actions yield exactly the same consequences. This observation can be explained by the terms coined with Andreoni (1995) as *"cold*

[15] An example for the situation of being too generous seems as socially inappropriate might be the one when giving a gift that is too expensive or when one tries to tip a profession that does not take the tips generally (see. Krupka & Weber, 2013).

prickle of doing something bad". Moreover, there is less ambiguity in the TP treatment compared to the GP treatment, indicating that generous transfers of the peer appreciated more and this altruism is expected to be contagious since majority rated altruistic actions as appropriate in TP treatment.

Another useful investigation in the qualitative analysis of the elicited norms can be the examination of the peer effects on the actions that the dictator can equalize her payoffs with that of the recipient. To begin with, consider Figure 3 and the action of giving 2 points in Peer treatment of the GIVE version, dictator can equalize her earnings with the recipient when the recipient's wealth is 2 points. There is no ambiguity on the action when the initial amount is determined by the peer and all subjects rated the payoff equalizing action as socially appropriate. However, in the absence of the peer, ~8% of the subjects rated the payoff equalizing action as socially inappropriate. This difference proves the existence of a mechanism that shapes the transfer decision of the dictator when the peer is introduced. This mechanism can be interpreted as the *social proof* in words of Caldini (2001). The principle states that individuals find out what is correct by observing others' decisions. In the TAKE version of the game there is no such divergence in terms of perception of the norms on the midpoint action that equalizes payoffs between the dictator and the recipient conditional on the initial wealth of the recipient. In fact, all of the subjects rated the action as socially appropriate in both treatments (see. Figure 5 and 6, giving 1 point when the recipient wealth is 3 points). Now consider the case where the initial wealth of the recipient is determined by the most selfish action in the set. In the GIVE version of the game, there is almost no difference in the norm ratings of the payoff equalizing action, majority of the subjects rated payoff equalizing strategy as appropriate in both Peer and NoPeer treatments, divergence rates are almost the same, 33% and 30% respectively. Similarly, in the TAKE version, all subjects rated the action leaves the dictator and the recipient with even payoffs as appropriate regardless of the treatment.

The qualitative analysis shows that the presence of the peer goes in both ways in the ambiguity of norms. In some cases, we observe that the presence of the peer increases the ambiguity in norms; in some others, it increases the clarity of the norms by generating consensus among the subjects. Therefore, our qualitative analysis suggests that rather than the presence of peers, our setting in which generous actions take place

is the primary source of ambiguity, creating a lack of support for the norm model in the experiments.

6.3.2. Heterogeneous Preferences for Norm Compliance:

Another possible explanation for the behavioral data might be the individual heterogeneity among the subjects to follow norms. Even if the norms are clear and prominent in some cases, individual-specific preferences to comply with norms may differ (see. Gachter et al., 2017). Therefore, an investigation on the extent to which elicited norms can explain the behavior observed in our experiment can be done. We follow a similar econometric methodology used by Krupka & Weber (2013) and relevant studies. Differently from them, following Gachter et al. (2017), we use a mixed logit model since it obviates the limitation of random taste variation in standard logit models (see. Train, 2009).

In order to examine the individual level heterogeneity in norm compliant behavior, we follow the theoretical framework that we introduced in Section 2. We assume that utility associated with the selected transfer decision is dependent on both pecuniary earnings of the dictator and the social appropriateness of the transfer decision made. Furthermore, we introduced heterogeneity in norm compliant behavior by allowing the coefficient of norm function to vary at the individual level. Therefore, dictator i's utility function can be written as follows;

$$U_{its} = \alpha\pi_{its} + \beta_i N_{ts} + \varepsilon_{its}$$

where π_{its} stands for the pecuniary earnings of the dictator i by transferring amount t at situation s. N is the mean of the social appropriateness rating of the transfer level t in situation s, elicited in our norm elicitation experiment, and ε_{its} is the random error term which is assumed to be identically and independently distributed extreme value. The parameter α represents the weight that dictators put on their pecuniary earnings, whereas β is the weight placed on the mean appropriateness rating of the transfer decision. Note that we assume α to be homogenous among dictators, indicating that

subjects have homogenous preferences for monetary earnings. Conversely, β_i is defined as an individual-specific parameter, therefore allowing for heterogeneity in preferences for norm compliant behavior among the subjects (see. Gachter et al. 2017).

The individual knows his own weight put on the norm compliance for any transfer decision can be taken in a situation. Decision maker chooses the alternative t in situation s if and only if;

$$U_{its} > U_{ijs} \; \forall \; j \neq t$$

Therefore, we define dictator i's transfer decision depending on the utility associated with the level of transfer, relative to the utility associated with alternative transfer levels, within the same situation. Thus, conditional on knowing β_i, the probability of dictator i choosing transfer level of t in situation s can be written as follows;

$$L_{its}(\beta_i) = \frac{\exp(U_{its})}{\sum_{j=1,\dots,5} \exp(U_{ijs})}$$

where $t = 1, 2, 3, 4, 5$ defined for each action in the set. This model is an obvious extension of binary logit, giving alternatives the probabilities that lie between 0 to 1 and sum up to 1. Moreover, conditional on knowing β_i, the probability of observed sequence of choices across five situations (five subgames of the game) can be represented by the product of the logit formulas, since error term is i.i.d. across subjects, alternatives and situations. Therefore, probability of observing the decision sequence of the dictator i is given by;

$$S_i(\beta_i) = \prod\nolimits_{s=1,\dots,5} L_{it(i,s)s}\,(\beta_i)$$

where $t(i,s)$ represents the transfer decision of dictator i in the subgame of s. The unconditional distribution of the sequence of choices for all possible variables of β_i, can be obtained by integrating the conditional probability over the distribution of β_i;

$$P_i = \int S_i(\beta_i) f(\beta|\theta)\, d\beta$$

which is the mixed logit probability where $f(\beta|\theta)$ represents the density of β and ω refers to parameters (such as mean and covariance of the β) of the distribution collectively. An assumption on the distribution of β made as it is normally distributed with $\beta \sim N(b, \Upsilon^2)$, since the sign of the coefficient β may differ across individuals (see. Train, 2009).[16] These parameters are estimated using maximum simulated likelihood for each treatment (Hole, 2007).

Table 9 provides the estimation results of mixed logit models for each treatment. First of all, we observe that own payoff is a significant determinant for transfer level decisions of dictators in all models. Furthermore, we observe that in all models except model (2), standard deviation of the norm rating is significant while the coefficient of the norm rating mean is not significant, pointing out the high degree of heterogeneity among the subjects for the relevant treatments which are GP, TP and TNoP. However, in model (2), mean of norm rating becomes significant and standard deviation of the norm rating becomes insignificant. In fact, GNoP was the only treatment that we have observed the conformity of the actual behavior with the elicited norms. In addition, we can calculate the share of subjects who deviates from the norms of sharing by computing the function of $100 * \Phi(-b/\Upsilon)$ where Φ is the cumulative standard normal distribution (Hole, 2007).

[16] The most common functional forms for the random parameters are lognormal and normal.

Table 9: Mixed Logit Models by Treatment

	Give/Peer (GP) (1)	Give/NoPeer (GNoP) (2)	Take/Peer (TP) (3)	Take/NoPeer (TNoP) (4)
Own Payoff	1.321***	1.125***	1.194***	0.428***
	(0.391)	(0.267)	(0.316)	(0.175)
Norm Rating (mean)	0.568	2.758***	1.562	0.602
	(1.456)	(0.737)	(0.982)	(0.776)
Norm Rating (s.d.)	3.047***	0.524	2.331***	1.841***
	(1.201)	(0.739)	(0.887)	(0.775)
Observations	250	250	250	250
Log-Likelihood	-47.177	-65.481	-55.472	-62.083

Note: * p<0.10, ** p<0.05, *** p<0.01. Mixed Logit Models, dependent variable is 1 for the transfer level chosen by the dictator and 0 otherwise in a given subgame.

We compute the share of dictators who do not comply with the norms as ranging from 43% to 25% between GP, TP and TNoP treatments whereas the share of the dictators who do not comply with the norms is almost 0% in the GNoP treatment. This can also be seen from the results of mixed analysis since standard deviations on norms has no explanatory power in model (2). Indeed, GNoP treatment is the only treatment where we observe actual behavior is consistent with the elicited norms.

To sum up, our mixed logit analysis supports that individual-specific preferences to comply with sharing norms can explain the dissonance between elicited norms and actual behavior in relevant treatments of our experiments. This finding is in line with the previous work of Gachter et al. (2017) where they have found the same experimental condition as the one which is the most consistent with the elicited norms. Similarly, our results indicate that there is a substantial degree of heterogeneity for

norm-compliant behavior in relevant treatments where deviant behavior from the elicited norms are observed.[17]

6.3.3. Other Behavioral Models:

Since the norm model introduced by Krupka & Weber (2013) partially explains the actual behavior observed, we utilize other behavioral models to explain divergence of actual behavior from the elicited norms. Basically, actual behavior of the dictators might have nothing to do with the normative considerations or at least there may be some other determinants together with the norm compliance considerations. Therefore, other models of behavior may explain the observed actual behavior of the dictators in our setting. Couple of behavioral models are considered in this subsection.

First of all, one behavioral mechanism might be the inequity aversion of the dictators when they are about to take decisions on transfer levels. Since our action set enables dictator to share her allocation evenly with either three or two players based on the treatments, an investigation on inequity aversion might explain the behavior of subjects. We start with a simple model of inequity aversion introduced by Fehr & Schmidt (1999). The model assumes that in addition to rational and pure selfish subjects, there are individuals who care about not only the pecuniary earnings but also the equity among the players in final allocations. Those who also care about the equity, dislikes the payoff differences between them and the other individuals in forms of both advantageous and disadvantageous inequities. The model is given as follows,

$$U_i = \pi_i - \frac{\alpha}{n-1}\sum_{j \neq n} \max\{\pi_i - \pi_j, 0\} - \frac{\beta}{n-1}\sum_{j \neq n} \max\{\pi_j - \pi_i, 0\}$$

where $0 \leq \beta < 1$, $\beta \geq \alpha$ and n represents the number of subjects in the game. The assumption on $0 \leq \beta$ rules out the presence of subjects who like to be better off than

[17] We also used the median of norm ratings instead of mean norm ratings to support our findings as in Gachter et al. (2017). There is no difference when median of ratings are employed in the models (see. Appendix B).

others and $\beta < 1$ assumption is very plausible since there is almost no individual expected to throw away one unit of pecuniary earning to reduce advantageous inequity. In addition, the assumption on $\beta \geq \alpha$ indicates that an individual suffers more from the disadvantageous inequity compared to advantageous inequity (Fehr & Schmidt, 1999).

The predictions of the model states that if $\beta \geq 1/2$ dictator gives all of her allowance and gives nothing if $\beta < 1/2$ in NoPeer treatments. Similarly, in the Peer treatments, dictator gives any amount that is positively correlated with peers's transfer level if $\beta \geq 2/3$ since one more individual is added to payoff comparisons and the dictator willing to give money to the recipient only to the extent that peer transfers so that her payoff does not fall behind the peer payoffs (see. Gachter et al., 2017). Therefore, Fehr Schmidt model has no explanatory power to describe behavioral patterns observed in our experiments since it only allows for corner solutions due to its piece-wise linearity in the inequity aversion when the peer is absent. In fact, majority of the transfers made by the dictators lies in the interior solution, the share of the dictators who made the decision at the interior points of the action set is 67% in treatments without peer. Moreover, we did not observe a positive correlation between the amount transferred by the peer and the amount transferred by the dictator in treatments where the peer is present. Thus, more elaborate behavioral models should be employed to examine the possible mechanisms that shape the transfer decisions of dictators.

There are some other behavioral explanations in which the observed behavioral patterns can be expressed. One of them is the guilt aversion model of Charness & Dufwenberg (2006). The guilt aversion model states that individuals are motivated by others' expectations on what they ought to do. In order to check that one should consult to second-order beliefs of the dictators on what recipients expect them to do. Since the main purpose of this study is not the justification of dictator behavior, we did not elicit second-order beliefs of dictators on the recipient's expectations in our experiments. Moreover, if one presumably assumes the positive correlation between the second-order beliefs of dictators on recipient's expectations and the beliefs of recipients on dictator transfers, guilt aversion would be lack of explanatory power since there is no correlation between actual dictator transfers and recipient expectations at the aggregate level of our data.

