KADIR HAS UNIVERSITY
SCHOOL OF GRADUATE STUDIES
PROGRAM OF PSYCHOLOGICAL SCIENCES

DO META-ETHICAL BELIEFS PREDICT ACTUAL MORAL BEHAVIOR?

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MASTER OF ARTS THESIS

ISTANBUL, AUGUST, 2023

DO META-ETHICAL BELIEFS PREDICT ACTUAL MORAL BEHAVIOR?

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A thesis submitted to
the School of Graduate Studies of Kadir Has University
in partial fulfilment of the requirements for the degree of
Master of Arts in Psychological Sciences

Istanbul, August, 2023

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In addition, I acknowledge that any claim of irregularity that may arise in relation to this work will result in a disciplinary action in accordance with the university legislation.

Melike Albayrak

_____

Date(08/08/2023)

To my dear family…

ACKNOWLEDGEMENT

First of all, I would like to thank Onurcan Yılmaz, who advised and guided through my master's education. Thanks to him, I started this journey; he has had and will continue to impact on every step of it.

Later, I would like to offer eternal thanks to my undergraduate teacher Hasan Bahçekapılı, who gave me the ability to learn scientific literacy and critical thinking, did not accept the rote psychology education and aimed to teach genuine science to his students, had an influence on me enough to make me think that I would be a completely different person if our paths had not been crossed. I am grateful that he took his time in our article discussions and patiently gave lengthy answers to questions that, I am sure, seemed very basic to him. I hope our meetings will never end.

I want to thank my professors who accepted me to the master's program, Adil Sarıbay, who agreed to be my jury member, and MINT lab members who made the graduate process more enjoyable. I also want to thank Ensar Acem and Fırat Şeker, who contributed to the advancement of this thesis, for their efforts, and especially my friend İlayda Velioğlu, for supporting me in my difficulties and for her big heart.

I acknowledge the TÜBİTAK scholarship opportunity and Templeton Religion Trust for making this research possible with the funds it provided.

I am also thankful to Gülsena Çil, who is a great friend in both my academic and private life. I am grateful to my adoring husband, Mustafa Albayrak, for his endless love and constant support. Finally, I would like to express my gratitude to my parents, Zeliha and Numan Hocaoğlu, who have supported and encouraged me in every way possible. Selman and Nimet Hocaoğlu, my favorite nephew Ali Emir, and my dear sister Merve Hocaoğlu for being a part of my life.

ABSTRACT

Although existing studies in the literature indicate that meta-ethical beliefs influence a wide range of attitudes and behaviors, including religious belief and moral decision-making, most of these studies suffer from small sample sizes or adopt a cross-sectional design. To the best of our knowledge, no research has examined whether such beliefs have a significant and stable impact on people's actual behavior over long periods. In this study, our goal is to investigate the predictive validity of meta-ethical beliefs, such as moral objectivism and subjectivism, on various moral behaviors, such as prosociality and punishment among pre-identified believers (e.g., Christians) and non-believers (atheists and agnostics) over a 7-month period. The participants were recruited from Prolific, and an almost equal number of believers and non-believers were preselected using the Prolific screening information. The findings revealed that while objective morality did not significantly predict prosociality, they did exhibit a significant trend with punishment behavior, which serves as a form of cooperative norm enforcement. This effect tended to be stronger among non-believers compared to believers. While moral subjectivism was not successful in independently predicting prosociality or punishment, grounding morality on divine authority was found to be related with prosociality. Additional tests regarding the moderating role of individual difference variables, which were measured in the pre-test, also did not show any significant association. These results support the notion that meta-ethical beliefs may serve as a significant driver of behaviors within moral domains specifically related to punishment, while their influence on prosocial behavior may be relatively less pronounced. Future research should delve into examining the distinct effects of meta-ethical beliefs on different forms of punishment, such as retributive punishment.

Keywords: objectivism, subjectivism, divine authority, prosociality, punishment

ÖZET

Literatürdeki mevcut çalışmalar meta-etik inançların dini inanç ve ahlaki karar alma dahil pek çok çeşitli tutum ve davranışı etkilediğini gösterse de bu çalışmaların çoğu küçük örneklem büyüklüğünden mustariptir veya kesitsel bir tasarıma sahiptir. Bildiğimiz kadarıyla hiçbir araştırma bu tür inançların insanların gerçek davranışları üzerinde uzun süreler boyunca önemli ve istikrarlı bir etkisi olup olmadığını incelememiştir. Bu çalışmada, nesnel ve öznel ahlak gibi meta-etiksel görüşlerin, ön-seçimle araştırmaya dahil edilmiş inançlı (örneğin Hıristiyanlar) ve inançlı olmayanlar (ateistler ve agnostikler) arasında 7 aylık süre zarfında prososyallik ve cezalandırıcılık gibi çeşitli ahlaki davranışları yordayıp yordamadığını araştırdık. Katılımcılar Prolific'ten seçilmiş ve Prolific tarama bilgileri kullanılarak neredeyse eşit sayıda inançlı ve inançlı olmayanlar şeklinde ayrılmıştır. Bulgular, nesnel ahlakın prososyalliği anlamlı bir şekilde yordamamasına rağmen, bir tür işbirlikçi norm yaptırımı işlevi gören ceza davranışıyla anlamlıya yakın ilişkiler sergilediklerini ortaya koymuştur. Bu etki, inançlılara kıyasla inançlı olmayanlar arasında daha güçlü olma eğilimindedir. Bununla birlikte öznel ahlak, bağımsız bir şekilde prosoyalliği veya cezalandırma davranışını yordamazken, ahlakın ilahi bir otoriteye dayandığı inancı prososyallik ile ilişkili bulunmuştur. Ön testte ölçülen bireysel farklılık değişkenlerinin düzenleyici rolüne ilişkin ek testler de anlamlı bir ilişki göstermemiştir. Bu sonuçlar, meta-etiksel inançların, özellikle ceza ile ilgili ahlaki alanlardaki davranışların önemli bir itici gücü olarak hizmet edebileceği fikrini desteklerken, prososyal davranış üzerindeki etkileri nispeten daha az belirgin olabileceğini ortaya koymuştur. Gelecekteki araştırmalar, meta-etik inançların intikamcı cezalandırma gibi farklı ceza biçimleri üzerindeki etkilerini incelemelidir.

Anahtar Sözcükler: nesnel ahlak, öznel ahlak, ilahi otorite, prososyallik, cezalandırma

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LIST OF SYMBOLS

α	Alpha (statistical significance)
Δ	Delta (overall change)

LIST OF ACRONMYMS AND ABBREVIATIONS

3PP: Third-party punishment

DEG: Deception game

DG: Dictator game

DT: Deception task

MC: Moral courage game (third-party punishment with counter punishment risk)

MFDA: Morality Founded on a Divine Authority

PD: Prisoner’s Dilemma

T.G.: Trust game

T.W: Trustworthiness game

1. INTRODUCTION

Meta-ethics is a branch of philosophy that ascertains the nature of moral philosophy, which involves the ultimate meaning of moral concepts, and the ultimate basis of moral judgments, such as the causes of diverse moral behaviors. This relatively novel area is reflected on by philosophers inveterately, yet its impact on daily practices such as prosocial behavior has not been a chief concern of researchers until lately. Even though there has been an ascend in the studies investigating meta-ethics and its impact on moral judgments, there are still very few studies investigating its relationship to different aspects of actual moral behavior such as prosociality and punishment. It is vital to meet this limitation and to explore whether diverse moral behaviors are predicted by diverse meta-ethical views such as moral objectivism and subjectivism, and the belief that morality is founded on a divine authority. The main contribution of this thesis is to test the predictive ability of three meta-ethical beliefs on diverse moral behaviors after a seven-month period.

Since philosophy and psychology have been mutually nurturing each other regarding the consequences of meta-ethical beliefs, it is vital to have some background knowledge of ethics, as defined in philosophy, before elaborating on psychology literature. It has been elucidated in detail in the first half of this introduction, but to briefly state, philosophical ethics centers its main interest on what we ought to do and has three essential branches: normative, practical, and meta-ethics. Normative ethics is interested in morally permissible and required actions, evaluation of moral dilemmas, and content of moral truth. It derives principles and theories to comprehend and opt for ethical judgment. Practical ethics applies these principles to issues we encounter on a daily basis. Debated dilemmas vary from business to politics and have been endeavored to agree upon reasonable solutions. Rather than focusing on applications or prescriptions, meta-ethics went beyond practical and normative ethics by investigating the underlying principles that structure moral judgment. Meta-ethics is essential to apperceive different ethical realms and also for individuals' insights. It is a thinking practice performed by reflecting

on moral properties and the absolute source of moral truths. In line with Socrates' quote, “The unexamined life is not worth living,” meta-ethics will only promote personal and social progress by reinforcing reflection on the origins of moral reasoning and morality.

The second half of the introduction epitomizes the study of morality from a psychological perspective. Originating from Piaget and Kohlberg’s moral development theories, morality has been scrutinized with the various advanced approaches of behavioral scientists. Social factors, evolutionary basis, and cultural components were considered, and attempts to have a systematic framework continued. Meta-ethics, on the other hand, still has issues such as the folk psychology or whether these views differ from social conventions. Thus, exertions mentioned in moral psychological research cannot be referred to the specific field of meta-ethical research since there was not even any common ground regarding the definition of meta-ethics that researchers could agree on (Sinnott-Armstrong, 2009). It is also unclear whether those beliefs would predict diverse moral behaviors even seven months later among believers (e.g., Christians) and non-believers. Still, preliminary behavioral studies with promising and mixed findings require further scrutiny.

Overall, this study aims to investigate the predictive power of diverse meta-ethical beliefs on prosocial and punishment behavior. However, it would be better to have more background knowledge about meta-ethics prior to research details.

1.1 What is Meta-ethics in Philosophy?

Before delving into the features of meta-ethics, one should be aware of how it differs from the general topic of philosophical ethics and other types of ethical areas. Philosophical ethics’ focus ranges from what we ought to do in terms of the way we live to our daily decisions with a comprehensive scope using reflective reasoning (Becker & Becker, 2001; Moore, 2005). It is a broad and complex field of study that scrutinizes what one should be like, feel, want, live, or do, right and wrong. Hence, it is inconceivable to

answer the questions it asks with a single response. There are three major classes of ethics: normative ethics, practical ethics, and our primary interest, meta-ethics (Fieser, 2015).

1.1.1 Normative ethics

As the name suggests, what can be considered "norm" ethically falls within the borders of normative ethics. What is the right or wrong thing to do? Which actions are morally permissible for me? What should I do when I am presented with a moral dilemma? Which judgment is morally true? All these questions are related to normative ethics and different theories that are part of normative ethics put forward different ways of reaching the right. It is also vital for a normative ethics theory to consist of either one principle or a set of principles connected with other principles (Yılmaz, 2015).

While several approaches can be mentioned in this field in the philosophy literature, if they are to be divided into two parties, the most prominent normative ethical views are the distinction between consequentialist or non-consequentialist judgments (Copp, 2005). According to consequentialism, whether an act is moral depends on the outcome it generates; that is, after performing the action, the resulting outputs can be compared, and thus it can be decided whether the action is good or not (Scheffler, 1988). One of the major subsections of consequentialism is utilitarianism. Similarly, it suggests the result of the action must maximize the greater good for all those who take action and are affected by it (Smart & Williams, 1973; Mill, 1863). On the other hand, non-consequentialist theories assume that general moral principles are more important than focusing on the consequences of actions. The most well-known view in this field is deontological ethics. As Kant (1785) suggested, you should act by following a principle you would be willing to see applied to everyone. If you want justice, you should not be unfair; if you want the truth, you should not be a liar; and if you want prosperity, you should not commit fraud. Utilitarianism and deontology have different perspectives in terms of ethical behavior. Although these two differences of normative views seem

theoretical and abstract at first glance when we think about them, we can understand that they can guide in determining our positions in diverse moral problems we encounter in daily life, so it is not surprising that normative ethics is one of the most studied philosophical topics of empirical psychology. How it is studied will be discussed in the section on ethics in psychology.