6.3.4. A Kuhn-Tucker Model for Explaining Behavioral Patterns:

Another possible reason for the observed discrepancy between the norms and norm compliant behavior might be the changes in the preferences of the dictators for selfishness across the treatments. A Kuhn-Tucker model for behavioral patterns in dictator games is introduced to the literature by Moffat & Zevallos (2021). Using a Stone-Geary utility function over own payoff and other's payoff and applying the Kuhn-Tucker Theorem (Arrow & Enthoven, 1961) where corner solutions are interpreted as the extreme cases as pure selfish action and the most generous one, we can obtain the selfishness parameters of the following utility function;

$$U(x_1, x_2) = \alpha_1 \ln(x_1 - b_1) + \alpha_2 \ln(x_2 - b_2) \quad (1)$$

where x_1 and x_2 represents the amount received by self and the amount received by the recipient respectively. The parameters b_1 and b_2 can be interpreted as "minimum acceptable level for self (MAPS)" and "minimum acceptable level for the other (MAPO)" respectively, while α_1 is the selfishness parameter. An obvious assumption is made as $x_1 > b_1;\ x_2 > b_2$. Also, model assumes that $\alpha_1 + \alpha_2 = 1$ and $b_1 + b_2 = 0$ for identification of parameters and model becomes the well-known Cobb-Douglas utility function as a benchmark, when $b_1 = b_2 = 0$. The assumption on $b_1 + b_2 = 0$ implies the accompanied shifts on the indifference map with the same magnitude. Two parameters move in the opposite direction since variation in the behavior amounts to movement up or down on the budget constraint. The budget constraint is;

$$p_1 x_1 + p_2 x_2 \leq m_1 + m_2 \ ^{18} \quad (2)$$

[18] This budget constraint is applicable for both GIVE and TAKE versions of the game.

where m_1 and m_2 represent the endowments of the dictator and the recipient.[19] The prices in the budget constraint represents the prices of allocations, they are 1 in our case ($p_1 = p_2 = 1$). Therefore, the dictator makes the decision for each subgame (i.e., each initial endowment of the recipient whether it is determined by the peer or the nature) where the exchange rate is exactly the 1 point.

Since possible consequences between the games are the same in our setting, the dictator's optimization problem with a traditional dictator game approach can be given as follows;

$$\max U(x_1, x_2) \quad \text{subject to} \quad x_1 + x_2 \leq m_1 + m_2 \; ; 0 \leq x_1 \leq m_1 \text{[20]} \tag{3}$$

Then, the Langrangean function is;

$$L = \alpha_1 \ln(x_1 - b_1) + \alpha_2 \ln(x_2 - b_2) + \lambda(m_1 + m_2 - x_1 - x_2) + \mu_1(x_1) + \mu_2(m_1 - x_1) \tag{4}$$

Applying the Kuhn-Tucker theorem (Arrow & Enthoven, 1961), following complementary slackness conditions are obtained;

[19] The endowments are defined as 6 points for the dictator (m_1) and the initial wealth of the recipient is between [0, 4] points (m_2 in different subgames). A traditional dictator game approach is used since both GIVE and TAKE versions of the game have exactly the same consequences as you recall from the section 6.1 (see. Footnote 10), and the TAKE version of the game introduced to the model estimation as a dummy variable.

[20] The truncation of the action set does not change the interpretation of the non-negativity constraint on x_1, since there is no dictator who made the transfer from the upper bound of the action set in our experiments. Therefore, the model is applicable to our dataset.

$$\frac{\alpha_1}{(x_1 - b_1)} < \frac{\alpha_2}{(x_2 - b_2)} \Leftrightarrow x_1 = 0$$

$$\frac{\alpha_1}{(x_1 - b_1)} = \frac{\alpha_2}{(x_2 - b_2)} \Leftrightarrow 0 < x_1 < m_1 \quad (5)$$

$$\frac{\alpha_1}{(x_1 - b_1)} > \frac{\alpha_2}{(x_2 - b_2)} \Leftrightarrow x_1 = m_1$$

We focus on self-allocation of the dictator, x_1. Combining $\alpha_2 = 1 - \alpha_1$ and the complementary slackness conditions with the binding budget constraint ($x_1 + x_2 = m_1 + m_2$) following expenditure system is given;

$$x_1 = 0 \Leftrightarrow b_1 + \alpha_1(m_1 + m_2 - b_1 - b_2) \leq 0$$

$$x_1 = b_1 + \alpha_1(m_1 + m_2 - b_1 - b_2) \Leftrightarrow 0 < b_1 + \alpha_1(m_1 + m_2 - b_1 - b_2) < m_1 \quad (6)$$

$$x_1 = m_1 \Leftrightarrow b_1 + \alpha_1(m_1 + m_2 - b_1 - b_2) \geq m_1$$

Note that, the interior solution denotes the summation of the amount *"minimum acceptable payoff for self (MAPS)"* for the dictator and the proportion α_1 of the supernumerary endowment.[21] Rearranging the equations with the normalization of $b_2 + b_1 = 0$, we can rewrite the three conditions as;

$$b_1 < -\alpha_1(m_1 + m_2) \Leftrightarrow x_1 = 0$$

$$b_1 = x_1 - \alpha_1(m_1 + m_2) \Leftrightarrow 0 < x_1 < m_1 \quad (7)$$

$$b_1 > m_1 - \alpha_1(m_1 + m_2) \Leftrightarrow x_1 = m_1$$

[21] The demand analysis uses the term "supernumerary income", which indicates the portion of the consumer's income left after all of her basic needs are met (see, Deaton & Muellbauer). In our analysis, we name it as "supernumerary endowment".

Moreover, the model allows for treatment and framing effects in our experiments. Specifically, two dummy variables are defined in the distribution of the minimum acceptable payoff for self of the dictator. Model assumes the following normal distribution of MAPS;

$$b_{1,i} \sim N(\delta_i + \beta_{PEER} d_{PEER} + \beta_{TAKE} d_{TAKE}, \sigma^2) \quad (8)$$

where δ_i is the base mean of the MAPS for dictator i, d_{PEER} and d_{TAKE} represent the dummy variables for the treatments and the versions of the games that we used in our setting. Therefore, coefficients of the dummy variables represent the changes in selfishness based on the treatments. In addition, the model allows the between subject heterogeneity after defining the likelihood function conditional on δ_i by;

$$\delta_i \sim N(\mu, \eta^2) \quad (9)$$

where the distribution represents the individual-specific variation in the baseline mean parameter. Six parameters of the model $(\alpha_1, \mu, \beta_{PEER}, \beta_{TAKE}, \eta, \sigma)$ estimated with the use of maximum simulated likelihood (see. Train, 2009; Moffat & Zevallos, 2021).

Table 10 provides the estimation results. These estimations seem plausible since the average payoffs of the dictators are 1.22 points higher in the GIVE game compared to the TAKE game (4.99 points and 3.97 points respectively) and the average payoffs of the dictators are 0.30 points higher in the Peer treatment compared to the NoPeer treatment (4.63 points and 4.33 points respectively). On the other hand, the coefficient of the peer treatment dummy is significant only at 10% significance level. The coefficient of α_1 indicates that dictators show generous preferences for the supernumerary endowment, once they kept the amount required for their MAPS.

Table 10: Maximum Likelihood Estimation of the KT Model

Maximum Likelihood Estimates of the Parameters

Parameter	
α_1	0.248***
	(0.045)
μ	3.125
	(0.425)
β_{PEER}	0.499*
	(0.277)
β_{TAKE}	-1.192***
	(0.280)
η	0.785***
	(0.115)
σ	0.846
	(0.056)
Observations	200
Log-Likelihood	-257.905

Note: * p<0.10, ** p<0.05, *** p<0.01. Asymptotic standard errors are in parentheses.

Although these results seem plausible at the first glance, the estimation method of the model is non-standard, therefore, a Monte Carlo Experiment is required to test significance of the parameters of the model (Moffat & Zevallos, 2021). We compute the power for the treatment tests, which are the tests of relevant dummies that are defined based on the treatment and the version of the game played;

$$H_0: \beta_{PEER} = 0$$

$$H_1: \beta_{PEER} > 0$$

and,

$$H_0: \beta_{TAKE} = 0$$

$$H_1: \beta_{TAKE} < 0$$

The data generating process uses the equation system (7) and the equations (8) and (9) where the parameters of the model replaced by the estimated values shown in Table 10.[22] 1000 replications were used for 200 observations obtained from 40 subjects in the experiment. Experimental design was same with the real experiment conducted together with the normalization of the actions in the TAKE version of the game to the GIVE version. In order to test the hypotheses above (i.e., power of the model), we computed the number of replications where null hypotheses rejected at $p < 0.05$ for both parameters. The proportion of replications where null hypotheses is rejected provided an estimate for the power of the tests.

Our results show that ex-post power of the peer treatment test is almost null, and the estimated p-value calculated as the proportion of the replications is 0.843. Therefore, the parameter β_{PEER} have no explanatory power on the selfishness of the subjects.[23] On the other hand, the estimated p-value calculated for the coefficient β_{TAKE} is 0.004 and the ex-post power of the test is 0.987 , implying that the version of the game played is a significant factor for the selfishness of subjects and have an explanatory power in the model.

These results help us to explain norm compliant behavior observed only in one experimental condition which is GNoP. Recall from Table 5 that elicited norms are more lenient in the NoPeer treatment and it does not change across the games. In fact, the evaluation of increasing dictator transfers on the amount transferred by the Nature is positive (0.298 – 0.059), indicating that the amount transferred by the dictator have positive relation with the social appropriateness ratings and this positive relationship is valid for all levels of the recipient wealth. Moreover, the increasing initial wealth of the recipient has positive relationship with the social appropriateness ratings in the absence of the peer. As in the case of dictator transfers, the increasing initial wealth of the recipient is positively related with the social appropriateness for any possible amount that dictator can transfer (the increasing initial wealth of the recipient on its evaluation to any amount that can be transferred by the dictator is 0.164 – 0.059).

[22] We benefit from the previous work of Moffat & Zevallos (2021) in the application of the Monte Carlo Simulations.

[23] We also computed the proportions of replications where $p = 0.10$, but again, peer parameter has no explanatory power in the model.

Therefore, selfish preferences of the subjects in GIVE game can explain the norm compliant behavior observed in the GNoP treatment since norms are positively related with the initial wealth of the recipient for any possible amount that dictator can transfer. This relation in norm ratings does not change between the versions of the game played but the preferences for the selfish behavior of the dictators change between the games as the model predicts, therefore, results a divergence from the norms in the NoPeer treatment of the TAKE game (TNoP treatment).

Based on the model, we cannot make interpretations on the effect of the peers since the parameter of the variable *'Peer'* dummy is lack of power. On the other hand, we observed that norms are more lenient in the TAKE game when the peer is present (Table 5, Peer treatment, model (2)). However, the model predicts that subjects' behavior is more generous when the game version is TAKE. Therefore, generous preferences of subjects in TAKE game compared to GIVE game, is one potential reason to explain divergence from the norms in actual behavior in the Peer treatment.

Overall, based on the results from both norm and the Kuhn-Tucker models, comments on the relationship between the behavior of dictators and norms can be made. Recall from the subsection 6.3.2, we found that there is almost no heterogeneity across the subjects for norm compliance in GNoP treatment. Therefore, these results show that the homogeneity across the dictators for selfish preferences in the treatment where elicited norms have room for ungenerous actions results with the norm compliant behavior. On the other hand, generous preferences in the TAKE game compared to GIVE game, is the one source for the discrepancy observed between the actual behavior and the elicited norms in other treatments.

CHAPTER 7

CONCLUSION

In this study, we examined the effect of peers on the perception of sharing norms and norm-compliant behavior. Peers are important determinants of behavior in daily economic decisions. Different from previous studies, our experimental design helps us to understand the effect of the peers on different transfer levels in which the decision-maker can allocate her endowment fairly with the recipient in multiplayer dictator game settings. Therefore, we were able to gain further insights into the effects of peers on fairness considerations in terms of social norms and actual behavior. Existing research on effects of peers for norm-compliant behavior focuses on the norms of fair sharing only when all agents can share the endowments equally. Whereas, in cases where decision-makers can share their endowment fairly with those in need through different actions, the influence of peers as the initial wealth determinants of the needy is still unclear.

Moreover, previous studies have shown that manipulations, especially the differences in the midpoint, of the action set can change the behavior substantially in dictator game settings. Therefore, slight changes in the action set may affect both perceptions of the norms and norm-compliant behavior. In our study, we try to capture the effect of peers in these types of situations and make further explanations for norms of sharing and norm-compliant behavior.

First of all, in order to measure the effects of the peers on the perception of social norms, we conducted a norm elicitation experiment using an incentivized method that uses simple coordination games (Krupka & Weber, 2013). Our results from the norm elicitation experiment suggest that there is no linear correlation between peer actions and dictator actions. On the other hand, there is a positive relationship between the

initial wealth of the recipient and social appropriateness ratings when the initial wealth of the recipient is determined randomly, indicating that there should be a negative relationship between initial wealth of the recipient and the amount transferred by the norm-compliant dictator in the absence of the peer. Moreover, conditional on the recipient's initial wealth, we found that dictator's payoff-equalizing allocations with the recipient have the greatest appropriateness rating when it can be done by the midpoint element of the action set. This finding corroborates the findings of the existing research on the scale manipulation of the dictator's action set in terms of perception of social norms (see. Ockenfels & Werner, 2014). In addition, we found that the source of the recipient's initial wealth does matter, but only when one more player can end up with the same payoffs as others. Therefore, the effect of the peer's transfer on the appropriateness ratings of the dictator's action is observed only when it enables the dictator to provide fair outcome for all parties.

Second, we conducted a standard behavioral experiment to examine the compliance between elicited norms of sharing and the actual behavior. We observe that there is indeed a negative correlation between the amount transferred by the peer and the amount transferred by the dictator. Furthermore, we found that this relationship is more profound in the GIVE version of the game compared to the TAKE version. In fact, our results show this relationship changes its sign when the peer is absent, and the game version is TAKE (TNoP treatment). Moreover, the effect of peers on the dictator's possible fair allocations between herself and the recipient is observed only in the form of bystanders. This finding is in line with the previous findings of Panchanathan et al. (2013).