1.1.2 Practical ethics

Practical ethics, also known as applied ethics, is a relatively new area of philosophy that concerns using moral principles to make decisions about real-world problems (Singer, 2011). With her disputed article "A Defense of Abortion," Thomson (1971) pioneered the field's emergence. Positions debated here must have two sides of opposing opinions and be universally controversial to be a subject of practical ethics. Ethical problems in many disciplines (e.g., medicine, animal rights, journalism, politics, business, environment, and sexuality) are the direct subject of this field. Is it morally permissible for a doctor to perform an abortion? Should animals be used in the experiments of cosmetic companies? Can a journalist renounce her impartiality and make biased news just to support an opinion? Do politicians have the right to support the public by using the state's resources to gain an advantage in the elections? What are the limits of consensual sex? Even if climate change is not influencing our lives completely, should we take preventive measures to protect future generations? By discussing and reflecting on these questions, practical ethics attempts to provide solutions. While normative ethics mainly focus on employing general theories of right and wrong, practical ethics utilize these theories to judge specific daily problems (Wolff, 2021).

1.1.3 Meta-ethics

Rather than focusing on the content, consequences, or application of our moral judgments, the field that involves discussions on the nature of moral philosophy is meta-ethics. It attempts to understand but is not restricted to the following topics: epistemology, metaphysics, and the nature of morality, including the meaning of moral language, the ultimate basis of moral judgments, and behaviors (Miller, 2010: Sayre-McCord, 2023). Some of the questions meta-ethics explores are: How do we decide on our moral judgments? What is the source of moral rules? Are moral truths valid for everyone regardless of any conditions?" While the existence of moral rightness is pre-accepted in normative and practical ethics, and judgments are made based on this, meta-ethics does not agree with this assumption and tries to understand the nature of moral judgments by going one step back. However, it should not be considered less important or less attractive in this respect because we cannot fully understand other ethical realms without knowledge of meta-ethics. Suppose, for example, that two people, Ali and Emir, argue about the moral rightness of euthanasia and present opposing arguments. Whether Ali or Emir presents the correct argument may fall within the domain of normative/practical ethics, but what exactly they are trying to signify with these arguments, in terms of source and extent, is the domain of meta-ethics. Thus, normative and practical ethics are thematically first-level and more concrete, while meta-ethics is second level and more abstract (Chrisman, 2023).

Although metaethical discussions have existed since ancient times, until recently, it was generally considered to be a problem of the philosophy of language (Hudson, 1983). Following the publication of "Principia Ethica," Moore (1903) pioneered the separation of meta-ethics as a distinctive field, presenting a more scientific perspective by mentioning the necessity of operational definitions and establishing a more precise and systematic approach. Although there are many other conceptual distinctions among different philosophers in the domain of meta-ethics, we can recognize that meta-ethics is divided into two main branches: realism and anti-realism. This division has emerged since these two views have contrasted opinions about the existence of moral properties (Kirchin, 2012). Realists accept the existence of moral truths on any account, so even if

no one since the first human thought there was such a concept as "morality," or even if humans did not exist, there would still be morality. These moral properties can be objectively right or wrong irrespective of thought. Conversely, some anti-realists do not agree with these statements and advocate the exact opposite. Realism and anti-realism have different sub-types, such as naturalism and relativism as well. Several other remarks employ cognitivism and non-cognitivism as the first distinction to classify meta-ethical parties into different groups (van Roojen, 2015). As it is understood, there is no consensus on distinguishing the sub-fields of meta-ethics and how they should be used in research (Sinnott-Armstrong, 2009). Therefore, in this study, as used in most other psychology studies (Goodwin & Darley, 2010), meta-ethical views will be divided into two main parties: objectivism and subjectivism. Also, in addition to this distinction and considering its importance in the study, grounding morality on divine authority (Piazza & Landy, 2013) as an alternative moral objectivist theory will be added because it provides the source of moral judgments for religious believers whereas moral objectivism can be adopted by both believers and non-believers.

In brief, objectivism argues that moral truths exist independent of the human mind and any other factors. In contrast, subjectivism claims that moral facts are mind-dependent, relative, and can vary from personal preferences to contexts (Sayre-McCord, 1986). Grounding morality on divine authority accords with some forms of objectivism; here, what is morally right depends on the will of God, and there can be no other source (Nielsen, 1975). Returning to Ali and Emir's discussion about euthanasia may help us understand objectivism, subjectivism, and the belief that morality is founded on divine authority (MFDA). Suppose Ali argues that euthanasia cannot be defended under any circumstances and is entirely wrong. In that case, this indicates that he is morally objectivist, whereas Emir's defense that euthanasia can be applicable under certain conditions suggests that he is a subjectivist. If Ali refers to the source of his opposition to euthanasia as God's prohibition, it will be understood that he grounds his moral views on divine authority as an alternative form of moral objectivism.

1.2 Ethics in Psychology

After an elaborative examination of ethics in philosophy, this section will inform the reader about our primary interest; how morality is investigated in psychology discipline and other empirical areas. Since psychology and philosophy nourish each other theoretically and empirically and are influenced by their perspectives from past to present (Doris et al., 2017), it is necessary to understand both fields adequately.

In psychology, developmental (Piaget, 1932), cognitive (Haidt, 2001), evolutionary (Warneken et al., 2007) foundations, and the origins (Shweder et al., 1997) of morality have been investigated for a long time. Starting from Piaget and Kohlberg (1969), there has been an effort to generate a scientific moral theory. According to Piaget (1932), there are two main stages in moral development: the heteronomous period, in which morality depends on external authority, rules, and the consequences of behavior, and the autonomous period, in which intentions and personal perspective gain more importance. Based on this framework, Kohlberg (1969) later argued that morality develops in three main periods: while the results of actions and avoidance of punishment determine moral behavior in the pre-conventional period, as in Piaget's heteronomous period, social norms come to the fore in the conventional period, and finally in the post-conventional period, an individual develops his own ethical principles and leads to universal morality. Even though Kohlberg's theory is very influential and significant, it has also received lots of criticism for its gender (Gilligan, 1982) and culture-directed biases (Haidt, 2013), and some methodological errors (Rosen, 1980). One of the outstanding criticisms he has received regards connecting the moral decision-making process to rational thought. However, Haidt (2001) suggested in the “Social Intuitionist Model” that emotions play a more critical role in moral judgment. In compliance with the claim that defends the importance of intuition and evolutionary basis, Moral Foundations Theory (Graham et al., 2013) has emerged. This theory has five different foundations: avoiding harm (care/harm), being fair and punishing free-riders (fairness/cheating), being loyal to the group and excluding those who are not (loyalty/betrayal), respecting authority (authority/subversion), motivation to be pure (sanctity/degradation). Although it is a valuable tool for explaining the moral differences between political ideology (Haidt,

2013) and cultures (Doğruyol et al., 2019), this theory appears to be reductionist (Curry et al., 2019) in some respects. It does not explain the cultural (Berniunas et al., 2016) and contextual variances as much as the theory of Morality as Cooperation. In shaping moral behavior, Morality as Cooperation (Curry, 2016) focuses on social exchange, reciprocity, and cooperation from an evolutionary and game theoretical perspective on seven different dimensions: family values, group loyalty, reciprocity, heroism, deference, fairness, and property. The above-mentioned theoretical perspectives can be considered within the field of normative ethics, and now, we will look at how practical ethics is studied in psychology.

Practical ethics, which explores the application of normative claims to daily life, is generally focused on political differences and prosocial behavior in psychology and does not appear as an essentially disparate field. The relationship between political and religious beliefs and moral foundations (Yılmaz et al., 2016), analytical thinking (Bahçekapılı & Yılmaz, 2017; Yılmaz & Sarıbay, 2017), and prosociality (e.g., Shariff & Norenzayan, 2007; Yılmaz & Bahçekapılı, 2016) has been frequently investigated empirically. We now proceed to examine how meta-ethics is studied in psychology.

Until recently, meta-ethics was accepted as a field of mere philosophy, yet with the emergence of experimental philosophy, it has become an issue that psychologists and behavioral scientists have begun actively contributing to this field of research. Preliminary empirical studies mainly investigated the perceived dissimilarity of moral judgments from social conventions (Nichols, 2002) and the existence of a common meta-ethical ground in society. Nichols and Folds-Bennett (2003), which can be considered the first experimental study in this field, examined the meta-ethical opinions of children and showed that four- to six-year-olds can differentiate moral properties (good) from response-dependent properties (yummy, fun). Moral transgressions, such as pulling someone's hair, are accepted as morally wrong universally and independent of authority, suggesting that these children possess an objectivist moral stance. Further developmental evidence comes from Wainyrb et al. (2004) by using the earliest examples of disagreement paradigms with five, seven, and nine-year-olds. Children asked if hitting or kicking other children is okay or not. While Sarah thinks it is okay, Sophie is against it.

Children asked if both Sarah and Sophie could be correct or if they disagreed with it; which one of them was right? Choosing the option indicating that both of them are right indicates subjectivism, while choosing the option indicating only one of them is right indicates objectivism. Results suggest that all five- and seven-year-olds and almost all nine-year-olds are objectivists by stating only one person could be right in such a moral scenario. A similar procedure was used by Nichols (2004), but this time participants consisted of undergraduate students. Again, in the disagreement paradigm given about the correctness of hitting someone, 78% of the students chose the objectivist perspective in which one person must be wrong. Goodwin and Darley (2008) also used the disagreement paradigm. First, they presented participants with statements about four matters of morality ("Anonymously donating a significant proportion of one's income to charity is a morally good action"), taste ("Schindler's List is a better film than Police Academy"), conventions ("Calling teachers by their first name, without being permitted to do so, in a school that calls them ''Mr.'' or ''Mrs.'' is wrong behavior") and facts ("Homo sapiens evolved from more primitive primate species"), then asked their compliance with them. Afterward, all participants were asked about a different participant against their opinion and whether you, this person, or neither of you should be wrong. 107 of 152 participants suggest that the other participant must be wrong in moral statements. The findings of this study again indicate that most lay people are morally objectivist, and they perceive moral claims nearly as objective as facts.

As can be inferred from the studies summarized above, the idea that the folk generally has an objectivist meta-ethical view was dominant view in the literature. Nonetheless, there was also more recent research arguing the opposite of this argument. Sarkissian et al. (2011) assert that the reason behind the majority being objectivist may be the perceived cultural distance between participants and the moral agents in the ethical scenarios. While the participants retained objectivist views when the person in question was from their own culture, they tended to have a relativist stance when they belonged to a different culture or life form. In addition, Goodwin and Darley (2012) showed that adverse moral scenarios are perceived more objectively than likable ones, indicating that moral views may differ depending on the scenarios given in the studies. In light of these complex findings, Wright et al. (2013) began to advocate "meta-ethical pluralism," which

is the coexistence of both objectivism and subjectivism, rather than simply evaluating people's meta-ethical views in a single restricted domain. Many studies supported this intrapersonal variation (Pölzler et al., 2022: Pölzler & Wright, 2019; Pölzler & Wright, 2020; Wright, 2018; Wright, 2022). However, some studies still refer to the majority of the folk as objectivists, especially on detrimental behavior, which can be conceptualized as events that give rise to inequality (Sousa et al., 2021). There are also many criticisms of the methodology of meta-ethical research conducted by psychologists, often from philosophers (Bush & Moss, 2020; Davis, 2021; Hopster, 2019). As it can be understood, research on meta-ethics in psychology could not develop a systematic framework different from normative ethics or could not even agree on standardized methods or the definitions of the main concepts. However, this does not mean that the findings of meta-ethics research are useless to understand lay understanding of morality. On the contrary, as will be discussed in the following sections, the impact of our meta-ethical views on our daily lives is substantial, so it is essential to identify the behavioral consequences of those beliefs.

1.2 Causes and Consequences of Meta-ethics

Religious belief can be considered one of the causes of having an objective moral view in general, grounding morality on divine authority in particular. Although there are several empirical research on morality and religion (Johnson et al., 2013; Shariff & Norenzayan, 2011), less is known about meta-ethics, and they will be summarized in this section.