The compliance between the elicited norms and the actual behavior is observed only in one experimental condition (GNoP), and there is a divergence from the sharing norms in actual behavior in other treatments. Therefore, we checked for potential reasons for this discrepancy. We found that norm ambiguity in the generous transfer levels can be one source. Moreover, heterogeneity among the subjects for norm compliant behavior explains the observed discrepancy between elicited norms and actual behavior. This finding is in line with the previous study by Gachter et al. (2017). In addition, we employed a recent behavioral model to explain observed behavioral

patterns in our setting. It is found that subjects' preferences on selfishness differ across the versions of the game played, and this explains both norm compliant and noncompliant behavior observed in relevant treatments.

Overall, our results show that the definition of the action set in charitable mechanisms can be an essential factor in the fairness considerations, in terms of norms. Although we could not find any translation of the midpoint effect in the actual behavior of sharing, the effect of scale manipulation for norm-compliant behavior might be observed with larger data. Moreover, the application of a recent model to explain behavioral patterns observed in our experimental setting can be extended to similar designs. Based on these results, one may wonder about the effects of norm enforcers on norm compliance in behavior, the effect of within-subjects designs across the experiments, where the normative views and behavior can correlate, and the effect of stake size differences in similar settings. These are the questions for future research.

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APPENDICES

A. EXPERIMENTAL INSTRUCTIONS AND SURVEY QUESTIONS

In this part, we present the instructions used throughout the experiments and survey questions that participants answered. We have translated instructions to English since experiments were conducted in Turkish. A.1 provides the experimental instructions for the standard behavioral experiment. A.2 provides the experimental instructions for the norm elicitation experiment. Lastly, A.3 provides the survey questions. Note that instructions used in TP and TNoP treatments are the same except for the changes in the action set. Therefore, we do not include them here. Page names and numbers are given in square brackets.

A.1 Experimental Instructions in Standard Behavioral Experiment:

This section provides experimental instructions used in the GP and GNoP treatments of the standard behavioral experiment. The exact instructions are given to all subjects participated in each treatment before assigning them randomly to their roles. Thus, each participant had the same instructions and shown the decision pages for all roles in the experiment.

Instructions in GP Treatment:

[Introduction Page]

Welcome to the experiment!

This is a study on decision making. You have earned 10 TL by participating in this experiment. Throughout the experiment, you may receive extra payments based on your choices and the choices of others.

If you would have any questions during the experiment, please raise your hand and wait for researcher to come to you. Please do not try to talk or communicate with other participants.

We would like to have your full attention throughout the experiment. Do not engage in any other stuff on computers rather than the experiment itself. For example, do not try to access to internet.

Participants who violate these rules will be asked to leave the experiment and will not have any payments.

[Instructions Page 1]

Instructions

In this study, you will be randomly and anonymously paired with two other participants who are in this room and will be included in a group of three.

Participants in the group are randomly named as Individual X, Individual Y and Individual Z.

Your possible earnings are calculated with the use of an experimental currency called "points" throughout the experiment.

1 point = 5 TL

X and Y will receive 6 points additional to participation fee. Z will receive 0 points additionally.

The task of Individuals X and Y is to decide, if any, the amount that they would like to transfer to Individual Z from this additional 6 points that they were allocated. The level of transfers can be any amount within the set of [0 points, 1 point, 2 points, 3 points, 4 points]

[Instructions Page 2]

Decision making process is carried out as follows; Individual X decides the amount to

be transferred by selecting any element from the set shown above. Individual Y observes this initial amount to be transferred to Individual Z and make her own decision on the additional amount to be transferred to Individual Z.

Earnings are determined as follows:

Earnings of X: 6 points – (amount X gives to Z)

Earnings of Y: 6 points – (amount Y gives to Z)

Earnings of Z: 0 points + (amount X gives to Z) + (amount Y gives to Z)

A HYPOTHETICAL EXAMPLE FOR DEMONSTRATION PURPOSES

Suppose X gives 1 point to Z.

Y observes this choice made by X and give 2 points to Z.

This causes the following earnings:

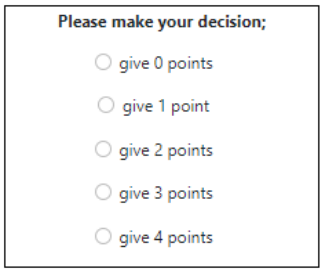
Earnings of X: X gives 1 point to Z.
Therefore, her earnings are: 6 points – 1 point = 5 points

Earnings of Y: Y gives 2 points to Z.
Therefore, her earnings are: 6 points – 2 points = 4 points

Earnings of Z: Z receives 1 point from X and 2 points from Y.
Therefore, her earnings are: 0 points + 1 point + 2 points = 3 points

[Instructions Page 3]

1. If the computer randomly assigns you as Individual X, you will make your decision in a table similar to shown below. Your transfer decision to Individual Z can be any amount between 0 points to 4 points, increments in 1 point. Your earnings will be the amount that you will keep yourself after your transfer decision.



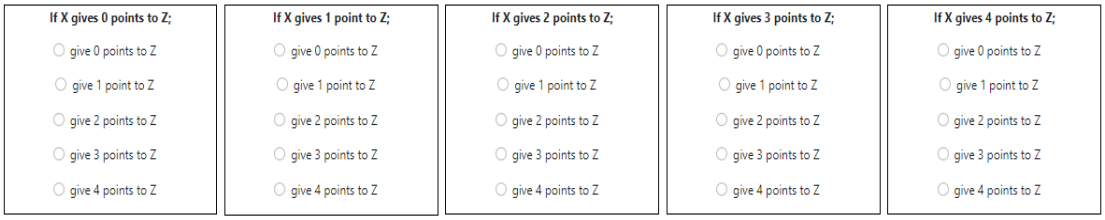
Therefore, there are five cases that can emerge from your transfer decision:

- Individual X gives 0 points to Individual Z.
- Individual X gives 1 point to Individual Z.
- Individual X gives 2 points to Individual Z.
- Individual X gives 3 points to Individual Z.
- Individual X gives 4 points to Individual Z.

2. If you are randomly assigned as Individual Y by the computer, you will be on one of these five situations. But, before knowing which of these situations has happened, you will be asked to indicate the amount that you would like to transfer to Individual Z for each possible situation. In other words, what we are trying to know is;

- How much would you transfer to Z, if X sends 0 points to Z?
- How much would you transfer to Z, if X sends 1 point to Z?
- … and so on.

Which situation you are in depends on the initial decision made by X. Total earnings of Z and the amount you keep for yourself will be determined based on the realized decision. You will indicate your decision on a table similar to the one shown below.



3. If you are randomly assigned as Individual Z by the computer, you are not required make any decisions in this experiment. However, you will be asked to answer some questions. Note that, your answers to the questions do not have any influence on the decisions made by other participants, nor they will cause any difference in the computation of earnings.

[Control Questions Page]

Description

After you answer the following control questions correctly, you will see whether you have been assigned as Individual X, Individual Y or Individual Z. If you have been assigned as an active participant (X and Y), you will be asked to indicate your decisions. Please do not forget that you will make your decision once and earnings from the experiment is determined in this way. You can review the sample table below once again to help with control questions.

A HYPOTHETICAL EXAMPLE FOR DEMONSTRATION PURPOSES

Suppose X gives 1 point to Z.

Y observes this choice made by X and gives 2 points to Z.

This causes the following earnings:

Earnings of X: X gives 1 point to Z.
Therefore, her earnings are: 6 points – 1 point = 5 points

Earnings of Y: Y gives 2 points to Z.
Therefore, her earnings are: 6 points – 2 points = 4 points

Earnings of Z: Z receives 1 point from X and 2 points from Y.
Therefore, her earnings are: 0 points + 1 point + 2 points = 3 points

Control Questions

- If both X and Y gives 0 points to Z:

- X's earnings are: ___
- Y's earnings are: ___
- Z's earnings are: ___

o If X gives 0 points to Z and Y gives 3 points to Z:
- X's earnings are: ___
- Y's earnings are: ___
- Z's earnings are: ___

o If X gives 2 points to Z and Y gives 2 points to Z:
- X's earnings are: ___
- Y's earnings are: ___
- Z's earnings are: ___

o If X gives 4 points to Z and Y gives 1 point to Z:
- X's earnings are: ___
- Y's earnings are: ___
- Z's earnings are: ___

[Decision Page 1]

You are randomly assigned as Individual X. Please indicate the amount that you would like to transfer to Individual Z.

□ 0 points
□ 1 point
□ 2 points
□ 3 points
□ 4 points

[Decision Page 2]

You are randomly assigned as Individual Y. Please indicate the amount that you would like to transfer to Individual Z according to the following situations. Please indicate your decision for each situation that may arise due to the choice of X.

o If X gives Z 0 points; how many points would you like to give Z ?
□ 0 points

- 1 point
- 2 points
- 3 points
- 4 points

- If X gives Z 1 point; how many points would you like to give Z ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives Z 2 points; how many would you like to give Z ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives Z 3 points; how many points would you like to give Z ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives Z 4 points; how many points would you like to give Z ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points

[Non-incentivized Belief Elicitation Page]

You are randomly assigned as Individual Z. Please indicate the amount that you think

Individual Y will send you according to the following situations. Please indicate your decision for each situation that may arise due to the choice of X.

- If X gives you 0 points; how many points do you think Y will give ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives you 1 point; how many points do you think Y will give ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives you 2 points; how many points do you think Y will give ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives you 3 points; how many points do you think Y will give ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If X gives you 4 points; how many points do you think Y will give ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points

Instructions in GNoP Treatment:

[Introduction Page]

Welcome to the experiment!

This is a study on decision making. You have earned 10 TL by participating in this experiment. Throughout the experiment, you may receive extra payments based on your choices and the choices of others.

If you would have any questions during the experiment, please raise your hand and wait for researcher to come to you. Please do not try to talk or communicate with other participants.

We would like to have your full attention throughout the experiment. Do not engage in any other stuff on computers rather than the experiment itself. For example, do not try to access to internet.

Participants who violate these rules will be asked to leave the experiment and will not have any payments.

[Instructions Page 1]

Instructions

In this study, you will be randomly and anonymously paired with another participant who are in this room and will be included in a group of two.

Participants in the group are randomly named as Individual X and Individual Y.

Your possible earnings are calculated with the use of an experimental currency called "points" throughout the experiment.

1 point = 5 TL

X will receive 6 points additional to participation fee. Y will receive one of the amount from the set [0 points, 1 point, 2 points, 3 points, 4 points] randomly additional to participation fee.

The task of Individual X is to decide, if any, the amount that she would like to transfer to Individual Y from this additional 6 points that she was allocated. The level of transfer can be any amount within the set of [0 points, 1 point, 2 points, 3 points, 4 points]

[Instructions Page 2]

Individual X has received 6 points. Y will be given an amount from the set [0 points, 1 point, 2 points, 3 points, 4 points] randomly by the computer.

Decision making process is carried out as follows; computer randomly determines the initial amount to be transferred to Individual Y randomly. Individual X observes this initial amount to be transferred to Individual Y and make her own decision on the additional amount to be transferred to Individual Y.

The level of transfer can be any amount within the set of [0 points, 1 point, 2 points, 3 points, 4 points].

Earnings are determined as follows:

Earnings of X: 6 points – (amount X gives to Y)

Earnings of Y: (Initial wealth determined randomly for Y) + (amount X gives to Y)

A HYPOTHETICAL EXAMPLE FOR DEMONSTRATION PURPOSES

Suppose computer randomly determines the initial wealth of Y as 2 points.

X observes this choice made randomly by the computer and gives 1 point to Y.

This causes the following earnings:

Earnings of X: X gives 1 point to Y.
Therefore, her earnings are: 6 points – 1 point = 5 points

Earnings of Y: Computer randomly determines the initial wealth of Y as 2 points and X gives 1 point to Y
Therefore, her earnings are: 2 points + 1 point = 3 points

[Instructions Page 2]

Therefore, there are five cases that can emerge due to initial wealth of Y:

- Computer randomly determines the initial wealth of Y as 0 points.
- Computer randomly determines the initial wealth of Y as 1 point.
- Computer randomly determines the initial wealth of Y as 2 points.
- Computer randomly determines the initial wealth of Y as 3 points.
- Computer randomly determines the initial wealth of Y as 4 points.

1. If you are randomly assigned as Individual X by the computer, you will be on one of these five situations. But, before knowing which of these situations has happened, you will be asked to indicate the amount that you would like to transfer to Individual Y for each possible situation. In other words, what we are trying to know is;

- How much would you transfer to Y, if the computer randomly determines the initial wealth of Y as 0 points?
- How much would you transfer to Y, if the computer randomly determines the initial wealth of Y as 1 point?
- … and so on.

Which situation you are in depends on the initial wealth of Y determined by the computer. Total earnings of Y and the amount you keep for yourself will be determined based on the realized decision. You will indicate your decision on a table similar to the one shown below.