Goodwin and Darley (2008) tested their prediction about the relationship between objectivity and grounding their own ethical system to a deity by presenting participants with four different options of moral source: the divine being, universality, protection of social order, and self-evidence. Across these options, choosing the divine being as a moral source was the foremost predictor. Those who declare that morally right and wrong are inconceivable independent of the existence of God are the most invariable

objectivists. Piazza and Landy (2013) generated a scale to measure the belief that Morality is Founded on a Divine Authority (MFDA) and found a high correlation with self-reported religiosity. One of the first experimental studies examining the causal relationship between meta-ethical views and religious beliefs was conducted by Yılmaz and Bahçekapılı (2015). After demonstrating the negative correlation between subjectivism and religiosity, they primed participants with religious vs. neutral words and measured objectivism. Those who were primed with holy words showed higher objectivity. When they manipulated meta-ethical views using scripts, the opposite procedure of the former study, those approaching subjectivism had less confidence in God's existence, meaning that the there is a reciprocal relationship between religion and meta-ethical views. Similarly, Sarkissian and Phelan (2019) also contributed to this literature by showing that theists who believe in a punishing God figure and the concept of Hell exclusively endorse objectivism. In a following study, participants were assigned to scrambled sentence tasks to manipulate different characteristics of God's image (divine-loving, divine-punishing, and neutral). After being primed with divinity, those pertaining to an Abrahamic religion are more likely to appraise immoral acts as objectively wrong. Participants exposed to universal morality have significantly higher notions of a punishing God, conceptually replicating and extending past research (e.g., Yılmaz & Bahçekapılı, 2015). Last empirical evidence comes from Chvaja et al. (2022); they showed in five correlational studies across three dissimilar cultures that the more people attend religious rituals, the more they discern moral norms as objective. Perceiving rituals as less abstract and volatile contributed to this relationship. Unfortunately, the kind of research outlined above has been recently conducted in the literature. Now, other correlates of the meta-ethical views will be mentioned.

Although it has not been studied often, meta-ethical views have been found to be associated with some other psychological variables. For example, reminding participants of their own mortality led them to be less morally subjectivist (Yılmaz & Bahçekapılı, 2018). Similarly, Fisher et al. (2017) have signified the importance of altering the mindset. They found that switching to a competitive mindset on a specific issue elevated objectivity compared to a cooperative one. There are also other correlates of moral

objectivism, such as perceived consensus (Beebe et al., 2015), a lower degree of theory of mind (Theriault et al., 2020), and having moral convictions (Wright & Pölzler, 2021).

1.3.1 Meta-ethics and prosociality

This section, which examines the social impact and daily implications of meta-ethical views, will discuss how these views influence our attitudes and behaviors toward others. Moral dissimilarity is an essential predictor of intolerance (Skitka et al., 2005). It has an impact on our political party biases (Viciana et al., 2019), compatibility with peers and spouses (Wright et al., 2014), roommates (Goodwin and Darley, 2012), and even houseguests (Zijlstra, 2019). Conflict in this kind of relationship may disturb people, especially if they are morally objectivist. They are less inclined to promote and more eager to avoid those who do not morally resemble them (Wright, 2018). Yılmaz and Bahçekapılı (2017) suggest that this inclination stems from an absence of exposure to diverse manners of life. Yılmaz et al. (2020) tested this assumption on both Turkish and U.S. samples. They found that having a tolerant view across different groups leads to subjective morality, and they also causally supported this finding. Besides, intolerance predicts anti-social behavior: when participants were asked whether they would help someone with whom they disagreed on moral issues perceived objectively, they replied negatively, even if it was such a little help such as giving a change for a parking meter (Wright et al., 2014). Yet, some empirical evidence in the literature demonstrates that the objectivist stance may promote prosocial behavior (Young & Durwin, 2013). In a study whose participants were randomly selected people walking on the street, a charity worker stopped them and asked for donations; priorly, they were primed with objectivism ("Do you agree that some things are just morally right or wrong, good or bad, wherever you happen to be from in the world?") and subjectivism ("Do you agree that our morals and values are shaped by our culture and upbringing, so there are no absolute right answers to any moral questions?") questions. Those primed with objectivism gave away to charity two times more (Young & Durwin, 2013). Also, in another study, Rai and Holyoak (2013) demonstrated that manipulating participants into a subjective mindset resulted in

higher levels of cheating behavior. As can be inferred from the inconsistent results of the studies summarized above, it is not very clear whether being morally objectivist or subjectivist leads to prosocial and antisocial behavior. Because there is a dearth of empirical research investigating the consequences of meta-ethical views on various moral behaviors using incentivized behavioral tasks, the current research aims to address this gap.

1.4 The Present Research

In this thesis, we aimed to investigate the predictive power of meta-ethical beliefs on actual moral behavior in different moral domains. Since prosocial behavior falls into the field of practical ethics (e.g., helping people in need, etc.), we can state that this research serves as a bridge between meta-ethics and practical ethics. At the same time, showing how meta-ethical views affect people's other social behavior, such as cooperation and punishment, will help explain how our moral beliefs affect our judgments day-to-day, which are rarely discussed in the literature.

This research, which examines the relationships mentioned above, will adopt a different methodology than the ones used in the literature. The most important difference comes from the utilized prosociality measurements. Some of the prosociality measurements used by past studies investigating the relationship between prosocial behavior and meta-ethics are; requesting donations on behalf of charity organizations (Young & Durwin, 2013) or creating an environment that allows deceptiveness and checking whether cheating behavior is performed as a result (Rai & Holyoak, 2013). To the best of our knowledge, no study linking meta-ethics with moral behavior has ever measured prosocial behavior using economic games. One of the most original aspects of this research is that by using seven different incentivized economic games, participants' moral behavior, tapping different moral domains, were measured. Another strength of the current research is that this research was applied in two stages after a 7-month period, and we tested the

predictive ability of those meta-ethical beliefs on moral behavior due to the pre- and post-test nature of the design.

Participants whose meta-ethical views measured at the first stage were invited again seven months later; this time, they played several economic games. The games in question measure different moral behaviors such as generosity, cooperation, trust, trustworthiness, and punishment. It is planned to reveal a general prosociality score from the scores of these games. In this way, it is aimed to create a reliable measurement tool consisting of many different moral properties. Two confirmatory hypotheses and five exploratory questions have been proposed in light of the mentioned goals.

H_1. Higher scores on the Moral Subjectivism Scale and MFDA will positively predict a higher generalized prosociality score.
H_2. The association between the generalized prosociality score and moral objectivism will be stronger for non-believers (compared to believers).
E_1. We will explore the potential moderating role of belief in zero-sum game beliefs on the relationship between metaethical beliefs and moral behavior.
E_2: We will explore the Type of God as a moderating factor.
E_3: We will separately explore each moral domain.
E_4: We will explore the potential moderating role of religiosity on the relationship between MFDA and prosociality.

2. METHOD

Our hypotheses, planned analyses and other information regarding the entire research protocol related to this study were pre-registered at Open Science Framework and can be found via the given link (https://osf.io/9k2ps/).

2.1 Participants

Since this study is a two-phase pre-test and post-test design to test the predictive powers of meta-ethics on moral behavior, the final participants consist of those who agreed to participate in the post-test. The first phase consisted of 1200 participants with equal distribution (600/600) of gender, religiosity, and socio-economic levels. After a callback to 1200 participants over Prolific seven months after the first phase, 25 days of data collection carried on in the second phase. Among 596 participants who responded to the callback, 19 were excluded for their inconsistent answers across stages. This leaves us with the final 577 participants who are U.S. residents, over 18 years old, and native English speakers. Demographics are provided in the next paragraph.

Participants answered numerous demographic questions ranging from gender, age, and religiosity to belief in karma and witchcraft. 52.9 % of participants were male (N = 305), 44.4% were female (N = 256), 2.3% recognized themselves as “non-binary/third gender” (N = 13), and 0.5 % preferred not to say their state (N = 3). The mean age was 42.77, ranging from 18 to 84 years old (SD = 14.44). Bachelor's degree is the most common type of education among participants with 38.5 % (N = 222), followed by some college but no degree 19.9 % (N = 115), graduate or professional degrees 19.8% (N = 114) (See Table 2.1).

Table 2. 1 Demographics

	Gender	Age	Education	Income	Religion	Belief in God
N	577	577	577	577	577	577
Mean	1.50	42.8	4.32	3.26	0.473	1.46
Median	1	40.0	5	3	0	1
Standard deviation	0.572	14.4	1.36	1.57	0.500	0.499
Minimum	1	18.0	1	1	0	1
Maximum	4	84.0	7	6	1	2
Skewness	0.766	0.385	-0.477	0.195	0.108	0.164
Std. error skewness	0.102	0.102	0.102	0.102	0.102	0.102
Kurtosis	0.542	-0.779	-0.966	-1.09	-2.00	-1.98
Std. error kurtosis	0.203	0.203	0.203	0.203	0.203	0.203

2.2. Planned Analyses

Confirmatory and exploratory analyses are all preregistered planned analyses. While the predictive power of meta-ethical beliefs on prosocial behavior and the moderating role of religious affiliation (believer vs. non-believer) were investigated in the confirmatory analyses, an inspection on the relevant variables was examined in the exploratory analyses to have a broader perspective. Since our dependent variables are not normally distributed, all analyses are practiced with bootstrapping and variables are centered.

2.2.1 Confirmatory analyses

Multiple and hierarchical regression analyses were performed in confirmatory analyses. General prosociality was the outcome variable in both analyses, predictor variables were meta-ethical beliefs (objectivism, subjectivism, and MFDA), and religious affiliation was the moderator variable.

2.2.2 Exploratory analyses

Hierarchical regression analyses were conducted to test exploratory hypotheses with the moderator variables such as belief in a zero-sum game, type of God, and religious affiliation. Independent samples t-test and Pearson's correlation were also performed for exploratory purposes.

2.3. Materials and Procedure

In the pre-test phase of the study, all participants were briefed about the study, gave consent, and wrote down their Prolific ID to match in the post-test, then answered several scales that measured distinct psychological properties such as Moral Subjectivism Scale (Yılmaz & Bahçekapılı, 2018), Morality is Founded on Divine Authority (Simpson et al., 2016), Type of God (Yılmaz & Isler, 2019), and Belief in a Zero-Sum Game Scale (Różycka-Tran et al., 2019). Then they answered demographics, including questions about age, gender, education, income, social status, number of people they live with, religiosity, belief in God, religious affiliation and level of commitment, general ideology and social and economic ideology, level of happiness, meaning and satisfaction in life, belief in evolution, karma, alternative medicine, and witchcraft. Participants earned $2.00 after successfully finishing the study. The first phase was used as a tool to understand participants' psychological profiles.

In the second phase, after a 7-month period, the same participants played different economic games as outcome variables. These are donation task (Brown et al., 2017), prisoner's dilemma game (Isler et al., 2021), deception game (Gneezy, 2005), trust game (Berg et al., 1995), third-party punishment game (Fehr & Fischbacher, 2004), and third-party punishment game with counter-punishment risk (Balafoutas et al., 2014). There were also other economic games played in this stage such as Dictator Game (Engel, 2011), but not analyzed in this study. Demographic questions in the first stage were also asked again. All of the games were played with actual money, and in each of them, participants choose from 1 to 100 from a slider to give, which is worths from 1 cent to 100 cents. Also, in all games, participants were presented with instructions and understanding questions to ensure the game was understood. Again, for completing the study, every participant gained £2.00. They were also briefed about the additional fee they could receive by means of their choices in the games, which were randomly selected. Both surveys took 20 minutes to complete and were randomized.