If the computer randomly determines the initial wealth of Y as 0 points;	If the computer randomly determines the initial wealth of Y as 1 point;	If the computer randomly determines the initial wealth of Y as 2 points;	If the computer randomly determines the initial wealth of Y as 3 points;	If the computer randomly determines the initial wealth of Y as 4 points;
○ give 0 points to Y	○ give 0 points to Y	○ give 0 points to Y	○ give 0 points to Y	○ give 0 points to Y
○ give 1 point to Y	○ give 1 point to Y	○ give 1 point to Y	○ give 1 point to Y	○ give 1 point to Y
○ give 2 points to Y	○ give 2 points to Y	○ give 2 points to Y	○ give 2 points to Y	○ give 2 points to Y
○ give 3 points to Y	○ give 3 points to Y	○ give 3 points to Y	○ give 3 points to Y	○ give 3 points to Y
○ give 4 points to Y	○ give 4 points to Y	○ give 4 points to Y	○ give 4 points to Y	○ give 4 points to Y

2. If you are randomly assigned as Individual Y by the computer, you are not required to make any decisions in this experiment. However, you will be asked to answer some questions. Note that, your answers to the questions do not have any influence on the decisions made by other participants, nor they will cause any difference in the computation of the earnings.

[Control Questions Page]

Description

After you answer the following control questions correctly, you will see the whether you have been assigned as Individual X or Individual Y. If you have been assigned as an active participant (X), you will be asked to indicate your decisions. Please do not forget that you will make your decision once and earnings from the experiment is determined in this way. You can review the sample table below once again to help with control questions.

A HYPOTHETICAL EXAMPLE FOR DEMONSTRATION PURPOSES

Suppose computer randomly determines the initial wealth of Y as 2 points.

X observes this choice made randomly by the computer and gives 1 point to Y.

This causes the following earnings:

Earnings of X: X gives 1 point to Y.
Therefore, her earnings are: 6 points – 1 point = 5 points

Earnings of Y: Computer randomly determines the initial wealth of Y as 2 points and X gives 1 point to Y
Therefore, her earnings are: 2 points + 1 point = 3 points

Control Questions

- If the computer randomly determines Y's initial wealth as 0 points and X gives 0 points to Y:

- X’s earnings are: ___
- Y’s earnings are: ___

- If the computer randomly determines Y's initial wealth as 0 points and X gives 3 points to Y:
  - X’s earnings are: ___
  - Y’s earnings are: ___
- If the computer randomly determines Y's initial wealth as 2 points and X gives 2 points to Y:
  - X’s earnings are: ___
  - Y’s earnings are: ___
- If the computer randomly determines Y's initial wealth as 4 points and X gives 1 point to Y:
  - X’s earnings are: ___
  - Y’s earnings are: ___

[Decision Page]

You are randomly assigned as Individual X. Please indicate the amount that you would like to transfer to Individual Y according to the following situations. Please indicate your decision for each situation that may arise due to the initial wealth of Y determined by the computer.

- If the computer randomly determines the initial wealth of Y as 0 points; how many points would you like to give Y ?
  - □ 0 points
  - □ 1 point
  - □ 2 points
  - □ 3 points
  - □ 4 points
- If the computer randomly determines the initial wealth of Y as 1 point; how many points would you like to give Y ?
  - □ 0 points
  - □ 1 point

- 2 points
- 3 points
- 4 points

- If the computer randomly determines the initial wealth of Y as 2 points; how many points would you like to give Y ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If the computer randomly determines the initial wealth of Y as 3 points; how many points would you like to give Y ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points
- If the computer randomly determines the initial wealth of Y as 4 points; how many points would you like to give Y ?
  - 0 points
  - 1 point
  - 2 points
  - 3 points
  - 4 points

[Non-incentivized Belief Elicitation Page]

You are randomly assigned as Individual Y. Please indicate the amount that you think Individual X will send you according to the following situations. Please indicate your decision for each situation that may arise due to the initial wealth of yours determined by the computer.

- If the computer randomly determines your initial wealth as 0 points; how many points do you think X will give ?
  - □ 0 points
  - □ 1 point
  - □ 2 points
  - □ 3 points
  - □ 4 points
- If the computer randomly determines your initial wealth as 1 point; how many points do you think X will give ?
  - □ 0 points
  - □ 1 point
  - □ 2 points
  - □ 3 points
  - □ 4 points
- If the computer randomly determines your initial wealth as 2 points; how many points do you think X will give ?
  - □ 0 points
  - □ 1 point
  - □ 2 points
  - □ 3 points
  - □ 4 points
- If the computer randomly determines your initial wealth as 3 points; how many points do you think X will give ?
  - □ 0 points
  - □ 1 point
  - □ 2 points
  - □ 3 points
  - □ 4 points
- If the computer randomly determines your initial wealth as 4 points; how many points do you think X will give ?
  - □ 0 points
  - □ 1 point

- 2 points
- 3 points
- 4 points

A.2 Experimental Instructions in Norm Elicitation Experiment:

This section provides experimental instructions used in the GP and GNoP treatments of the norm elicitation experiment.

Instructions in GP Treatment:

[Introduction Page]

Welcome to the experiment!

This is a study in decision making. You have earned 10 TL by participating in this experiment. Throughout the experiment, you may receive extra payments based on your choices and the choices of others.

If you would have any questions during the experiment, please raise your hand and wait for researcher to come to you. Please do not try to talk or communicate with other participants.

We would like you to have your full attention throughout the experiment. Do not engage in any other stuff on computers rather than the experiment itself. For example, do not try to access to internet.

Participants who violate these rules will be asked to leave the experiment and will not have any payments.

[Instructions Page 1]

Instructions

In couple of minutes, you will read the explanations of the series of situations. These explanations are related to actions that Individual Y must take and includes the actions presented to Individual Y. After reading those explanations on situations, you are

expected to rate possible actions Individual Y can take. For instance, whether taking that action;

- Socially appropriate: consistent with what most people think Individual Y ought to do.
- Socially inappropriate: inconsistent with what most people think Individual Y ought to do.

Socially appropriate means what most people would find the action as ethical with consensus and what they expect Y to do.

In other words, one can get angry at Individual Y, if her selected action is defined as "socially inappropriate".

[Instructions Page 2]

You can earn extra amounts depending on the answers you will give. Specifically, you are expected to report your ratings on the possible actions of Individual Y in each situation she faces and try to match those ratings with one of the participants in these room.

We want you to try to report the same ratings with a person in this room would make. Because you will be randomly and anonymously matched with another person in this room to determine your earnings.

After reporting social appropriateness ratings, one of the situations that Individual Y faces and one of the possible actions that Y can take under that situation will be randomly selected.

Your social appropriateness ratings will be compared with the participant that you will have been matched.

Your earnings are determined based on the similarity of your social appropriateness ratings with whom you are matched.

We expect you to report your ratings as truly as possible based on the social appropriateness ratings of the most of the people in this room. In this way, your

probability of having extra payment from this experiment increases by increasing the similarity of your responses with another participant that you are randomly matched.

[Example Situation Page]

Example Situation

Individual Y goes to a café near campus and finds a wallet on one of the tables. Y must decide what to do and has four possible actions to be taken. These are; "take the wallet", "ask people nearby whether the wallet belongs to them", "leave the wallet where it was" and "give wallet to the shop owner".

The table shown below represents the actions that Individual Y can take. We want you to rate each action with the use of following options; "very socially inappropriate", "socially inappropriate", "somewhat socially inappropriate", "somewhat socially appropriate", "socially appropriate" and "very socially appropriate". Please recall that, what we mean by the term "social appropriateness" is whether the most of the people would consider that action as "correct" or "ethical".

You will click the relevant radial to indicate your decision in the experiment.

Example Table

	Choice of Y			
	Take the wallet	Ask people nearby	Leave where it was	Give it to shop owner
Very socially inappropriate	○	○	○	○
Socially inappropriate	○	○	○	○
Somewhat socially inappropriate	○	○	○	○
Somewhat socially appropriate	○	○	○	○
Socially inappropriate	○	○	○	○
Very socially appropriate	○	○	○	○

If the situation presented above was used in this study, you would be asked to rate each action and indicate the extent that whether the action is socially appropriate (consistent with most of the people expect Y to do) or socially inappropriate (inconsistent with most of the people expect Y to do).

For example, if you think that the most of the people would consider taking the wallet is “very socially inappropriate”, asking people nearby whether the wallet belongs to them is “somewhat socially appropriate”, leaving the wallet where it was is “somewhat socially inappropriate” and giving wallet to shop owner is “very socially appropriate”. Your ratings would be as shown below.

	Choice of Y			
	Take the wallet	Ask people nearby	Leave where it was	Give it to shop owner
Very socially inappropriate	●	○	○	○
Socially inappropriate	○	○	○	○
Somewhat socially inappropriate	○	○	●	○
Somewhat socially appropriate	○	●	○	○
Socially inappropriate	○	○	○	○
Very socially appropriate	○	○	○	●

Your earnings will be determined based on the similarity of the ratings between you and the participant you are matched. Specifically, the computer randomly picks one of the possible actions that Individual Y must take and compare the answers within the pairs to compute your earnings.

- If the ratings are the same within the pair, you will earn 40 TL additional to the participation fee.
- If the ratings are not the same within the pair, you will earn 0 TL additional to the participation fee.

Control Questions I

- If your rating for the selected situation is “very socially appropriate” and the rating of your pair is “very socially appropriate”:
  - How much would you earn from the experiment: ___
- If your rating for the selected situation is “very socially appropriate” and the rating of your pair is “socially inappropriate”:
  - How much would you earn from the experiment: ___

[Explanation of the Experiment Page]

Explanation of the Experiment

Individual X, Individual Y and Individual Z are determined randomly and anonymously in a group of three. X and Y received 6 points whereas Z received 0 points.

1 point = 5 TL

The task of Individuals X and Y is to decide, if any, the amount that they would like to transfer to Individual Z from this additional 6 points that they were allocated.

The level of transfers can be any amount within the set of [0 points, 1 point, 2 points, 3 points, 4 points].

Individual X determines the initial wealth of Individual Z by indicating the amount she would like to transfer to Individual Z.

Individual Y observes this initial amount to be transferred to Individual Z and make her own decision on the additional amount to be transferred to Individual Z.

- SITUATION 1: You will be asked to rate the actions that Y can take after observing X sends 0 points to Z.
- SITUATION 2: You will be asked to rate the actions that Y can take after observing X sends 1 point to Z.
- SITUATION 3: You will be asked to rate the actions that Y can take after observing X sends 2 points to Z.
- SITUATION 4: You will be asked to rate the actions that Y can take after observing X sends 3 points to Z.
- SITUATION 5: You will be asked to rate the actions that Y can take after observing X sends 4 points to Z.

At the end of the experiment, one of the situations listed above will be selected randomly. For the selected situation, one of the possible actions that Individual Y can take will also be selected randomly. Therefore, both a situation and an action are selected randomly in this study. If your social appropriateness ratings are the same

with that of the participant you are matched, you will earn 40 TL, otherwise you will earn 0 TL. Experiment starts after correctly answering the following questions.

A HYPOTHETICAL EXAMPLE FOR DEMONSTRATION PURPOSES

Suppose X gives 1 point to Z.

Y observes this choice made by X and gives 2 points to Z.

This causes the following earnings:

Earnings of X: X gives 1 point to Z.
Therefore, her earnings are: 6 points – 1 point = 5 points

Earnings of Y: Y gives 2 points to Z.
Therefore, her earnings are: 6 points – 2 points = 4 points

Earnings of Z: Z receives 1 point from X and 2 points from Y.
Therefore, her earnings are: 0 points + 1 point + 2 points = 3 points

Control Questions II

- If both X and Y gives 0 points to Z:
  - X's earnings are: ___
  - Y's earnings are: ___
  - Z's earnings are: ___
- If X gives 0 points to Z and Y gives 3 points to Z:
  - X's earnings are: ___
  - Y's earnings are: ___
  - Z's earnings are: ___
- If X gives 2 points to Z and Y gives 2 points to Z:
  - X's earnings are: ___
  - Y's earnings are: ___
  - Z's earnings are: ___
- If X gives 4 points to Z and Y gives 1 point to Z:
  - X's earnings are: ___

- Y's earnings are: ___
- Z's earnings are: ___

Decision Page Example (GP treatment, Situation 1):

X and Y are given 6 points, Z is given 0 points. Individual X gives **0 points** to Individual Z.
Y observes the amount transferred by X to Z and must make a decision.

The table below represents the actions available to Individual Y.

	Y chooses to				
	Give 0 points to Z	Give 1 point to Z	Give 2 points to Z	Give 3 points to Z	Give 4 points to Z
1. Very socially inappropriate	○	○	○	○	○
2. Socially inappropriate	○	○	○	○	○
3. Somewhat socially inappropriate	○	○	○	○	○
4. Somewhat socially appropriate	○	○	○	○	○
5. Socially appropriate	○	○	○	○	○
6. Very socially appropriate	○	○	○	○	○

For each action, please indicate whether you believe choosing that action is *"very socially inappropriate", "socially inappropriate", "somewhat socially inappropriate", "somewhat socially appropriate", "socially appropriate", "very socially appropriate"*.
To indicate your response, please click on the relevant radial under the action.

Instructions in GNoP Treatment:

[Introduction Page]
Welcome to the experiment!
This is a study on decision making. You have earned 10 TL by participating in this experiment. Throughout the experiment, you may receive extra payments based on your choices and the choices of others.

If you would have any questions during the experiment, please raise your hand and wait for researcher to come to you. Please do not try to talk or communicate with other participants.

We would like you to have your full attention throughout the experiment. Do not engage in any other stuff on computers rather than the experiment itself. For example, do not try to access to internet.

Participants who violate these rules will be asked to leave the experiment and will not have any payments.

[Instructions Page 1]

Instructions

In couple of minutes, you will read the explanations of the series of situations. These explanations are related to actions that Individual X must take and includes the actions presented to Individual X. After reading those explanations on situations, you are expected to rate possible actions Individual X can take. For instance, whether taking that action;

- Socially appropriate: consistent with what most people think Individual X ought to do.
- Socially inappropriate: inconsistent with what most people think Individual X ought to do.

Socially appropriate means what most people would find the action as ethical with consensus and what they expect Y to do.

In other words, one can get angry at Individual X, if her selected action is defined as "socially inappropriate".

[Instructions Page 2]

You can earn extra amounts depending on the answer you will give. Specifically, you are expected to report your ratings on the possible actions of Individual X in each situation she faces and try to match those ratings with one of the participants in these room.

We want you to try to report the same ratings with a person in this room would make. Because you will be randomly and anonymously matched with another person in this room in order to determine your earnings.

After reporting social appropriateness ratings, one of the situations that Individual X faces and one of the possible actions that X can take under that situation will be randomly selected.

Your social appropriateness ratings will be compared with the participant that you will have been matched.

Your earnings are determined based on the similarity of your social appropriateness ratings with whom you are matched.

We expect you to report your ratings as truly as possible based on the social appropriateness ratings of the most of the people in this room. In this way, your probability of having extra payment from this experiment increases by increasing the similarity of your responses with another participant that you are randomly matched.

[Example Situation Page]

Example Situation

Individual X goes to a café near campus and finds a wallet on one of the tables. X must decide what to do and has four possible actions to be taken. These are; "take the wallet", "ask people nearby whether the wallet belongs to them", "leave the wallet where it was" and "give wallet to the shop owner".

The table shown below represents the actions that Individual X can take. We want you to rate each action with the use of following options; "very socially inappropriate", "socially inappropriate", "somewhat socially inappropriate", "somewhat socially appropriate", "socially appropriate" and "very socially appropriate". Please recall that, what we mean by the term "social appropriateness" is whether the most of the people would consider that action as "correct" or "ethical".

You will click the relevant radial to indicate your decision in the experiment.

	Choice of X			
	Take the wallet	Ask people nearby	Leave where it was	Give it to shop owner
Very socially inappropriate	○	○	○	○
Socially inappropriate	○	○	○	○
Somewhat socially inappropriate	○	○	○	○
Somewhat socially appropriate	○	○	○	○
Socially appropriate	○	○	○	○
Very socially appropriate	○	○	○	○

If the situation presented above was used in this study, you would be asked to rate each action and indicate the extent that whether the action is socially appropriate (consistent

with most of the people expect X to do) or socially inappropriate (inconsistent with most of the people expect X to do).

For example, if you think that the most of the people would consider taking the wallet is "very socially inappropriate", asking people nearby whether the wallet belongs to them is "somewhat socially appropriate", leaving the wallet where it was is "somewhat socially inappropriate" and giving wallet to shop owner is "very socially appropriate". Your ratings would be as shown below.

	Choice of X			
	Take the wallet	Ask people nearby	Leave where it was	Give it to shop owner
Very socially inappropriate	◉	○	○	○
Socially inappropriate	○	○	○	○
Somewhat socially inappropriate	○	○	◉	○
Somewhat socially appropriate	○	◉	○	○
Socially appropriate	○	○	○	○
Very socially appropriate	○	○	○	◉

Your earnings will be determined based on the similarity of the ratings between you and the participant you are matched. Specifically, the computer randomly picks one of the possible actions that Individual X must take and compare the answers within the pairs to compute your earnings.

- If the ratings are the same within the pair, you will earn 40 TL additional to the participation fee.
- If the ratings are not the same within the pair, you will earn 0 TL additional to the participation fee.

Control Questions I

- If your rating for the selected situation is "very socially appropriate" and the rating of your pair is "very socially appropriate":
  - How much would you earn from the experiment: ___
- If your rating for the selected situation is "very socially appropriate" and the rating of your pair is "socially inappropriate":
  - How much would you earn from the experiment: ___

[Explanation of the Experiment Page]

Explanation of the Experiment

Individual X and Individual Y are determined randomly and anonymously in a group of two. X received 6 points. Y will receive one of the amounts from the set [0 points, 1 point, 2 points, 3 points, 4 points].

1 point = 5 TL

The task of Individual X is to decide, if any, the amount that she would like to transfer to Individual Y from this additional 6 points that she was allocated.

The level of transfers can be any amount within the set of [0 points, 1 point, 2 points, 3 points, 4 points].

Individual X observes the randomly determined initial wealth of Individual Y and make her own decision on the additional amount to be transferred to Individual Y.

- SITUATION 1: You will be asked to rate the actions that X can take after observing computer randomly determines the initial wealth of Y as 0 points.

- SITUATION 2: You will be asked to rate the actions that X can take after observing computer randomly determines the initial wealth of Y as 1 point.
- SITUATION 3: You will be asked to rate the actions that X can take after observing computer randomly determines the initial wealth of Y as 2 points.
- SITUATION 4: You will be asked to rate the actions that X can take after observing computer randomly determines the initial wealth of Y as 3 points.
- SITUATION 5: You will be asked to rate the actions that X can take after observing computer randomly determines the initial wealth of Y as 4 points.

At the end of the experiment, one of the situations listed above will be selected randomly. For the selected situation, one of the possible actions that Individual X can take will also be selected randomly. Therefore, both a situation and an action are selected randomly in this study. If your social appropriateness ratings are the same with the participant you are matched, you will earn 40 TL, otherwise you will earn 0 TL. Experiment starts after correctly answering the following questions.

A HYPOTHETICAL EXAMPLE FOR DEMONSTRATION PURPOSES

Suppose computer randomly determines the initial wealth of Y as 2 points.

X observes this choice made randomly by the computer and gives 1 point to Y.

This causes the following earnings:

Earnings of X: X gives 1 point to Y.
Therefore, her earnings are: 6 points – 1 point = 5 points

Earnings of Y: Computer randomly determines the initial wealth of Y as 2 points and X gives 1 point to Y
Therefore, her earnings are: 2 points + 1 point = 3 points

Control Questions II

- If the computer randomly determines Y's initial wealth as 0 points and X gives 0 points to Y:
  - X's earnings are: ___
  - Y's earnings are: ___
- If the computer randomly determines Y's initial wealth as 0 points and X gives 3 points to Y:
  - X's earnings are: ___
  - Y's earnings are: ___
- If the computer randomly determines Y's initial wealth as 2 points and X gives 2 points to Y:
  - X's earnings are: ___
  - Y's earnings are: ___
- If the computer randomly determines Y's initial wealth as 4 points and X gives 1 point to Y:
  - X's earnings are: ___
  - Y's earnings are: ___

Decision Page Example (GNoP treatment, Situation 1):

X is given 6 points, Y is given 0 points. The computer randomly determines the wealth of Y as **0 points**.
X observes the initial wealth of Y determined by the computer and must make a decision.

The table below represents the actions available to Individual X.

	X chooses to				
	Give 0 points to Y	Give 1 point to Y	Give 2 points to Y	Give 3 points to Y	Give 4 points to Y
1. Very socially inappropriate	○	○	○	○	○
2. Socially inappropriate	○	○	○	○	○
3. Somewhat socially inappropriate	○	○	○	○	○
4. Somewhat socially appropriate	○	○	○	○	○
5. Socially appropriate	○	○	○	○	○
6. Very socially appropriate	○	○	○	○	○

For each action, please indicate whether you believe choosing that action is *"very socially inappropriate", "socially inappropriate", "somewhat socially inappropriate", "somewhat socially appropriate", "socially appropriate", "very socially appropriate"*.
To indicate your response, please click on the relevant radial under the action.

A.3 Survey Questions:

This part provides the survey questions that all participants answered in both experiments. The demographic information of participants collected pre-experiment.

Please answer the following questions:

- What is your gender?
  - ☐ Female
  - ☐ Male
- How old are you?

- Have you ever taken any of the Game Theory, Behavioral Economics, or Experimental Economics courses before?
  - ☐ Yes
  - ☐ No

- What is your monthly income level?
  - ☐ 0-1000 TL
  - ☐ 1000-2000 TL

- 2000-3000 TL
- 3000-4000 TL
- More than 4000 TL

- How many siblings do you have?

- What is your department?

B. ADDITIONAL TABLES AND ANALYSES

Table 11: Ordered Probit Regressions for Norm Elicitation Experiment

	Social Appropriateness			
	PEER	PEER	NoPEER	NoPEER
	(1)	(2)	(1)	(2)
Dictator Transfers	0.371***	0.387***	0.472***	0.490***
	(0.117)	(0.123)	(0.133)	(0.141)
Peer/Nature Transfers	0.106	0.122	0.263**	0.273**
	(0.104)	(0.110)	(0.114)	(0.069)
Dictator x Peer/Nature Transfers	-0.027	-0.028	-0.094**	-0.098**
	(0.035)	(0.037)	(0.040)	(0.042)
Take	0.187	0.390**	0.122	-0.065
	(0.139)	(0.169)	(0.129)	(0.151)
Peer/Nature Transfers x Take	-0.060	-0.062	-0.039	-0.040
	(0.072)	(0.077)	(0.080)	(0.084)
Age		0.106***		0.075***
		(0.016)		(0.021)
Gender		-0.064		0.044
		(0.134)		(0.132)
Income		0.027		0.106**
		(0.041)		(0.057)
Siblings		-0.112**		-0.222***
		(0.051)		(0.066)
Economics		-0.081		-0.077
		(0.113)		(0.113)
Course		0.248		-0.023
		(0.214)		(0.155)
Observations	600	600	500	500
Adjusted R-Squared	0.043	0.061	0.042	0.206

Note: * p<0.10, ** p<0.05, *** p<0.01.

Table 12: Mixed Logit Models Using Median Norm Ratings

	Give/Peer (GP) (1)	Give/NoPeer (GNoP) (2)	Take/Peer (TP) (3)	Take/NoPeer (TNoP) (4)
Own Payoff	1.420***	1.250***	1.134***	0.431***
	(0.436)	(0.267)	(0.294)	(0.171)
Norm Rating (median)	0.467	2.098***	1.164	-0.480
	(1.023)	(0.615)	(0.751)	(0.661)
Norm Rating (s.d.)	2.041**	0.618	1.769***	1.568***
	(0.796)	(0.432)	(0.681)	(0.663)
Observations	250	250	250	250
Log-Likelihood	-47.173	-65.979	-57.308	-62.396

Note: * p<0.10, ** p<0.05, *** p<0.01.

Table 13: Variable Names and Survey Questions

Variable Name	Survey Question
Gender	What is your gender?
Age	How old are you?
Course	Have you ever taken any of the Game Theory, Behavioral Economics, or Experimental Economics courses before?
Income	What is your monthly income level?
Siblings	How many siblings do you have?
Economics	What is your department?

Table 14: Percentages of Participants by Groups

Norm Elicitation Experiment

		n	%
Gender	Male	19	43.2
	Female	25	56.8
Course	Taken	4	90.9
	Not Taken	40	9.1
Income	0-100 TL	12	27.3
	1000 - 2000 TL	10	22.7
	2000 - 3000 TL	14	31.8
	3000 - 4000 TL	5	11.4
	4000 TL and above	3	6.8
Department	Economics	19	43.2
	Psychology	3	6.8
	International Relations	3	6.8
	Political Science and Public Adm.	2	4.6
	International Relations	2	4.6
	Architecture	2	4.6
	Mechanical Engineering	2	4.6
	Other	11	24.8

Table 15: Percentages of Participants by Groups

Standard Behavioral Experiment

		n	%
Gender	Male	55	55
	Female	45	45
Course	Taken	19	19
	Not Taken	81	81
Income	0-100 TL	22	22
	1000 - 2000 TL	34	34
	2000 - 3000 TL	26	26
	3000 - 4000 TL	11	11
	4000 TL and above	7	7
Department	Economics	29	29
	Political Science and Public Adm.	16	16
	Business Administration	9	9
	International Relations	8	8
	Mathematics	5	5
	English Language Education	4	4
	Sociology	4	4
	Other	25	25

C. APPROVAL OF THE METU HUMAN SUBJECTS ETHICS COMMITTE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER

ORTA DOĞU TEKNİK ÜNİVERSİTESİ
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14 MART 2022

Konu : Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi : İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Umut ÖNEŞ

Danışmanlığını yürüttüğünüz Galip Cem BERK'in "Adil Paylaşım Normları ve Cömertlik Üzerinde Akran Etkisi: Deneysel Test" başlıklı araştırmanız İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve **0169-ODTUİAEK-2022** protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof.Dr. Mine MISIRLISOY
İAEK Başkan

D. TURKISH SUMMARY / TÜRKÇE ÖZET

Sosyal normların, ekonomik karar alma süreçlerindeki önemli etkileri, işgücü katılım (Görges, 2020), işbirliği (Rueben & Reidl, 2013), yalan söyleme (Abeler vd., 2018), yolsuzluk (Gneezy vd., 2019) ve adil paylaşım tercihleri (Krupka & Weber, 2013; Gachter vd., 2017) gibi karar süreçlerinde gözlemlenmiştir. Bununla birlikte, akranların da var olduğu dizaynlarda, sosyal norm algıları ve gerçek davranışlarla olan ilişkilerinin incelenmesi, literatürde yeni çıkarımlar elde edilmesine imkan vermektedir.