2.3.1 Moral subjectivism scale

This scale was developed by Yılmaz and Bahçekapılı (2018) to measure the participants' objective and subjective meta-ethical beliefs (Appendix A). It has eight items, four represent objectivism (α = .79) ("What makes it possible for people to live together in harmony is the fact that fundamental moral rules do not differ from person to person"), and the remaining four represent subjectivism (α = .86), ("Since moral rules are not true or false in an absolute sense, moral debates are bound to remain inconclusive"). When we look for the reliability in our study, it shows high Cronbach's alpha values for both objectivism (α = .87) and subjectivism (α = .86). On a Likert-type scale, the participants stated to what extent they agreed with the items between 1 and 7. For exploratory purposes, we also generated a total score for moral objectivism by reversing items of subjectivism (α = .89).

2.3.2 Morality founded on a divine authority

This scale is based on the 20-item scale created by Piazza and Landy (2013) and has been reduced to 5 items Simpson et al. (2016) (Appendix B). The scale is shortened in order to be more easily applied (α = .93). The Cronbach's alpha of this scale in our study is (α = .93). It predicts anti-atheist prejudice, views against science, and interdictory moral stance in Simpson et al.'s (2016) research.

2.3.3 Type of God

This scale is developed by Yılmaz and İşler (2019) so that participants can select the expression that corresponds to the concepts of God in their minds (Appendix C). It has eight different descriptions of God, indicating atheism, monotheism, agnosticism, polytheism, pantheism, deism, Pascal's Wager, and social construct.

2.3.4 Belief in zero-sum game

This scale measures the understanding that one person's gain is only possible with another person's loss (Różycka-Tran et al., 2019) (Appendix D). It has been shown that the scale studied in 37 different countries turned out to be a valid tool. It is also shown to has high reliability values in our study based on the Cronbach's alpha values (α = .88)

2.3.5 Demographics

An extensive demographic form was answered by participants, including questions about gender, age, education, income, socio-economic level, belief in God, confidence in God, religiosity level, religious affiliation, general ideology, social and economic

conservatism, happiness level, meaning in life, belief in evolution, karma, witchcraft, and medicine (Appendix F).

2.3.6 Donation task

Participants were asked how many of their $1 worth of 100 tokens they would like to donate to the charities presented in the options (Appendix G). It was used as a measure of generosity (Brown et al., 2017).

2.3.7 Prisoner's dilemma

In this game, the cooperation tendencies of the participants were measured by revealing a social dilemma (Appendix H). After choosing how much of the 100 tokens they were given to transfer to the other party, these tokens were multiplied by two and transferred to the other party. The amount of money allocated to the other party is operationalized as cooperation behavior (Isler et al., 2021).

2.3.8 Deception game

In this game, where the honesty of the participants was measured, in the first stage two different messages (A and B) were given to the main participant to send to as many of the 10 participants as they want (Gneezy, 2005). The first of these messages is "Option A will earn you more money than option B." and the other is "Option B will earn you more money than option A." (Appendix I). Without knowing the exact monetary consequences of these messages, the other ten participants have to select between these options. If option A is selected, the main participant receives $1, and the remaining participants get 50 cents. If option B is selected, the main participant receives 50 cents, and the remaining participants get $1. In the end, participants are asked how many participants they want to send message A.

2.3.9 Trust game

Berg et al. (1995) applied this game in two stages to measure trust and trustworthiness (Appendix J). In the first stage, both participants are given 100 tokens while only participant A decides the amount to give to Participant B, which are tripled. Then participant B decides how much to return without tripling. As a trust and trustworthiness measure, participants were asked how much to give and how much they received in return.

2.3.10 Third-party punishment game

This game was used to measure participants' cooperative norm enforcement tendencies (e.g., punishment). In this game, the participant takes part in the first stage as a bystander; in the second stage, she chooses whether to punish or not (Fehr & Fischbacher, 2004). At first, the punisher is given 100 tokens and will be briefed about participants B1 and B2. B1 is given 100 tokens and takes away B2's 50 tokens. The punisher will be asked if she reduces participant B1 earnings; for every three tokens subtracted from B1, the leading participant's one token will be withdrawn (Appendix K). The decision of the punisher is operationalized as the punishment score.

2.3.11 Moral courage game

This game has the same procedure imposed in the prior third-party punishment game with a retaliation possibility to assess moral courage (Balafoutas et al., 2014). In other words, the only difference here is that there is an additional stage in which Participant B1 can also have a chance to reduce the leading participant's earnings, so participants must decide considering this counter-punishment risk (Appendix L).

2.3.12 Generalized prosociality and punishment scores

As stated in the pre-registration form, confirmatory factor analysis was administered using the seven economic games to calculate a general prosociality score. According to the factor analysis results, the four-item and single-factor model has a good fit with the data (χ^2= 11.11, df = 2, p = .004; CFI = .974; TLI = .921; *RMSEA* = .089, 90% CI [.043, .143]). These four items are cooperation, as measured by prisoner's dilemma; trust and trustworthiness, as measured by the trust game, and generosity, as measured by the donation task. It has acceptable reliability value for our study (α = .64). Deception and two punishment measures did not load onto a common factor. Because the two punishment scores are strongly correlated, a general punishment score was calculated by averaging the two punishment games scores for each participant to use in the exploratory analyses. It also has high reliability value (α = .80)

3. RESULTS

3.1 Data Analysis Strategy

IBM SPSS Statistics (Version 27) was used in data analysis. Participants who gave inconsistent answers to the religious affiliation question in both parts, were excluded from the study (N = 19). All analyses were carried out with the rest of the participants (N = 577).

Data exclusion, confirmatory and exploratory analyses were administrated using SPSS. In Table 3.1, descriptive statistics are shown. Data and analyses can be found at this link (https://osf.io/4rjgc).

3.1.1 Construct validity

We performed confirmatory factor analysis to explore whether meta-ethical views, in our case objectivism and subjectivism, refers to two different ends of a single continuum or two completely different concepts in people's minds. In addition, we aimed to standardize moral subjectivism scale in English, which was used only in Turkish in previous studies. According to the factor analysis results, the two-factor model (χ^2= 30.72, df = 19, p = .04; CFI = .996; TLI = .994; *RMSEA* = .023, 90% CI [.004, .037]) has a better fit with the data than the single-factor one (χ^2= 400.25, df = 20, p = .000; CFI = .863; TLI = .808; *RMSEA* = .128, 90% CI [.117, .139]). This suggests that objectivism and subjectivism indicate distinct moral themes for people, compatible with our hypotheses. Still, we tested our confirmatory hypotheses with a single factor objectivism scale for exploratory purposes.

3.2 Correlation among Variables

In order to explore the relationship between different prosocial games and the relationship between prosocial games and meta-ethical views, Pearson's correlation was initially performed (Table 3.2). As expected, subjectivism was negatively correlated with objectivism (r = -.630, p < .01), and MFDA (r = -.456, p < .01), while objectivism is positively correlated with MFDA (r = .500, p < .01)

Generally, with the exception of punishment games and a few other exceptions, all games were positively correlated with each other. One of our generosity measures, donation task, was positively correlated with prisoner's dilemma (r = .232, p < .01), trust (r = .174, p < .01), trustworthiness (r = .329, p < .01), and deception (r = .140, p < .01). Cooperation was positively correlated with trust (r = .427, p < .01), trustworthiness (r = .465, p < .01), and deception (r = .082, p < .05). Trust was positively correlated with trustworthiness (r = .343, p < .01). Trustworthiness was positively correlated with and deception (r = .119, p < .01). Lastly the two punishment measures were highly correlated with each other (r = .674, p < .01)

When we look for the relationship between prosocial games and meta-ethical views, we found that subjectivism was negatively correlated with cooperation (r = -.103, p < .05), and positively correlated with punishment (r = -.122, p < .01) and moral courage (r = .103, p < .05).

We also look for the correlation between study variables for believers and non-believers separately (Table 3.3 and Table 3.4). For believers, subjectivism was negatively correlated with objectivism (r = -.597, p < .01), and MFDA (r = -.470, p < .01), while objectivism was positively correlated with MFDA (r = .473, p < .01). Same applies for non-believers: subjectivism was negatively correlated with objectivism (r = -.597, p < .01), and MFDA (r = -.159, p < .01), and objectivism was positively correlated with MFDA (r = .265, p < .01). More detailed comparisons will be given again in the results section.

Table 3. 1 Descriptive statistics of variables

	Moral Subjectivism	Moral objectivism	MFDA	DT	3PP	M.C	PD	T.G.	T.G. P	DEG	Prosociality
N	577	577	577	577	577	577	577	577	577	577	577
Mean	18.1	15.4	3.11	26.9	24.5	24.8	54.4	55.4	43.0	31.1	44.9
Median	19.0	16.0	2.60	10.0	3.33	0.00	50.0	50.0	50.0	20	48.4
Standard deviation	5.90	6.10	2.03	34.0	32.3	33.2	41.0	39.8	26.2	35.3	24.9
Minimum	4.00	4.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00
Maximum	28.0	28.0	7.00	100	100	100	100	100	100	100	100
Skewness	-.361	-.071	.498	1.06	1.19	1.16	-.153	-.145	-.317	.717	-.151
Std. error skewness	.102	.102	.102	.102	0.102	0.102	.102	.102	.102	.102	.102
Kurtosis	-.322	-.612	-1.12	-.144	.250	.070	-1.54	-1.53	-.612	-.786	-.811
Std. error kurtosis	.203	.203	.203	.203	.203	.203	.203	.203	.203	.203	.203

MFDA: Morality Founded on a Divine authority, DT: Donation task, 3PP: third party punishment game, M.C: moral courage, PD: prisoners' dilemma, TG: trust game, T.W: trustworthiness, DEG: Deception game

Table 3. 2 Correlation between variables

	Subjectivism	Objectivism	MFDA	DT	3PP	M.C	PD	T.G.	T. W	DEG	Prosocial
Subjectivism											
Objectivism	-.630**										
MFDA	-.456**	.500**									
DT	-.033	.042	.075								
3PP	-.027	.122**	.060	.036							
M.C	-.008	.103*	.053	.075	.674**						
P.D.	.014	-.103*	-.014	.232**	.046	.039					
T.G.	.015	-.073	-.064	.174**	-.014	.034	.427**				
T. W	.001	-.071	-.032	.329**	.019	-.006	.465**	.343**			
DEG	-.074	.048	.069	.140**	.042	.036	.082*	.032	.119**		
Prosocial	.001	-.076	-.014	.593**	.030	.053	.784**	.725**	.704**	.125**	

MFDA: Morality Founded on a Divine authority, DT: Donation task, 3PP: third party punishment game, M.C: moral courage, PD: prisoners' dilemma, TG: trust game, T.W: trustworthiness, DEG: Deception game Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. 3 Correlation between variables for believers

	Subjectivism	Objectivism	MFDA	DT	3PP	M.C	PD	T.G.	T. W	DEG	Prosocial
Subjectivism											
Objectivism	-.597**										
MFDA	-.470**	.473**									
DT	-.027	.066	.072								
3PP	.008	.010	-.051	.069							
M.C	-.041	.064	-.012	.125*	.620**						
P.D.	.008	-.101	-.041	.218**	.089	.092					
T.G.	-.004	-.067	-.097	.186**	.030	.046	.351**				
T. W	.028	-.112	-.120*	.278**	-.001	-.059	.431**	.303**			
DEG	-.111	.068	.120*	.112	.033	-.006	.073	-.034	.043		
Prosocial	.000	-.076	-.062	.601**	.074	.087	.759**	.702**	.670**	.068	

MFDA: Morality Founded on a Divine authority, DT: Donation task, 3PP: third party punishment game, M.C: moral courage, PD: prisoners' dilemma, TG: trust game, T.W: trustworthiness, DEG: Deception game.

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3. 4 Correlation between variables for non-believers

	Subjectivism	Objectivism	MFDA	DT	3PP	M.C	PD	T.G.	T.W	DEG	Prosocial
Subjectivism											
Objectivism	-.597**										
MFDA	-.159**	.265**									
DT	.015	-.042	-.098								
3PP	-.017	.197**	.107	-.015							
M.C	.072	.113	.074	.010	.730**						
P.D.	.025	-.124*	-.004	.247**	-.001	-.018					
T.G.	.024	-.074	-.036	.167**	-.058	.024	.505**				
T.W	.002	-.075	-.088	.380**	.032	.043	.500**	.385**			
DEG	-.015	.008	-.038	.166**	.046	.076	.091	.099	.191**		
Prosocial	.025	-.112	-.070	.585**	-.020	.016	.809**	.750**	.735**	.179**	

MFDA: Morality Founded on a Divine authority, DT: Donation task, 3PP: third party punishment game, M.C: moral courage, PD: prisoners' dilemma, TG: trust game, T.W: trustworthiness, DEG: Deception game.