Bu çalışmada, akranların, paylaşım normlarının algılanması ve karar alıcıların paylaşım davranışları üzerindeki etkileri araştırılmıştır. Daha açık bir ifadeyle, akranların paylaşım normları ve paylaşım davranışları üzerindeki etkileri, karar alıcının kendisi ve ihtiyaç sahibi arasındaki kazançlarını eşitleyebileceği çoklu durumlar açısından incelenmiştir. Bu bağlamda yanıtını aradığımız sorular şunlardır: Akranların, ihtiyaç sahibinin ilk kazancını belirledikleri durumlarda, karar alıcıların aksiyonları üzerinde hem normlar hem de paylaşım davranışları açısından bir etkileri var mıdır? İhtiyaç sahibinin ilk kazancına bağlı olarak farklı durumlarda, karar alıcının farklı eylemler yoluyla kendisi ve ihtiyaç sahibi arasındaki kazançlarını eşitleyebileceği aksiyonları üzerinde akran etkileri mevcut mudur? Daha önceki çalışmalarda görülen skala manipülasyonlarının paylaşım davranışları üzerindeki etkileri, çıkarımı yapılan paylaşım normları ve bu normlara uyumlululuk üzerinde de mevcut mudur? Akranların, ihtiyaç sahiplerine yaptıkları ilk transfer miktarının, karar alıcının, tüm taraflar için adil paylaşımı sağlamasında bir etkisi var mıdır?

Bu çalışmada, bahsi geçen normların ne olduğuna dair bir tanım yapılmamıştır. Bunun yerine, daha önce, özellikle diktatör oyunlarındaki (dictator games) paylaşım normları (sharing norms) ve norm güdümlü davranışların (norm-driven behavior) açıklanmasında tutarlı sonuçlar ortaya koymuş olan bir norm çıkarımı (norm elicitation) deneyi düzenlenmiştir. Çalışma boyunca kullanılan sosyal norm terimi, daha önce Krupka & Weber (2013) tarafından literatüre kazandırılmış olan bu

methodun (bundan sonra KW method anılacaktır) ilgili deneydeki katılımcılara uygulanmasıyla tanımlanmıştır. Gerçekleşen davranışların, çıkarımı yapılan bu normlarla olan uyumluluğunu incelemek için, diktatör oyunu kümelerinden oluşan bir standart davranışsal deney de çalışmada kullanılmıştır.

İlk olarak, akranların sosyal normların algılanması üzerindeki etkilerini ölçmek için bir laboratuvar deneyi düzenlenmiştir. Deneydeki katılımcılar tamamen rassal ve anonim şekilde ikili gruplara ayrılmış ve basit koordinasyon oyunları aracılığı ile rastgele ve anonim şekilde eşleştikleri diğer katılımcının "sosyal uygunluk" değerlendirmelerini doğru tahmin etmeye çalışmışlardır. Deneydeki "sosyal uygunluk" terimi, kullanılan methodun tanımladığı şekilde, ilgili eylemlerin toplumdaki bir çok kişi tarafından etik bulunduğu ya da bir çok kişinin karar alıcıdan yapmasını bekledikleri eylem olarak tanımlanmıştır. Rassal ve anonim şekilde belirlenen ikili gruplar, katılımcıların bireysel raporlamalarından çok o an oturumda bulunan kişilerinin çoğunun raporlarını tahmin ederek koordinasyon oyunlarını çözmeye çalışmalarını sağlamıştır.

İkinci deneyde ise, ilk deneyde katılımcılara detaylı açıklamaları yapılan ve norm çıkarımları sağlanan durumların, gerçekleşen davranışlar açısından incelenmesine olanak sağlayan, diktatör oyunu varyantlarının kullanıldığı bir davranışsal deneyden faydalanılmıştır.

Çalışma, sosyal normlar literatürünün, akranların norm algıları ve norm güdümlü davranışlar üzerindeki etkileri olmak üzere iki kısmıyla ilgilidir. Sosyal normların, bireylerin karar alma süreçlerindeki (decision-making process) önemli etkenlerden bir tanesi olduğu düşünülse de, sosyal normların iktisat bilimindeki yeri görece yakın bir zamanda incelenmeye başlanmıştır. Bunun bir sebebi normatif görüşlerin kantatif olarak ölçümlerindeki zorluklar olabilir. Önceki çalışmalarda da norm çıkarımları için kullanılan KW methodunun, özellikle diktatör oyunlarındaki doğruluğu ve kullanışlılığı, kurala uyan (rule-following) denekler ve çıkarımı yapılan normların aynı yönde hareket ettiği (Kimbrough & Vostroknukov, 2016), farklı veri setlerine uygulandığında elde edilen tutarlı sonuçları (Krupka & Weber, 2013; Kimbrough & Vostroknutov, 2016), sosyal normların farklı algılandığı uluslararası toplumlara

uygulandığında deneklerin raporlamalarında gözlemlenen değişiklik (Krupka vd., 2012) ve çıkarımı yapılan normların, bireylerin ilk ve ikinci dereceden inançları (first and second-order beliefs) ile niteliksel olarak özdeş olduğu gibi bulguların gözlemlendiği önceki çalışmalarda ispatlanmıştır. Koordinasyon oyunlarında, deneklerin çözüme ulaşabileceği, çıkarımları yapılmaya çalışılan normlarla ilişkisi olmayan, birden çok denge (equilibria) noktası bulunsa da, Krupka & Weber (2013) toplum içinde ortak bir şekilde kabul gören görüşlerin, koordinasyon oyunlarında odak noktaları (focal points; Schelling, 1960) yaratarak çözüme ulaşmada oyuncular tarafından kullanılan bir yöntem olduğunu öne sürmüşlerdir. Dolayısıyla KW methodunun, inanç anketi (belief survey) gibi diğer teşvik edilmemiş yöntemlere göre olan avantajı, bireyleri ikinci dereceden inançları (second-order beliefs) hakkında düşünmeye ve raporlamalarında oluşabilecek yanlılıklara karşı direnmelerine yol açan açık ve dışsal motivasyonlarından gelmektedir (Erkut, 2022). Bu çalışmada da çıkarımı yapılan sosyal normların ne şekilde hareket ettiğini incelemek üzere ilgili yöntem kullanılmıştır.

Çalışmanın literatürle ilgili olan diğer bir kısmı ise, akranların, gerçek davranışlarda çıkarımı yapılan normlara olan uyumluluktaki etkilerinin incelenmesidir. KW methodunun literatürde yerini alması ile birlikte, normların kantatif olarak ölçülebilmesi sonucunda, çıkarımı yapılan normlar ve gerçekleşen davranışlar arasındaki ilişkilerin incelendiği çalışmaların sayısında artış yaşanmıştır. Bu çalışmaların bazılarında hediye değiştirme oyunlarında (gift exchange game) çıkarımı yapılan sosyal normlar ve bu normlara uyumluluk üzerindeki akran etkileri incelenirken, bazılarında diktatör oyunlarındaki (dictator game) akran etkileri incelenmiştir. Gachter vd. (2012) KW methodunu kullanarak üç kişilik hediye değiştirme oyunlarındaki (gift exchange game) akran etkilerinin, KW method ile çıkarımı yapılan normlarla uyumlu olduklarını gözlemlemişlerdir. Buna ek olarak Gachter vd. (2017)'de adil paylaşım normları ve bu normlara uyumluluktaki akran öneminin incelendiği çalışmada, gerçekleşen davranışların normlar ile uyumluluğu sadece kısmen gözlemlenebilmiştir. Bu durumun bir sebebi, kullanılan deneysel dizaynın talepleri sebebiyle olabilir. Buna ek olarak, çalışmada tanımlanan aksiyon kümesindeki adil paylaşım eylemlerinin, aksiyon kümesinin üst sınırında yer alması da, çıkarımı yapılan normların adil paylaşım eylemlerine göre mi yoksa cömertlik

eylemlerine göre mi şekillendiği konusunda bir muğlaklık oluşturmaktadır. Yine, Ockenfels & Werner (2014) diktatör oyunlarında skala manipülasyonlarının önemli etkileri olduğunu göstermiştir. Buna göre, önceki çalışmalarda, tüm taraflar için adil paylaşımı sağlayan eylemin aksiyon kümesinin üst sınırında yer alması, norma uygun davranışların sadece kısmen gözlemlenmesinde etkili olabilir. Üstelik, benzer dizaynların kullanıldığı önceki çalışmalarda, akranların ihtiyaç sahibinin ilk kazancını belirlediği farklı transfer seviyelerinde, karar alıcının teslim alıcı ile kazançlarını farklı eylemler yolu ile eşitleyebileceği durumlar üzerindeki etkileri incelenmemiştir. Buna karşın, önceki çalışmalar bağışsal mekanizmalarda, ilk katkının hem kaynağının, hem de boyutunun önemini ortaya çıkarmıştır (Vesterlund, 2003; Eckel vd., 2005; Gneezy vd., 2014; O'Garra & Sisco, 2020). Dolayısıyla ilgili durumların, hem normlar hem de gerçekleşen davranışlar açısından incelenmesi, akranların hem sosyal norm algıları hem de norm uyumlu davranışlar üzerindeki etkilerininin daha iyi anlaşılmasına olanak vermektedir.

Bu çalışma önceki çalışmalardan farklı olarak, paylaşım normları ve gerçekleşen paylaşım davranışları üzerindeki akran etkilerini, hem karar alıcının tüm taraflar için adil paylaşımı gerçekleştirebilecek eylemleri üzerinde incelerken hem de teslim alıcının ilk kazanç seviyesine bağlı olarak, karar alıcıların, yalnızca teslim alıcı ve kendileri aralarındaki kazançları eşitleyebileceği eylemleri üzerinde incelemektedir. Daha açık bir ifadeyle, teslim alıcının ilk kazanç seviyesine bağlı olarak, karar alıcı teslim alıcı ve kendisi arasındaki kazançları, farklı eylemler yoluyla üç farklı durumda eşitleyebilmektedir. Bununla birlikte, akran da kazanç kıyaslamalarına dahil edildiğinde, tüm taraflar için adil paylaşım (fair allocation), teslim alıcının akran tarafından belirlenen ilk kazancına bağlı olarak, tek bir durumda eşitlenmektedir. Dolayısıyla, bu çalışmada kullanılan deneysel dizayn, akran etkilerini hem adil paylaşımla kazançları eşit paylaşabilen kişi sayısındaki artış hem de bağışsal (charitable) bir mekanizmada, ihtiyaç sahibine yapılan ilk katkının miktarı ve kaynağı açısından incelemektedir.

Bu çalışma, karar alıcıların, teslim alıcının ilk kazancına bağlı olarak, kendileri ve teslim alıcı arasındaki kazançlarını farklı eylemler yoluyla eşitleyebilmeleri bakımından, önceki çalışmalardan farklıdır. Bu çalışmaya en yakın çalışma Gachter

vd., (2017)'ne aittir. İlgili çalışma iki deneyden oluşmaktadır. Bunlardan ilki, KW methodu kullanılarak norm çıkarımlarının yapıldığı deney iken, diğeri çıkarımı yapılan normların gerçekleşen davranışlarla olan ilişkisini incelemek için düzenlenen ve diktatör oyunu kümelerinden oluşan bir deneydir. İlk deneydeki katılımcılardan, karar alıcının, akranın transferleri sonucunda karşı karşıya kalabileceği her bir durumda yapabilecekleri eylemleri, sosyal uygunluk açısından değerlendirmeleri istenmiştir. Diğer deneyde ise, karar alıcıların gerçekleşen davranışları, teslim alıcının her bir olası kazanç seviyesinde, teslim alıcıya ne kadar göndereceklerini belirtmeleri istenerek incelenmiştir. Akranın, karar alıcıların transfer tercihleri üzerindeki etkilerini daha iyi gözlemlemek için, akranın bulunmadığı ve teslim alıcının ilk kazancının aynı aksiyon kümesinden rastgele belirlendiği bir kontrol tretmanı da çalışmada incelenmiştir. Çerçeveleme etkilerini (framing effects) incelemek için, olası kazançların muadil olduğu (payoff equivalent) ancak farklı eylemleri gerektiği iki farklı diktatör oyunu da çalışmaya eklenmiştir. Dolayısıyla her iki deneyde de akranın varlığı ve diktatör oyunu varyantlarına göre tanımlanan, 2x2 ve denekleraras bir deneysel dizayn kullanılmıştır.