Note. * p < .05, ** p < .01, *** p < .001

3.3 Confirmatory Analyses

Before our hypothesis tests, we conducted Fisher's r to z transformations to compare correlation coefficients of believers and non-believers between meta-ethical beliefs and moral behavior. Then we proceed to our main confirmatory analyses. In order to test our first hypothesis, we conducted a multiple regression analysis to examine whether generalized prosociality scores are predicted by different meta-ethical beliefs (e.g., objectivism, subjectivism, and MFDA). Then, we conducted a hierarchical regression analysis to examine whether religious affiliation (believer vs. non-believer) moderated the relationship between generalized prosociality scores and moral objectivism to test our second hypothesis.

3.3.1 Fisher's r –to-z transformation tests

As shown in Table 3.3 and 3.4, we also examined the correlation coefficients between believers and non-believers across moral domains and meta-ethical beliefs. Some interesting coefficients to be investigated in-depth, considering that our hypotheses are focused on the differences between believers and non-believers. Lee and Preacher's (2013) online calculator were used to compare the significant differences in correlation coefficients. When we look for deception game, it is positively correlated with MFDA for believers (r = .120, p = .036) and not significantly correlated with MFDA for non-believers (r = -.038, p = .537) and these coefficients are significantly different from each other (z = 1.89, p = .029). Generosity measured by donation task is positively correlated with MFDA for believers (r = .072, p = .212) and negatively correlated with MFDA for non-believers (r = -.098, p = .107), albeit non-significant, they also significantly differ from each other in terms of correlation coefficients (z = 2.03, p = .021). Objectivism was positively correlated with punishment for non-believers (r = .197, p = .001) while it was not significantly associated among believers (r = .010, p = .857) and when we compare the magnitudes of the correlations, it significantly differs (z = -2.26, p = .012).

3.3.2 Prosociality and meta-ethical beliefs

We conducted multiple regression analyses to see the potential predictive role of objectivist and subjectivist moral beliefs and MFDA on generalized prosociality. The results showed that the generalized prosociality score was not significantly predicted by none of the moral views, $F(3,573) = 1.88$, $p = .132$. Objectivism (B = -.538, 95% CI [-.1.082, -.066]), subjectivism (B = -.312, 95% CI [-.855, .164]) and MFDA (B = .226, 95% CI [-.976, 1.437]) did not make a significant contribution to the model.

3.3.3 Moderation effect of religiosity on prosociality and meta-ethical beliefs

Hierarchical regression analyses were conducted in order to determine whether the religiosity of the individuals played a moderator role in the relationship between the general prosociality and their objective and subjective morality and MFDA scores. The first model, in which we used the participants' objective and subjective morality and MFDA scores as predictors, and religious affiliation as a moderator variable, was not statistically significant, $\Delta F(4, 572) = 2.08$, $p = .083$. The second model, in which we included the interaction term, was also not statistically significant $\Delta F(3, 569) = .167$, $p = .919$.

3.4 Exploratory Analyses

In exploratory analyses, we repeated our confirmatory analyses with a single factor moral objectivism scale, we look for the moderating role of different variables, such as zero-sum game beliefs, different types of God notions, and religiosity, on the relationship

between meta-ethical beliefs and prosocial behavior. Lastly, we investigated the moral domains in depth.[1]

3.4.1 Exploration of confirmatory hypotheses with single factor moral objectivism scale

Confirmatory analyses are repeated with a single factor moral objectivism scale for exploratory purposes; however, our results mostly did not change.

As in the confirmatory analyses regarding moral objectivism, this time total moral objectivism scores were positively correlated with punishment measure among non-believers (r = .125, p < .05) while it was not significantly associated among believers (r = .001, p = .985) and when we compare the magnitudes of the correlations, it did not significantly differs but shows a trending effect (z = -1.487, p = .068).

Multiple regression analyses were performed again to see the potential predictive role of moral objectivism and MFDA on generalized prosociality The results showed that the generalized prosociality score was not significantly predicted by moral objectivism, $F(2,574) = .573$, $p = .564$.

We also repeated the hierarchical regression analyses to explore the moderator role of religious affiliation in the relationship between prosociality and objective morality and MFDA scores. Again as in the confirmatory analyses, both first model $\Delta F(3, 573) = 1.19$, $p = .310$ and second model $\Delta F(2, 571) = .437$, $p = .646$ were not statistically significant.

[1] For completeness and to investigate our alternative exploratory hypothesis regarding analytical thinking, we conducted a hierarchical regression analysis. Since Baron and Kenny (1986) suggested that there should be an effect of predictor variable on outcome variable on regression, we test this before conducting a mediation analysis. However, there are no such relationship exist in the hierarchical regression, so we abstain from mediation. The first model, in which we used the participants' objective morality as predictor and analytical thinking as a moderator variable, did not explain the variance in the general prosocial behavior, $\Delta F(2, 574) = 1.68$, $p = .187$. The interaction term in the second model between objective morality and analytical thinking did not have a significant effect on the outcome variable $\Delta F(1, 573) = 1.04$, $p = .306$.

3.4.2 Moderating role of zero-sum game beliefs on metaethical beliefs and moral behavior

We conducted hierarchical regression analyses to detect whether the zero-sum game beliefs of the participants played a moderator role in the relationship between prosocial behavior and their meta-ethical beliefs. The first model, in which we used the participants' objective and subjective morality and MFDA as predictors and belief in a zero-sum game as a moderator variable, did not explain the variance in the general prosocial behavior, $\Delta F(4, 572) = 1.54$, $p = .189$. The interaction term in the second model between objectivism and subjectivism did not have a significant effect on the outcome variable $\Delta F(2, 570) = 1.60$, $p = .201$. Finally in the third model adding MFDA as a third interaction term also did not have a significant effect on the general prosociality $\Delta F(1, 569) = .184$, $p = .668$.

When we look for this effect among believers and non-believers separately, there was not also any significant effect either. Endorsement of zero-sum game beliefs did not moderate the relationship between prosociality and meta-ethical beliefs both for believers $\Delta F(4, 300) = .851$, $p = .494$ and non-believers $\Delta F(4,267) = 1.36$, $p = .248$.

3.4.3 Type of God as a moderating factor

Before delving into the moderating role of the Type of God participants believe in, we first look for the most popular kind of God belief among believers and non-believers separately. While believers chose monotheism the most ($N = 183$), non-believers selected the agnosticism ($N = 164$). Based on these frequencies, we conducted hierarchical regression to determine whether belief in a single God (eg. monotheism) played a moderator role in the relationship between moral objectivism and general prosocial behavior for believers. The first model, in which we used the participants' objectivism as a predictor, belief in a single God (e.g. monotheism) as moderator variable, was not significant, $\Delta F(2, 302) = .88$, $p = .415$. The interaction term in the second model did not

have a significant effect on the general prosociality $\Delta F(1, 301) = 1.88$, $p = .171$. We repeated the same procedure for non-believers and look for the moderating role of agnosticism. Although the first model was significant $\Delta F(2, 269) = 4.06$, $p = .018$, it disappeared when we add the interaction term in the second model $\Delta F(1, 28) = .062$, $p = .804$.

3.4.4 Exploration of moral domains individually

We conducted an independent samples t-test to examine whether there are significant differences between believers and non-believers on moral domains measured by economic games. We found no significant difference among believers and non-believers except generosity and a marginal trend in cooperative norm enforcement and general punishment tendencies. We discovered that believers ($M = 29.50$, $SD = 34.21$, CI [25.96, 33.26]) have higher scores on donation tasks than non-believers ($M = 23.94$, $SD = 33.50$, CI [20.22, 27.93]), $t_{575} = 1.97$, $p = .042$. The effect size implicates a very small effect, as measured by Cohen's d was $d = .16$. Believers also have higher cooperative norm enforcement scores ($M = 26.97$, $SD = 32.11$, CI [23.17, 30.72]) than non-believers ($M = 21.70$, $SD = 32.34$, CI [17.92, 25.82]), $t_{575} = 1.96$, $p = .064$. Lastly, believers have higher general punishment scores ($M = 26.77$, $SD = 29.18$, CI [25.59, 30.10]) than non-believers $M = 22.21$, $SD = 30.68$, CI [18.64, 26.06]), $t_{575} = 1.82$, $p = .077$.

3.4.5 Moderating role of religiosity on the relationship between MFDA and prosociality

Another hierarchical regression analysis was conducted to investigate the moderation effect of religiosity on the relationship between MFDA and general prosociality. The first model, in which we used MFDA as a predictor, religious affiliation as a moderator variable, did not explain the variance in the general prosocial behavior, $\Delta F(2, 574) =$

1.40, p = .249. The interaction term in the second model did not have a significant effect on the outcome variable $\Delta F(1, 573) = .434$, p = .510.

3.5 Exploratory Investigation of Confirmatory Hypotheses

We exploratorily analyzed the predictive power of objectivist and subjectivist moral beliefs and MFDA on general punishment score by implementing multiple regressions so we tested our first confirmatory hypothesis with a different outcome variable. Results indicated that the model is significant in predicting punishment, $F(3,573) = 4.09$, p = .007. However, only objectivism independently contributed to the model (B = .869, 95% CI [.290, 1.444]), while MFDA (B = .285, 95% CI [-.1.105, 1.786]), and subjectivism (B = .513, 95% CI [-.032, 1.068]), did not. We also exploratorily seek for other moral domains; however, we did not find any other significant effect except on generosity $F(3,573)$ = 2.70, p = .045 and cooperation $F(3,573)$ = 3.09, p = .027. In both analyses, only objectivism added significant contribution to the model for generosity (B = -.542, 95% CI [-1.003, -.023]) and for cooperation (B = -1.138, 95% CI [-1.849, -.431]). Deception, $F(3,573) = 1.375$, p = .249, donation, $F(3,573) = 1.085$, p = .355, trust $F(3,573) = 1.659$, p = .175, and trustworthiness $F(3,573) = 1.596$, p = .189 were not significantly predicted by meta-ethical views.

Then, we repeated the same analysis separately for both believers and non-believers in order to examine the effect of religious affiliation as well. While total punishment score was not predicted by meta-ethical views and MFDA for believers, $F(3,301) = .572$, p = .634, it was significantly predicted for non-believers $F(3,268)$ = 5.171, p = .002. Objectivism (B = 1.372, 95% CI [.500, 2.263]) and subjectivism (B = 1.102, 95% CI [.249, 1.978]) contributed to the model while MFDA (B = 2.181, 95% CI [-2.698, 7.943]) did not.

To exploratorily examine our second confirmatory hypothesis, subsequent hierarchical regression analyses were run to investigate the moderation effect of religiosity on other individual moral domains and metaethical views.

We conducted hierarchical regression analyses to detect whether the participants' religiosity moderated the relationship between the punishment tendencies and their meta-ethical views. In the first step, we used the participants' demographics (age and gender) as a control variable. Then, we added meta-ethical views as predictors and religiosity as a moderator variable in the second model, which explained 2.7% of the variance in the punishment tendencies, $\Delta F(4, 570) = 3.54$, $p = .007$. We found the main effect of religiosity on moral objectivity (B = .891, 95% CI [.332, 1.4972]). The third model, in which we included the interaction term between religious affiliation objectivism and subjectivism, was not significant, $\Delta F(2, 568) = 2.58$, $p = .076$ although it shows a trending effect. Lastly adding MFDA as an interaction term in the fourth model was also not significant $\Delta F(1, 567) = 1.89$, $p = .169$ (see Table 3.5).

Across all of the moral domains, only the punishing tendencies of the participants are moderated by their religiosity. Other measures of moral behavior are not statistically significant ($p = > .05$ in all of them).

Table 3.5 Moderating role of religious affiliation on the relationship between meta-ethical beliefs and punishment

Model and Variables	B	Std. Error B	*p*	R^2
Model 1 (control variables)				.002
Age	.031	.083	.701	
Gender	2.482	2.150	.262	
Model 2				.027*
Subjectivism	.472	.278	.090	
Objectivism	.891	.275	.001	
MFDA	-.624	1.031	.545	
Religious affiliation	-4.626	3.871	.233	
Model 3 (interaction terms)				.022
Subjectivism*Religious affiliation	1.071	.557	.055	
Objectivism*Religious affiliation	1.121	.540	.038	
Model 3 (interaction term)				.023
MFDA*Religious affiliation	3.565	2.587	.169	

Note. * p < .05

4. DISCUSSION

4.1 Overview of the Findings

When examining the history of psychology, despite being less studied than normative ethics and practical ethics, it has been known for many years that meta-ethical beliefs influence people's behaviors, attitudes, and judgments (Sayre-McCord, 2023). Albeit limited in number, these studies generally have conclusive results. However, these studies, which are usually cross-sectional, cannot be used for policy suggestions due to the absence of knowledge concerning the validity of these beliefs in predicting actual behavior. Testing predictive validity necessitates the use of measurements taken in more than one session. Therefore, the main contribution of this thesis is to test whether participants' meta-ethical views have the validity to predict their actual behavior in different moral domains with a pre-test and post-test design. However, the results provided support for the weak predictive validity of those beliefs after a 7-month period.

As mentioned in the introduction, there is a dearth of investigation on the relationship between meta-ethical beliefs and actual moral behavior. When these studies were reviewed, some reported that manipulating objectivism increased prosocial donation behavior (Young & Durwin, 2013), while another study showed that manipulating subjectivism as a result of a similar manipulation increased cheating (Rai & Holyoak, 2013). Increasing inter-group tolerance by an experimental manipulation, which can be considered a type of a psychological motivator for being prosocial was found to have augmented subjectivism (Yılmaz et al., 2020), and another study showed that lower levels of political tolerance and higher levels of objectivism were associated with higher levels of prejudice (Viciana et al., 2019). Nonetheless, to date, prosociality has not been

systematically studied to encompass all these moral and other related domains. In this study, both believers and non-believers were preselected, and the predictive validity of meta-ethical beliefs on actual behavior in different moral domains was tested. However, the results have shown that people's meta-ethical beliefs are not as predictive of moral behavior in various domains in contrast to our preregistered expectations. However, punitive tendencies rather than prosociality turned out to be influenced by meta-ethical beliefs, especially objectivism, so punishment may have a vital role among the different moral behaviors investigated, especially among non-believers, according to the Fisher's r-to-z transformation test results.

In our first hypothesis, we predicted that participants with higher objectivism and MFDA would generally be more prosocial, although regression results did not support this prediction, Fisher's r-to-z transformation showed that only single domain of prosociality, which is donation behavior, is found to have significantly stronger positive relationship with MFDA for believers compared to non-believers. Then, in the second hypothesis, we suggested that religious affiliation will moderate the relationship between prosociality and objectivism. As in the first hypothesis, this was also not confirmed. However, our first confirmatory hypothesis was partially supported on a different domain of morality: punishment. Exploratory analysis showed that being morally objectivist was the sole significant predictor of the punishing dispositions. By using Fisher's r-to-z transformation tests, we also found that the association between endorsement of moral objectivism and punishment behavior tended to be stronger among non-believers. Furthermore, our findings indicated that the link between endorsing MFDA and engaging in deceptive behavior displayed a tendency to be more pronounced within the believer participants.

4.2 Implications of the Results

Compared with the previous literature, it is understood that the findings of our study related to prosociality are mostly inconsistent except from the donation behavior for believers. For example, although Young and Durwin (2013) showed that priming

objectivism increased the donation behavior and Rai and Holyoak (2013) showed that subjectivism led to more cheating behavior, both of the research designs and practices of operationally defining prosocial behavior differ considerably from our study. The donation question presented to the participants by Young and Durwin is hypothetical and abstract, corresponding to only one of the seven moral domains in our study. On the other hand, Rai and Holyoak's deception score is similar to the honesty task in our research, which is also only one of our seven tasks. In other words, while these studies looked at only one type of prosociality, a general prosociality score was revealed from four different tasks based on a factor analysis result. In addition, due to these studies' experimental nature, the manipulations may have affected the participants beyond the purpose, thus leading to the reported behaviors. For example, directing participants to objectivism may have increased their belief in God and consequently increased prosociality in order to avoid punishment (Young & Durwin, 2013). Similarly, increasing the subjectivism might have decreased the sense of punishment and encouraged the participants to cheat (Rai & Holyoak, 2013). However, in both studies, belief in God, or belief in a punishing God variable that could moderate these relationships, was not mentioned or added as a variable. In our research, looking at the predictive effect on the same participants at 7-monhts interval through a pre- and post-test design without any manipulation provides an original contribution to the literature in terms of the predictive ability of those meta-ethical beliefs. In other words, when people are asked or manipulated by questions about their moral views, they may feel compelled to respond consistently with them, leading to the demand effect (Mummolo & Peterson, 2017). On the other hand, a pre- and post-test design with 7-monhts interval can successfully isolate the effect (if any) and comment on predictive validity more properly.

Scientific non-transparency of previous studies may also provide an explanation for our failure to find the effect. These studies generally carried out in an era predating open science revolution with small sample sizes and without preregistering their research protocols. In addition, they did not present information regarding the important details of a transparent scientific research such as stopping rule for data collection and outlier exclusion criteria. Similarly, it is not very possible to be sure with certainty whether they reported all or only a few of their experiments (e.g., file drawer effect). In order to analyze and compare the results of the studies more reliably, it is necessary to comply with the

stated open science principles (Spellman et al., 2018), as in this research. Therefore, given that the rate of null findings in scientific articles utilizing techniques such as registered reports or preregistration is significantly higher compared to scientific studies conducted prior to the advent of open science (Nosek & Lakens, 2014; Scheel et al., 2021), it can be concluded that the findings presented here align with this aspect of the existing literature.

Besides to the findings contrary to the literature, supportive results were also obtained in our study. For example, Yılmaz et al. (2020) showed that having higher levels of inter-group tolerance was successful in predicting subjective morality in both Turkish and American samples. Rose and Nichols (2019) attribute the source of moral objectivist beliefs to the motivation to punish; they gave participants two scenarios that had been tested in previous studies (Goodwin & Darley, 2008). These scenarios had high (racism) and low (euthanasia) objectivist ratings, and participants were asked about the amount of punishment the agent in these scenarios deserved. The results showed that participants thought a person who commits racism, which leads to high objectivism, deserved significantly more punishment than the person who found euthanasia correct. Though, this effect disappeared in the following study, which stated that the person in the scenario was already punished. In other words, a decrease in objective views has been detected when the motivation to punish disappears. In our study, it seems that meta-ethical views, especially objectivism, predict punitive tendencies rather than prosociality. Despite mostly null results in prosociality, a trending association was observed with punishment behavior, which is regarded as a form of cooperative norm enforcement. Although believers significantly punish more than non-believers, the relationship between punishment and moral objectivism is significantly stronger for non-believers, contrary to the general notion in literature. There may be a ceiling effect for the believers, most of them may have significantly higher punishing inclinations since punishment is very common practice among moralizing religions (Fitouchi et al., 2022) but this effect reverses when we look for the relationship with objectivism. Believers in general, probably use punishment as a basic means of norm enforcement and the variance is not high for them, but when we look at non-believers, we see that tendency to punish is higher only in people with high moral objectivism, that is, who may be more sectarian, and the variance is higher among them. This indicates that meta-ethical beliefs may play a crucial role in guiding individuals' behavior within moral domains, particularly in relation to

punishment, even 7-months later. Future studies should concentrate on exploring various effects associated with different types of punishment, such as retributive punishment.

The finding that, seeing morality as objective is associated with punitive tendencies, is not a very surprising finding because research suggests that moral objectivism predicts desire not to be a roommate with those who are not similar (Goodwin & Darley, 2012) Bahçekapılı and Yılmaz (2017) claimed that this may be due to not being exposed to different cultures or lifestyles in everyday life. They argued that witnessing different perspectives increases tolerance and thus leads to a rise in subjectivism and a decrease in religious belief. Although some of the results of this thesis partially support this argument, there are different examples in the world which may suggest that different underlying reasons other than religious affiliation may influence our meta-ethical views. According to official data (Amnesty International, 2019), Iran, which is governed by Sharia and is quite closed to the outside world due to the embargoes it is subjected to, executed 253 people in 2018 and became the second country on the list and first among the Muslim countries that applies the death penalty the most in the world. This example may support Yılmaz and Bahçekapılı's argument, ruled by people with firm religious beliefs and closed to other cultures; it makes sense that tolerance is low, and punishment is severe in Iran. However, according to the death penalty data in the same year, another country far surpassed Iran and became the first in the ranking: China. The fact that China, whose official religion is atheism and ruled by a similarly authoritarian regime, has executed more than 1000 people, cannot be explained merely by religious belief. Based on these contrasting examples, we can make some sense in our study that grounding morality on divine authority does not predict punitive behavior among American believers and non-believers, but objectivism does for non-believers. Maybe non-believers with higher objectivism rates in our study have higher moral convictions (Skitka et al., 2005), and this may result in enforcing cooperative norms for them in their lives. This boundary condition did not apply to believers but only to objectivist non-believers. This finding also makes sense since non-believers have no common ground in different aspects such as community, symbols, or flags as with believers, so they have less homogeneity among their in-group. These results align with the left-wing authoritarianism hypothesis (Costello et al., 2022) and suggest that the non-believer's tendency to punish should not

be taken for granted, as has been neglected in the literature so far. In future studies, social norm variations across different countries and variations within believers' and non-believers' psychological features, such as open-mindedness,can be taken into account to reconcile the mixed results in the literature. In other words, another variable different than religiosity could moderate the relationship between objectivism and punishing inclinations, such as cultural tightness-looseness (Gelfand et al., 2006). Future research should continue to investigate this interesting research avenue.

4.3 Limitations and Future Directions

One of the crucial limitations of the study is related to sampling procedure. In the first phase of this two-stage research, participants were preselected to have matched demographics regarding socio-economic levels, religiosity, and gender. Unfortunately, this matching could not be achieved among the participants who were recalled in the second stage due to the possibility of attrition. This may have created some unforeseen demographical differences among believers and non-believers. Future research should make these comparisons on nationally representative and demographically matched samples.

Another limitation of this study can be related to the inconsistent operational definitions of meta-ethical beliefs among philosophers and psychologists. As mentioned in the introduction, there are not any consensus on definition of meta-ethical views in the literature (Davis, 2021). For this reason, most of the research investigating meta-ethics uses different scales and measurement methods. The method used in many studies, including the measurement method we use, has received various criticisms from researchers (Wright, 2022), the majority of whom are philosophers (Bush & Moss, 2020). One of these criticisms is that the scales used in the current research are not inclusive enough in terms of diversity of meta-ethical beliefs such as universalism, absolutism, and error theory. According to Pölzler and Wright (2019), an individual who adopts any branch of anti-realism can give answers to surveys that do not reflect her own view just because her view has not been included in the scale items, and therefore she can be

considered as adopting realism. The same applies to the other meta-ethical views. The content of the scale items is also a fundamental issue; for example, an item given on the scales can be perceived as a criterion of universalism by the reader while actually describing objectivism. Some studies have been carried out by psychologists and philosophers in order to eliminate such problems (Beebe, 2016; Davis, 2021). Zijlstra (2019), for example, has been a prominent figure among these researchers, who systematically addressed this problem recently. Zijlstra has developed a new scale that examines meta-ethical views in five different domains: universalism, absolutism, divine command theory, relativism, and no-truth. These items are loaded into three dimensions: universal (α = .89), independent (α = .90), and divine truth (α = .93), with high reliability and also suggests construct and predictive validity. When we look at the relationship of dimensions with perceived objectivity, it is understood that they are positive with universal and independent truth and negative with divine truth. In light of these findings, it would be reasonable to say that future studies can use Zijlstra's recent tool to replicate and extend the current findings.