Bu çalışmada ise Gachter vd. (2017)'den farklı olarak, akranların norm algıları ve norm uyumlu davranışlar üzerindeki etkileri, karar alıcının kazancını, akranın transferlerine bağlı olarak teslim alıcı ile eşitleyebileceği çoklu durumlar üzerinde incelenmiştir. Buna ek olarak, kullanılan deneysel dizaynda, akranı da içeren tüm taraflar için adil paylaşımı mümkün kılan eylemin, aksiyon kümesindeki konumu orta noktada belirlenmiş olup, daha önce List (2007), Bardsley (2008) çalışmalarında gözlemlenen aksiyon kümeleri değişiklikleri ile Ockenfels (2014)'de bulunan skala manipülasyonları etkilerinin, adil paylaşım normları ve paylaşım davranışları açısından da incelenmesine olanak sağlanmıştır. Bununla birlikte kullandığımız deneysel dizayn, Krupka & Weber (2013) çalışmalarında gözlemledikleri ve diktatör oyunlarında teslim alıcının oyunu daha yüksek kazançlarla bitirebileceği cömert diktatör eylemleri üzerindeki sosyal normların muğlaklığının (norm ambiguity), akranların varlığı durumunda da incelememize izin vermektedir.

Bu çalışmanın ilk aşamasında, KW methodu kullanılarak, karar alıcının aksiyonları üzerindeki norm çıkarımlarının yapıldığı bir deney düzenlenmiştir. Rassal ve anonim

olarak ikili gruplara ayrılan katılımcılara standart davranışsal deneyin bir açıklaması sunulmuş ve paylaşım tercihlerini incelemek için kurulan diktatör oyunlarındaki tretmanlarda, teslim alıcının ilk kazancına bağlı olarak, karar alıcının karşı karşıya kalabileceği durumlar karşısında seçebileceği eylemleri sosyal uygunluk açısından raporlamaları istenmiştir. Sosyal uygunluk değerlendirmeleri, altı opsiyonlu bir Likert skalasında (1-6 aralığı; 1. sosyal olarak en uygunsuz; 6. sosyal olarak en uygun) katılımcılara sunulmuştur. Spesifik olarak, akranın var olduğu ve teslim alıcının ilk kazancını belirlediği ardışık hareketli bir diktatör oyununda (sequential move dictator game), akranın yapabileceği transfer sonucu belirlenen teslim alıcının ilk kazanç seviyelerinde, katılımcılardan ikinci diktatörün yapabileceği transfer miktarlarını sosyal uygunluk açısından raporlamaları istenmiştir. Diğer bir tretmanda ise, akran etkilerinin daha iyi gözlemlenmesine imkan veren bir kontrol tretmanı kullanılmıştır. Bu tretmanda, akranın yapabileceği transfer miktarlarını içeren aksiyon kümesindeki eylemlerden bir tanesi, bilgisayar tarafından tekdüze bir dağılımla (uniform distribution) seçilerek teslim alıcının ilk kazancı belirlenmiş ve yine teslim alıcının rassal olarak belirlenen ilk kazancı sonucu ortaya çıkabilecek her bir durumda, diktatörün seçebileceği eylemlerin sosyal uygunluk değerlendirmeleri katılımcılar tarafından raporlanmıştır. Bunlara ek olarak, Gachter vd. (2017)'de olduğu gibi çerçeveleme etkilerini (framing effects) de incelememize imkan sağlayan ve olası kazançların muadil olduğu ancak farklı eylemleri gerektirdiği iki diktatör oyunu varyantı da çalışmada incelenmiştir. Buna göre, deney tretmanları, akran varlığı ve oyun varyantını içerecek şekilde, 2x2 denekler arası bir dizaynda tasarlanmıştır. Katılımcıların kazançları, ikili gruplar içindeki raporların birbirlerine olan benzerliğine göre belirlenmiştir. Her grup için, teslim alıcının ilk kazancının belirlendiği bir durum ile bu durum karşısında, karar alıcının seçebileceği eylemlerden bir tanesi rassal olarak bilgisayar tarafından seçilmiştir. Seçilen durumda, katılımcıların sosyal uygunluk değerlendirmeleri karşılaştırılmış ve raporlamaları aynı olan katılımcılar, katılım payına ek olarak 40 TL kazanmıştır. Eğer seçilen durumda ikili gruplar içersindeki katılımcıların değerlendirmeleri aynı değil ise, katılımcılar ekstra bir kazanç sağlayamamıştır.

Çalışmanın diğer aşamasında ise, norm çıkarımlarını yaptığımız durumlardaki gerçekleşen davranışları incelemek için, standart bir davranışsal deney düzenlenmiştir.

Bu deneyde, norm çıkarımı yapılan ve akranın varlığı ile diktatör oyunu varyantına göre belirlenen tretmanlardaki gerçekleşen davranışlar incelenmiş olup, çıkarımı yapılan normlarla olan ilişkilerinin ölçülmesine olanak sağlanmıştır. Buna göre, akranın var olduğu tretmanlarda bir çok oyunculu ardışık hareketli diktatör oyununda ikinci diktatörün transfer tercihleri incelenirken, akranın var olmadığı tretmanlarda aynı aksiyon kümesinden tekdüze bir dağılımla, teslim alıcının ilk kazancının bilgisayar tarafından rassal olarak belirlendiği bir diktatör oyununda, diktatörün transfer tercihleri incelenmiştir. Tüm katılımcılar, bulundukları tretmana göre, rassal ve anonim şekilde ikili ya da üçlü gruplara ayrılmış olup, standart davranışsal deneydeki rolleri rassal şekilde bilgisayar tarafından belirlenmiştir. Yine kazançların muadil olduğu fakat farklı aksiyonları gerektiren iki ayrı diktatör oyunu varyantı da standart davranışsal deneydeki çerçeveleme etkilerini gözlemlemek üzere çalışmaya eklenmiştir. Norm çıkarımı deneyine özdeş olacak biçimde, akranın varlığı ve diktatör oyununun varyantına bağlı olarak tasarlanan, 2x2 denekler arası dizayn deneyde kullanılmıştır. Deneyde, deneysel bir para birimi olarak "puan" kullanılmıştır. 1 puan 5 TL olarak belirlenmiş olup, diktatör oyunlarından yalnızca verme opsiyonlarının bulunduğu "verme" oyunu (give game) varyantında, aktif oyuncular, oyuna 6 puan ile başlarken, teslim alıcı 0 puan ile başlamıştır. İlgili oyunda, aktif oyuncular için belirlenen aksiyon kümesi 0 puan ve 4 puan kapalı aralığıdır. Verme oyunundaki olası kazançlara özdeş bir şekilde tanımlanan "alma" oyununda (take game) ise, aktif oyuncular, oyuna 5 puan ile başlarken, teslim alıcı 2 puan ile başlamıştır. Alma oyununda, aktif oyuncular için belirlenen aksiyon kümesi, negatif değerin teslim alıcıdan alma eylemini belirttiği, -1 puan ve 3 puan kapalı aralığıdır. İki oyunda da transfer miktarları 1'er puanlık artışlarla belirlenmiştir. Dolayısıyla iki oyun versiyonunda da olası kazançlar eşit olup, ilgili kazançlara yol açan eylemler oyunlar arasında farklılık göstermektedir. Tüm tretmanlarda, ikinci hareketçinin transfer tercihleri strateji methodu (Selten, 1967) kullanılarak toplanmıştır. Buna göre, teslim alıcının olası tüm ilk kazanç seviyeleri için, akranın var olduğu tretmanlardaki ikinci diktatörlerden ve akranın var olmadığı tretmanlardaki diktatörlerden, teslim alıcının her bir ilk kazanç seviyesindeki transfer tercihlerini belirtmeleri istenmiştir. Ödemeler, teslim alıcının gerçekleşen ilk kazancının, ilgili durumdaki ikinci hareketçi tercihleri ile eşleştirilmesiyle belirlenmiştir.

Her iki deneyde de, “akran”, “diktatör”, “teslim alıcı” gibi ifadelerden uzak durulmuş, bunun yerine, “X kişisi”, “Y kişisi” ve “Z kişisi” gibi isimlendirilmelerden faydalanılmıştır. Deneyler başlamadan önce katılımcılar, demografik bilgilerin toplandığı bir anket yanıtlamışlardır. Ankette, katılımcının cinsiyeti, yaşı, daha önce Oyun Teorisi, Davranışsal İktisat ya da Deneysel İktisat derslerinden herhangi birini alıp almadığı, aylık geliri, kardeş sayısı ve bölümü hakkındaki bilgiler toplanmıştır. Bu ankete verilen yanıtlar, ilgili analizlerde kontrol değişken (control variable) olarak kullanılmıştır. Norm çıkarımı deneyinde 44 kişi istihdam edilmiş olup, standart davranışsal deneyde 100 kişi istihdam edilmiştir.

Gachter vd. (2017) çalışmasından yola çıkılarak, norm çıkarımı deneyinde kullanılan ve sosyal uygunluk değerlendirmelerinin raporlandığı Likert skalasındaki opsiyonlara, sosyal olarak en uygunsuzdan, sosyal olarak en uyguna olacak şekilde, -1, -0.6, -0.2, 0.2, 0.6 ve 1 sayısal değerleri verilerek, normların kantatif şekilde ölçülmesine olanak sağlanmıştır. Yine, iki deneyde de diktatör oyunları varyantları aracılığıyla incelenen çerçeveleme etkilerini daha kolay şekilde analiz etmek için, “alma” oyunundaki eylemler, aynı kazançlara yol açan “verme” oyunundaki ilgili eylemlerle eşleştirilerek veri setine eklenmiştir. Dolayısıyla ilgili analizlerde “alma” oyunu bir kukla değişken (dummy variable) olarak kullanılmış ve çerçeveleme etkilerinin ölçümleri sağlanmıştır.

Bu çalışmada ilk olarak, norm çıkarımı deneyindeki, sosyal norm algıları üzerindeki akran etkileri incelenmiştir. Parametrik olmayan testler için, sosyal uygunluk değerlendirmelerinde, negatif (sosyal olarak uygunsuz) ve pozitif (sosyal olarak uygun) skorların kümelendirildiği ve ilgili değişkenlerle olan ilişkilerinin incelendiği 2x2 ihtimal tabloları (contingency table) kullanılmıştır. Parametrik olmayan testlerden elde edilen sonuçlar, teslim alıcının ilk kazancının akran ya da rassal olarak bilgisayar tarafından minimum seviyede belirlendiği durumlarda diktatörün kendisi ve teslim alıcı arasındaki kazançları eşitleyebileceği eylemleri üzerinde sosyal uygunluk değerlendirmeleri açısından bir fark olmadığını, teslim alıcının ilk kazancının minimum seviyede belirlendiği durumda, diktatörün kendisi ve teslim alıcı arasındaki kazançları eşitleyen eylemlerinin; teslim alıcının ilk kazancının en yüksek olduğu durumdaki kazanç eşitleyen (payoff-equalizing) eylemlerine göre sosyal normlar

açısından daha uygun bulunduğunu ve deneysel dizaynımızın bir sonucu olarak, teslim alıcının ilk kazancının maksimum seviyede olduğu durumda, alma oyunuda diktatörün kendisi ile teslim alıcı arasındaki kazançlarını eşitleyen statükocu (status quo; Samuelson & Zeckhauser, 1988; Kahneman vd., 1991) eylemleri üzerindeki sosyal uygunluk değerlendirmelerinin, verme oyununda icrai paylaşım fiilleri (act of comission; Cox, 2017) gerektiren eylemleri üzerindeki sosyal uygunluk değerlendirmelerinden daha yüksek olduğunu göstermiştir.

Deney sonuçlarını daha formal bir şekilde incelemek ve çıkarımı yapılan normlara uyan bir karar alıcının yapması beklenen aksiyonları hakkında daha fazla çıkarım yapmak için, ilgili deneyde OLS ve Probit modelleri de incelenmiştir. Elde edilen bulgulara göre, sosyal uygunluk değerlendirmeleri ile diktatörün teslim alıcıya transfer ettiği miktarlar arasında pozitif bir korelasyon gözlemlenmiştir. Bu durum tüm tretmanlar için geçerlidir. Buna ek olarak, akranın yaptığı transfer miktarları ile, sosyal uygunluk değerlendirmeleri arasında lineer bir korelasyon gözlemlenmemiştir. Yine akranın bulunduğu tretmanlarda, sosyal uygunluk değerlendirmeleri, alma oyunuda, verme oyununa göre genel düzeyde daha yüksektir. Diğer taraftan, teslim alıcının ilk kazancının bilgisayar tarafından rastgele belirlendiği durumlarda, teslim alıcının ilk kazancı ile sosyal uygunluk değerlendirmeleri arasında pozitif bir korelasyon olduğu gözlemlenmiştir. Bu ilişki, diktatörün cömert olmayan eylemleri üzerinde daha belirgindir. OLS ve sıralı probit model sonuçları birbirleri ile özdeştir.