However, we could also argue that meta-ethical representations in people' mind may not be so complicated. Although philosophers suggest there are subtle distinctions across different meta-ethical views and warns psychologists about, it is possible that lay people might have simplified those beliefs in their mind in order to be more practical. That is another reason why studies similar to Zijlstra's should be carried out and its scope should be expanded to have more profound understanding of the issue.

Although we could not find any significant association between prosociality and meta-ethical beliefs, when NSHT is used, absence of an evidence cannot be taken for a ground for an evidence of absence. The effect we attempted to capture might be small, and our number of participants may not be sufficient to detect such small effects, or, as mentioned above, our dependent variables may not be reliably representing lay notions of meta-ethics. Also, since this study is only correlational and an early attempt which gives us preliminary findings, an experimental methodology would be useful to investigate the issue in more detail. These issues deserve a more in-depth investigation with higher-powered studies in future research.

4.4 Conclusion

Meta-ethical beliefs are thought to be a reliable motivator of moral judgment and behavior, but little is known about the predictive validity of those beliefs on actual behavior. This study systematically investigated the predictive power of meta-ethical views on prosocial behavior by incorporating different moral behaviors. Although meta-ethical beliefs did not predict general prosociality, it showed some trends in predicting punishment as in line and oppose with the past research on this topic (Rose & Nichols, 2019).

Therefore, this study contributed to improving this line of research, which can be regarded as newly emerging thus far. Meta-ethics, a field that was monopolized by philosophy in the past, can only flourish thanks to the developing research techniques and tools of behavioral sciences. In the future, it should continue to be investigated with different research methods, and in our case, variables moderating meta-ethical views and prosocial behaviors should continue to be tested.

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APPENDIX A

Moral Subjectivism Scale

Please indicate how much you agree or disagree with each of statements below using the scale (1 = Absolutely Disagree; 7 = Absolutely Agree).

Since what is moral varies on the basis of context and society, there is no one true morality. (1)

Moral standards are personal, therefore something morally acceptable to one person might be immoral for another person. (2)

Since moral rules are not true or false in an absolute sense, moral debates are bound to remain inconclusive. (3)

Different cultures may adopt different values and thus it is impossible to compare cultures on the basis of an objective standard. (4)

We can agree on 'what is moral for everyone' because what is moral and immoral is self-evident. (5)

What makes it possible for people to live together in harmony is the fact that fundamental moral rules do not differ from person to person. (6)

Since moral laws are universally true, they can be applied to everyone in the world regardless of culture, race or religion. (7)

Fundamental moral principles are universally valid; therefore they can be transferred from one society to another without difficulty. (8)

APPENDIX B

Morality Founded on a Divine Authority Scale

Please indicate how much you agree or disagree with each of statements below using the scale. (1 = Absolutely Disagree; 7 = Absolutely Agree)

Everything we need to know about living a moral life God has revealed to us. (1)

What is morally good and right is what God says is good and right. (2)

If you want to know how to live a moral life you should look to God. (3)

Acts that are immoral are immoral because God forbids them. (4)

It is possible to live a righteous life without knowledge of God's laws. (5)

APPENDIX C

Type of God

People hold different beliefs about God or gods. Please indicate how much you agree with each statement. (1 = Completely Disagree; 5 = Completely Agree)

There is no God or gods. (1)
There is only one God. (2)
There are many gods. (3)
We cannot know for sure whether a God exists. (4)
God is nature and nature is God. (5)
Even though the existence of God or gods is uncertain, it makes sense to believe in God or gods to reduce any risk of godly punishment, in case God exists. (6)
Some communities have their own concept of God or gods, and deities exist for these communities, in their minds and as a way of defining themselves as a group. (7)
God created the universe, but this being no longer has any contact with the universe. Nor does this being respond to the prayers and concerns of people. (8)

APPENDIX D

Cognitive Performance Test

Please answer the following questions:

CRT1 A bat and a ball cost £1.10 in total. The bat costs £1.00 more than the ball. How much does the ball cost?

- ○ 5 pence (1)
- ○ 10 pence (2)
- ○ 9 pence (3)
- ○ 1 pence (4)

CRT2 If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?

- ○ 5 minutes (1)
- ○ 100 minutes (2)
- ○ 20 minutes (3)
- ○ 500 minutes (4)

CRT3 In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?

- 47 days (1)
- 24 days (2)
- 12 days (3)
- 36 days (4)

CRT4 All living things need water. Roses need water. If these two statements are true, can we conclude from them that roses are living things?

- Yes (1)
- No (2)

CRT5 Claire is 31 years old, single, outspoken and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations.

Which is more probable?

- Claire is a bank teller (1)
- Claire is a bank teller and is active in the feminist movement (2)

APPENDIX E

Belief in a Zero-Sum Game

To what extent do you agree or disagree with the following statements? (1 = Strongly Disagree; 7 = Strongly Agree)

Successes of some people are usually failures of others. (1)
If someone gets richer, it means that somebody else gets poorer. (2)
Life is so devised that when somebody gains, others have to lose. (3)
In most situations, interests of different people are inconsistent. (4)
Life is like tennis game—A person wins only when others lose. (5)
When some people are getting poorer, it means that other people are getting richer. (6)
When someone does much for others, he or she loses. (7)
The wealth of a few is acquired at the expense of many. (8)

APPENDIX F

DEMOGRAPHIC FORM

What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Non-binary / third gender (3)
- ○ Prefer not to say (4)

*

What is your age in years?

_____

Imagine that this ladder pictures how American society is set up.

At the top of the ladder are the people who are the best off — they have the most money, the highest amount of schooling, and the jobs that bring the most respect.

At the bottom are people who are the worst off — they have the least money, little or no education, no job, or jobs that no one wants or respects.

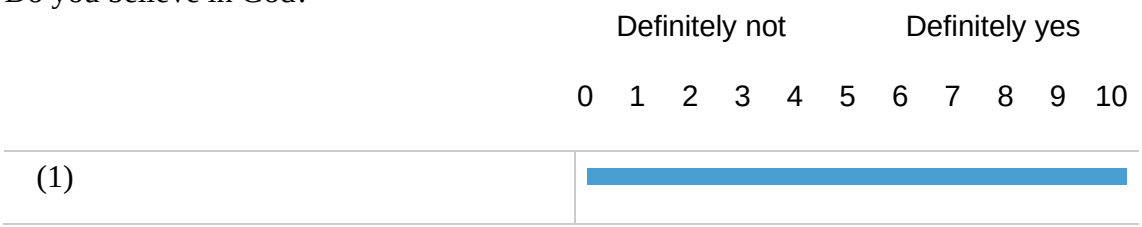
Now think about your family. Please tell us where you think your family would be on this ladder. Select the place that best represents where your family would be on this ladder.

▼ 10 (1) ... 1 (10)

Do you believe in God?

- ○ Yes (1)
- ○ No (2)

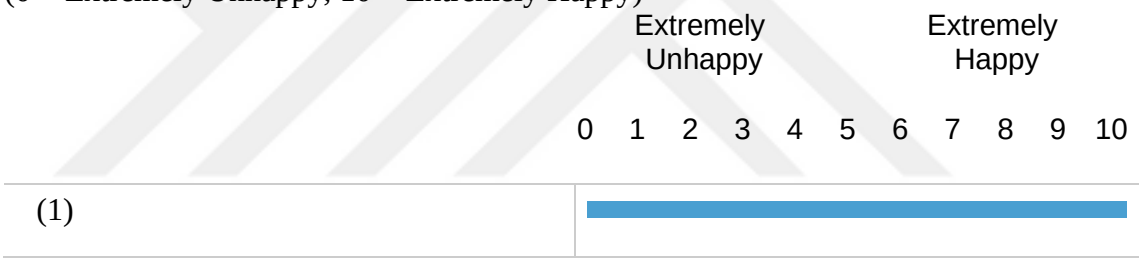
Do you believe in God?



Please choose the option below that best describes your religious affiliation.

▼ Christian, Anglican (1) ... Other (24)

How happy do you feel in general?
(0 = Extremely Unhappy, 10 = Extremely Happy)



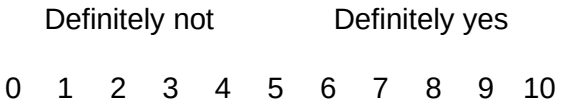
Please take a moment to think about what makes your life feel important to you. Please respond to the following statement as truthfully and accurately as you can, and also please remember that it is very subjective question and that there is no right or wrong answer. Please answer according to the scale below:

My life has a clear sense of purpose.

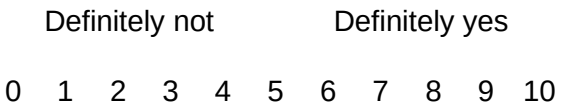
- ○ Absolutely Untrue (1)
- ○ Mostly Untrue (2)
- ○ Somewhat Untrue (3)
- ○ Can't Say True or False (4)
- ○ Somewhat True (5)
- ○ Mostly True (6)
- ○ Absolutely True (7)

Do you believe in evolution?

Do you believe in karma?

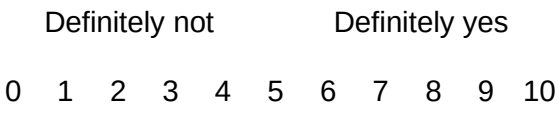


Do you believe in witchcraft?



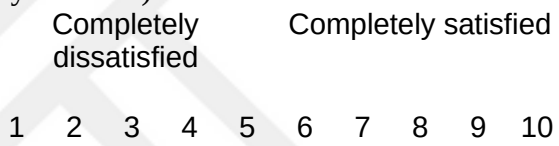
(1)	

Do you believe in alternative medicine?



(1)	

All things considered, how satisfied are you with your life as a whole these days?
(1 = Completely dissatisfied; 10 = Completely satisfied)



(1)	

APPENDIX G

Donation Task

DT-Charity
TASK A
You are given 100 tokens worth $1 (1 token = 1 cent) for this interaction (in addition to the participation fee). Your task is to decide how many of your 100 tokens to keep for yourself and how many (if any) to donate to a medical humanitarian charity of your choice. Please select an option.

- ○ *Save The Children* (3)
- ○ *Doctors Without Borders* (4)
- ○ *Red Cross* (5)
- ○ I do not want to donate. (7)

DT-Donation
How many tokens do you want to donate?

	0 100
. (1)	

APPENDIX H

PRISONER'S DILEMMA

In this task, you will interact with Participant D1.

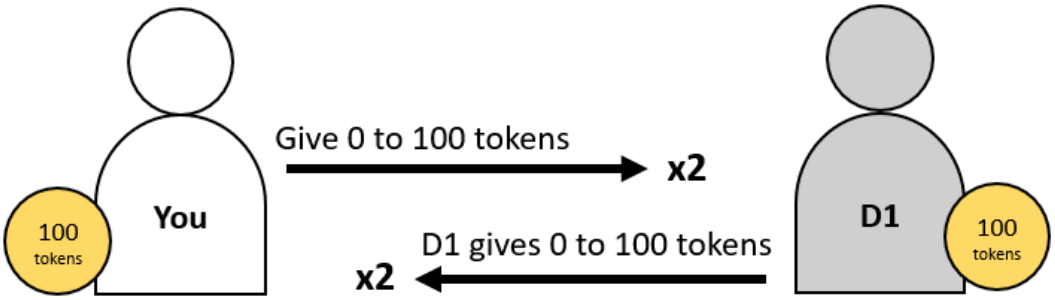
Each of you is given 100 tokens worth $1 (1 token = 1 cent) for this interaction (in addition to the participation fee).

You will each independently decide how much of your 100 tokens to keep for yourself and how much (if any) to give to the other person.

Any money you give to the other person will be doubled. Thus, for every 1 token you give to the other person, Participant D1 will receive 2 tokens.