Akranların teslim alıcıya transfer ettiği miktar ve diktatörün transferlerinin sosyal uygunluk değerlendirmeleri arasında lineer bir ilişki gözlemlenmese de, diktatörlerin kendileri ve teslim alıcı arasında adil paylaşımı sağlayabileceği durumlardaki akran etkilerini incelemek için bir probit modeli de deneyin analizlerine eklenmiştir. Probit analizinin sonuçlarına göre, teslim alıcının ilk kazancının en yüksek olduğu durum haricinde, diktatörün kendisi ve teslim alıcı arasındaki kazançları eşit paylaşabildiği diğer durumlarda, ilgili eylemleri seçmesi, sosyal uygunluk değerlendirmeleri üzerinde pozitif bir etkiye yol açmaktadır. İlgili adil paylaşım eylemlerinde, sosyal uygunluk değerlendirmeleri üzerinde en yüksek pozitif etkiye sahip olan eylem aksiyon kümesinin ortasında yer almakta olup, OLS analizinde gözlemlenen diktatör transferleri ve sosyal uygunluk değerlendirmeleri arasındaki pozitif korelasyon ile

birlikte yorumlandığında, daha önce Ockenfels vd. (2014)'in çalışmasında gözlemlenen diktatör oyunlarındaki skala etkisi, paylaşım tercihleri üzerindeki normatif görüşler üzerinde de geçerlidir. Bununla birlikte, teslim alıcının ilk kazancının akran tarafından belirlendiği ve diktatör ile teslim alıcı arasında adil bir paylaşıma yol açan durumlar arasında, akran etkisi yalnızca, diktatörün akranın da dahil olduğu tüm taraflar için adil paylaşımı sağlayabileceği aksiyon kümesinin ortasında bulunan eylemi üzerinde pozitif olarak mevcuttur. Parametrik olmayan testlerde gözlemlendiği gibi, teslim alıcının ilk kazancının en yüksek seviyede olduğu durumda, diktatörün transfer tercihleri üzerindeki sosyal uygunluk değerlendirmeleri alma oyununda, verme oyununa göre daha yüksektir. Bu durum, diktatörün, alma oyununda statükocu bir eylem yoluyla akran ve kendisi arasındaki kazançları eşitleyebilmesi açısından, çıkarımı yapılan normların statüko yanlılığına (status quo bias) müsaade ettiğini göstermektedir.

Norm çıkarımı deneyinden elde edilen regresyon analize sonuçlarına göre, norma uyan bir diktatörün transferleri ile akranın yaptığı transfer miktarı arasında lineer bir ilişki olmaması, akranın var olduğu tretmanlar için, diktatörlerin alma oyununda verme oyununa göre daha bencil davranması, teslim alıcının ilk kazancı bilgisayar tarafından rassal olarak belirlendiğinde, diktatör transferleri ve teslim alıcı kazançları arasında negatif bir korelasyon olması beklenir. Buna ek olarak, teslim alıcının ilk kazancının aksiyon kümesinin ortasındaki eleman ile belirlendiği durumda, teslim alıcı ile kazançlarını eşitleyen diktatör oranınn akranın var olduğu tretmanlarda, akranların olmadığı tretmanlara göre daha fazla olması beklenir.

Çıkarımı yapılan normların gerçekleşen davranışlarda ne kadar gözlemlenip gözlemlenmediğini anlamak için, norm çıkarımı deneyinde kullanılan ekonometrik methodlara benzer yöntemler kullanılarak, gerçekleşen diktatör eylemleri üzerine incelemeler yapılmıştır. Norm çıkarımı deneyinde olduğu gibi, parametrik olmayan testlerle başlanan analizlerden ilkinde, teslim alıcının ilk kazancının en düşük seviyede belirlendiği durumda, teslim alıcı ile kazançlarını eşitleyen diktatör oranının, akranın olduğu tretmanlarda, akranın olmadığı tretmanlara göre 20% daha az olduğu bulunmuştur. Dolayısıyla, akran teslim alıcının ilk kazancını minimum seviyede belirlediğinde akran varlığının bir seyirci etkisine (bystander effect) yol açtığı

gözlemlenmektedir. Diğer bir bulgu ise, teslim alıcının ilk kazancının en yüksek seviyede belirlendiği durum ile en düşük seviyede bulunduğu durumlar arasında, teslim alıcı ile kazançlarını eşitleyen diktatör oyuncu oranının değişmediğidir. Yine, dizaynımızın bir sonucu olarak ortaya çıkan ve teslim alıcının ilk kazancının en yüksek olduğu durumda, oyunun varyantına bağlı olarak statükocu eylemler ya da icrai fiiller yoluyla teslim alıcı ile arasındaki kazançları eşitleyen diktatör oyuncu oranları arasında bir fark gözlemlenmemiştir.

Diktatör transferleri üzerindeki akran etkilerini daha detaylı bir şekilde incelemek için, bir OLS modeli, ilgili analizlere eklenmiştir. Buna göre, teslim alıcının ilk kazancı ile diktatör transferleri arasında negatif bir korelasyon vardır. Bu negatif korelasyon, akranın olduğu ya da olmadığı tretmanlardan bağımsız olup, ilgili tretmanlar arasında süreklidir. Gözlemlenen negatif korelasyon, teslim alıcının ilk kazancının akran tarafından belirlendiği tretmanın verme oyununda alma oyunundan daha yüksektir. Akranın bulunmadığı tretmanda ise, verme oyununda gözlemlenen negatif korelasyon, alma oyununda hem işaret hem de mutlak büyüklük değiştirmiş, dolayısıyla, rassal bir şekilde belirlenen teslim alıcının ilk kazancı ile diktatör transferleri arasında pozitif bir korelasyon gözlemlenmiştir.

Yine diktatörün kendisi ile teslim alıcı arasında kazançlarını eşitleyebileceği durumlardaki transfer tercihleri üzerinde probit analizi yapılmış olup, parametrik olmayan testlerde de gözlemlenmiş olan, teslim alıcının ilk kazancı minimum noktada belirlendiği durumdaki akran etkilerinin seyirci kalma etkisi kanalı ile diktatör tercihlerini etkilediği bulunmuştur. Norm çıkarımı deneyinde yapılan probit analizinde gözlemlenen diğer tüm bulgular, standart davranışsal deneyde, dolayısı ile gerçekleşen davranışlarda gözlemlenememiştir.

İlgili deneylerden elde edilen sonuçlara göre, norm modeli, gerçekleşen davranışları yalnızca kısmen açıklamaktadır. Spesifik olarak, verme oyunun akranın olmadığı tretmanındaki, teslim alıcının rassal olarak belirlenen ilk kazancı ile diktatör transferleri arasındaki negatif ilişki, çıkarımı yapılan normlar ile uyumludur. Bu bulgu, Gachter vd. (2017)'de bulunan sonuçları doğrulamaktadır.

Norm çıkarımı ve davranışsal deneylerde gözlemlenen uyuşmazlığın sebebini açıklayabilecek diğer davranışsal mekanizmalar da çalışmada incelenmiştir. Bunlardan ilki, Gachter vd. (2017) tarafından da incelenmiş olan ve norm çıkarımı deneyinde ortaya çıkabilecek olan norm muğlaklığı (norm ambiguity) olabilir. Norm çıkarımı deneyinde toplanan veriler, niteliksel bir biçimde incelendiğinde, akranın kimi durumlarda normlar üzerinde bir fikir birliği yaratarak, normların algılanmasını kolaylaştırdığı, kimi durumlarda ise, tersi bir etkiye yol açarak, norm muğlaklığını arttırdığı gözlemlenmiştir. Buna karşın, dizaynımızın bir sonucu olarak, daha önce Krupka & Weber (2013) çalışmasında da gözlemlenen ve teslim alıcının diktatörden daha fazla kazançla oyunu bitirmesine yol açan hipercömert (hypergenerous) eylemler üzerindeki norm değerlendirmelerinde, katılımcılar arasındaki fikir birliğinin daha güç sağlandığı görülmüştür. Bu durum çalışma boyunca kullanılan norm modelinin, gerçekleşen davranışları açıklamada yeterli olmadığını akıllara getirmiştir.

Buna ek olarak daha önce Gachter (2017) tarafından kullanılan ve ilgili çalışmada, normlara uyumlulukta birey bazındaki heterojenitenin (individual level heterogeneity), normlardan sapmaya yol açtığını göstermiş olan bir karma logit (mixed logit; Hole, 2007) modeli de çıkarımı yapılan normlar ve norma uygun davranışlar arasındaki uyuşmazlığı açıklamak için tretman bazında incelenmiştir. Karma logit modelinin sonuçlarına göre, ortalama ve medyan sosyal uygunluk değerlendirmeleri, diktatörlerin transfer tercihleri üzerinde yalnızca akranın olmadığı verme oyununda etkilidir. Üstelik, standart davranışsal deneyde ilgili tretmana katılan deneklerin neredeyse tamamı, ilgili tretman için çıkarımı yapılan normlarla aynı yönde hareket etmiştir.

Gerçekleşen davranışlar ve çıkarımı yapılan normlar arasındaki uyuşmazlıkları incelemek için, diğer davranışsal modellerin bazılarından faydalanılmışıtr. Bunlardan ilki, eşitsizlikten kaçınma (inequity aversion; Fehr & Scmidt, 1999) modelidir. Model, geleneksel diktatör oyunlarındaki eşitsizlikten kaçınma davranışlarını parçalı doğrusal bir fonksiyon üzerinden inceleyip, diktatör oyunlarındaki iç çözümleri (interior solution) yok saymaktadır. Aslında, deneyimizde gözlemlenen diktatör tercihlerinin büyük kısmı (67%), oyunu iç çözüm kümesinde sonlandırmıştır. Yine modele göre,

akranın var olduğu tretmanlarda akran ve diktatör transferleri arasında pozitif bir korelasyon olmalıdır.

Diğer davranışsal modellerden bir diğeri, daha önce Charness & Duffenberg (2006) tarafından literatüre kazandırılan suçtan kaçınma (guilt aversion) modelidir. Bu modele göre, bireylerin karar alma motivasyonlarının kaynağını, diğerlerinin onlardan olan beklentileri oluşturmaktadır. Modelin gözlemlediğimiz davranışsal veriyi açıklayıp açıklamadığını incelemek için, diktatörlerin, teslim alıcının kendilerinden olan beklentileri hakkındaki ikinci-dereceden inançlarına başvurmak gerekmektedir. Ancak, çalışmamızın ana konusu, diktatör aksiyonlarını gerekçelendirmek olmadığından, diktatörlerin teslim alıcı beklentileri hakkındaki ikinci-dereceden inançları üzerine bir anket gerçekleştirilmemiştir. Buna ek olarak, diktatörlerin teslim alıcı beklentilerini doğru şekilde tahmin ettiğini var saydığımızda, suçtan kaçınma modeli de gözlemlerini yaptığımız davranışları genel düzeyde (aggregate level) açıklamamaktadır.

Moffat & Zevallos (2021) tarafından literatüre kazandırılan diğer bir model ise, Stone-Geary fayda fonksiyonun kullanıldığı ve diktatör oyunlarındaki iç çözümlerin de incelenebildiği bir Kuhn-Tucker modelidir. Modele göre, diktatörler, kendileri için belirledikleri "kabul edilebilir asgari kazanç" (minimum acceptable payoff for self, MAPS) ile teslim alıcı için belirledikleri "diğeri için kabul edilebilir asgari kazanç" (minimum acceptable payoff for other, MAPO) tercihleri aracılığıyla faydalarını arttırabilmektedir. Modelin simule edilen en çok olabilirlik (simulated maximum likelihood) yöntemi ile tahmin edilen parametrelerine göre, diktatörler akranın olduğu tretmanlarda, akranın olmadığı tretmanlara göre daha bencil tercihler yapmakta olup, alma oyununda, verme oyununa kıyasla daha cömerttirler. Buna rağmen, modeldeki parametre tahminlerinin standart olmayan bir tahmin yöntemi ile gerçekleştirilmesi sebebiyle, ilgili modelde tretmanlara göre tanımlanmış olan değişkenler için parametrelerinin açıklayıcı güçlerinin (power) test edilmesi gerekmektedir. Bunun için, Monte Carlo simülasyonlarından faydalanılmıştır. Monte Carlo simülasyonlarındaki sonuçlara göre, model tretmanlara göre tanımlanmış değişkenlerinden sadece oyun varyantı üzerindeki parametre istatiksel olarak anlamlıdır.

İlgili model, deneyimizde gözlemlenen diktatör hareketlerini açıklamakta olup, diktatörlerin oyunlar arasındaki bencillik tercihleri farklılıklarının, norm uyumlu davranışlar üzerinde gözlemlenen heterojenitenin kaynağını oluşturduğunu göstermiştir.

Çalışmamızda, skala manipülasyonlarının, adil paylaşım tercihleri üzerindeki normatif görüşler üzerinde etkileri olduğu bulunmuş olsa da, bu etkiler gerçekleşen paylaşım tercihlerinde gözlemlenememiştir. Yine de, bu etkilerin daha büyük veri setleri kullanıldığında gerçekleşen davranışlar üzerinde de etkileri olabileceğini düşünmekteyiz. Buna ek olarak, literatürde görece yeni bir zamanda yerini almış olan ve davranışsal deneyimizde gözlemlenen diktatör tercihlerinin çıkarımı yapılan normlar ile olan ilişkisini açıklamakta başarılı olan bir modelin, diğer benzer deneysel dizaynlarda da kullanılabileceğini ve literatürde yeni çıkarımlar yapılmasına olanak vereceğine inanmaktayız. Çalışmamızdaki bulgulara göre, üçüncü bir taraf olarak, norm uygulayıcının (norm enforcer) da benzer dizaynlara eklenmesinin, normatif görüşler ile gerçekleşen davranışlar arasında korelasyonun gözlemlenebileceği denekler içi dizaynın kullanılmasının ve transfer edilebilir miktarların boyutlarındaki farklılıkların benzer deneysel dizaynlardaki etkileri, gelecek çalışmalarda incelenebilecek sorulardır.

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