Likewise, any money the other person gives you will be doubled. Thus, for every 1 token Participant D1 gives you, you will receive 2 tokens.

The interaction is depicted below.

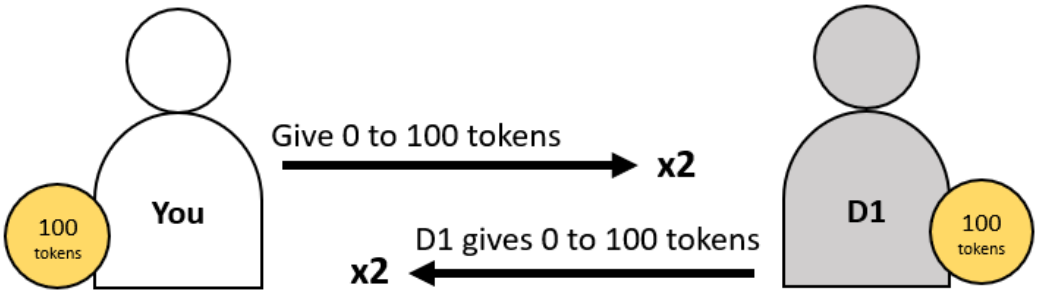


For example, if both of you choose to keep all of your 100 tokens, then you will each earn 100 tokens.

However, if both of you choose to give all of your 100 tokens, then all of the money will be doubled, and each of you will earn 200 tokens.

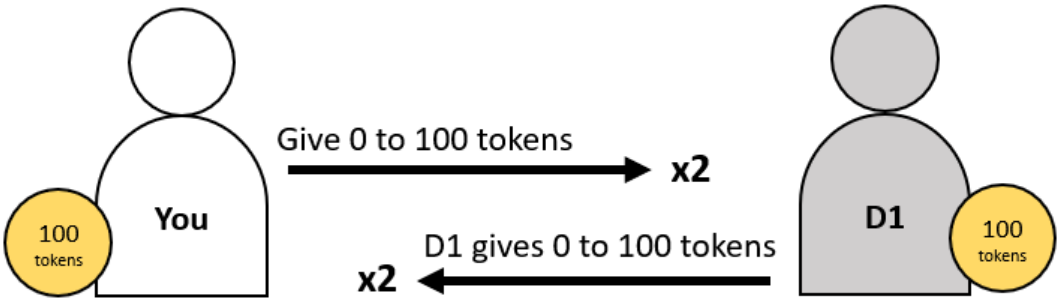
But if Participant D1 sends all of his or her 100 tokens to you while you keep all of your 100 tokens for yourself, you will earn $3 (100 + 200 = 300 tokens), while Participant D1 will not earn any money from this task (100 - 100 + 0 = 0 tokens).

TASK D



How many tokens do you want to give to Participant D1?

TASK D



How many tokens do you think Participant D1 has given you?

APPENDIX I

DECEPTION GAME

TASK H

In this task, you will individually interact with 10 other participants (you and Participant H1, you and Participant H2, ..., you and Participant H10).

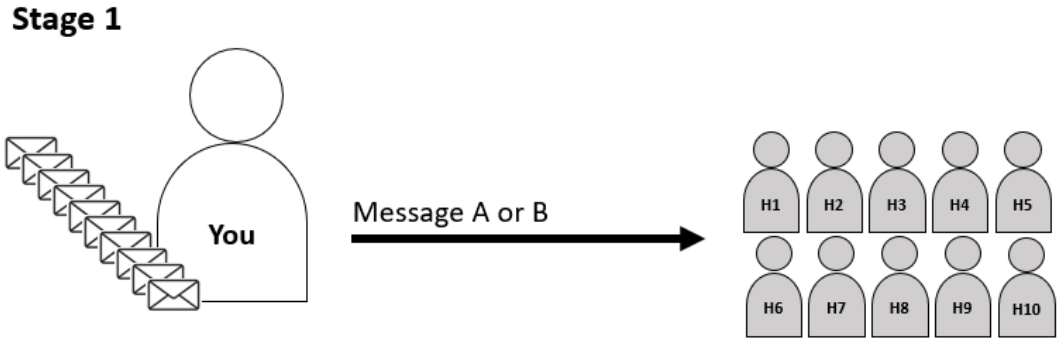
Neither you nor the other participants are given any money for this interaction at the beginning.

Task H has two stages: Stage 1 and Stage 2.

In Stage 1, one of the two private messages will be sent to your pair: Message A or Message B.

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

You will decide how many (if any) of the 10 participants to send Message A. The remaining participants will be sent Message B.



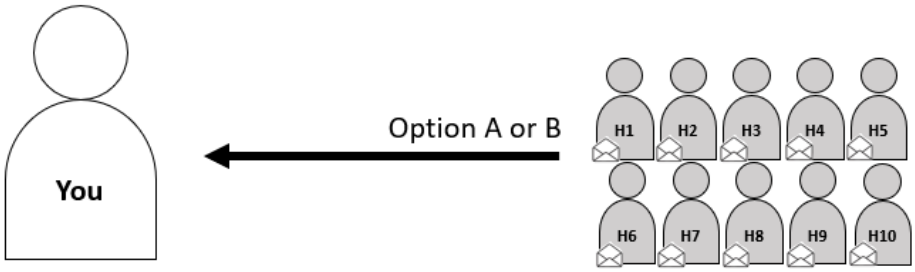
For example, if you choose to send Message A to 5 pairs then 5 randomly selected participants from Participant H1 to Participant H10 will receive Message A and the remaining 5 participants will receive Message B.

In Stage 2, after receiving their message, each of the other participants will individually and privately choose either Option A or Option B:

Option A: $1 to you and 50 cents each to the other ten participants
Option B: 50 cents to you and $1 each to the other ten participants

The only information the other participants will have is information sent by you in a private individual message. That is, the other participants will not know the monetary payments associated with each choice, the contents of the other messages, or your task earnings.

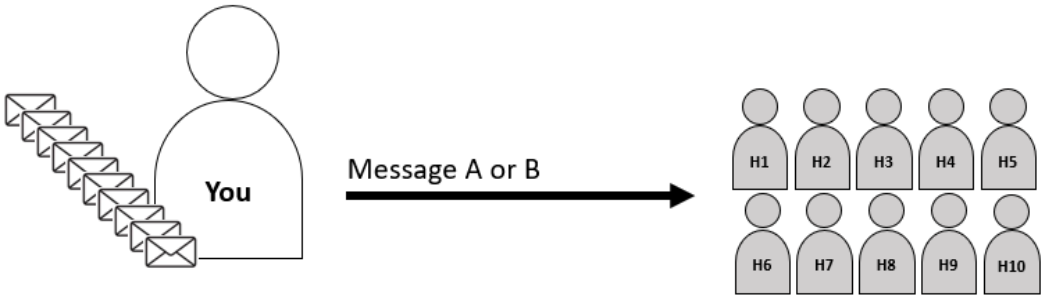
Stage 2



Finally, one of the ten decisions in Stage 2 will be randomly selected to determine your and the other ten participants' task earnings. If the selected decision is Option A then you will receive $1 and the other ten participants will receive 50 cents each, and if the selected decision is Option B then you will receive 50 cents and the other ten participants will receive $1 each.

TASK H

Stage 1



To how many participants do you want to send Message A?

APPENDIX J

TRUST GAME

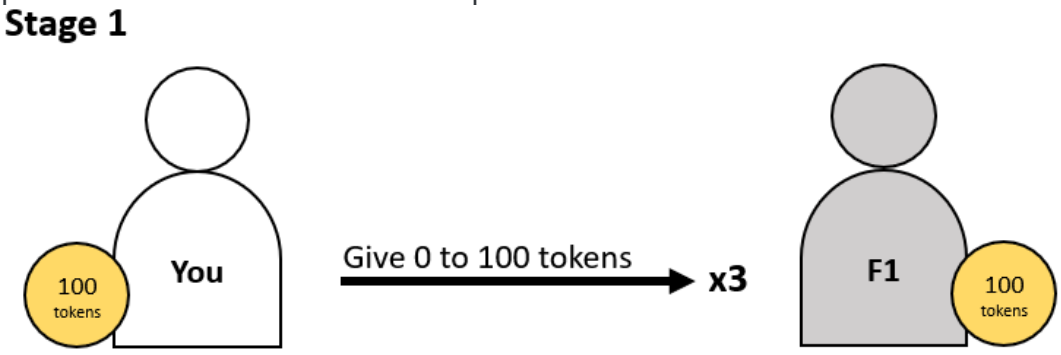
TASK F

In this task, you will interact with Participant F1.

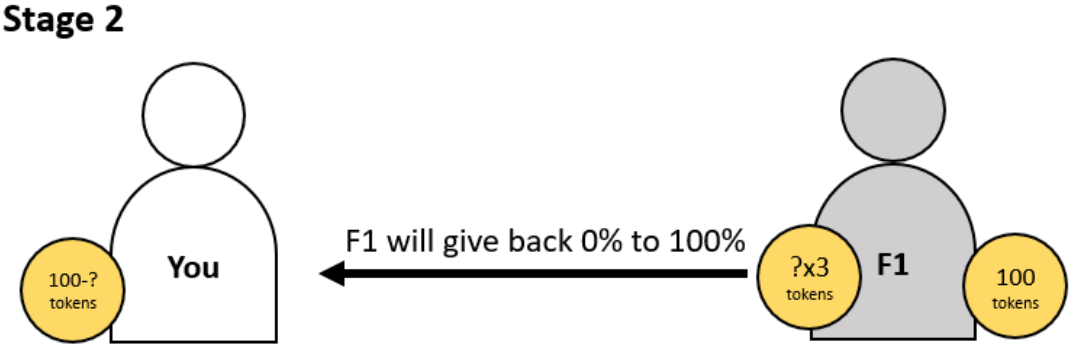
Each of you is given 100 tokens worth $1 (1 token = 1 cent) for this interaction (in addition to the participation fee).

Task F has two stages: Stage 1 and Stage 2.

In Stage 1, while Participant F1 will automatically keep all 100 tokens given, you will decide how many of your 100 tokens to keep for yourself and how many (if any) to give to Participant F1. As depicted below, each token you give to Participant F1 will be tripled before it is transferred to Participant F1.



In Stage 2, after observing the number of tokens received from you, Participant F1 will decide how much of the tripled tokens (if any) to send back to you and how much of them to keep in addition to the initial 100 tokens kept. Any tokens sent back to you will be directly transferred to your account (without being tripled).

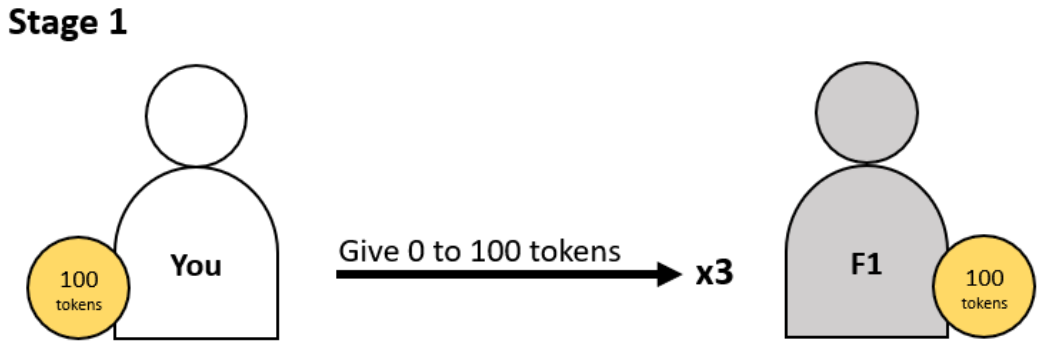


Task F ends after Participant F1's decision.

Your earnings from Task F will be equal to your initial 100 tokens minus the amount you give to Participant F1 plus the amount you receive from Participant F1 in return, whereas Participant F1's task earnings will be equal to initial 100 tokens of Participant F1 plus triple the amount you give to Participant F1 minus the amount Participant F1 sends back to you.

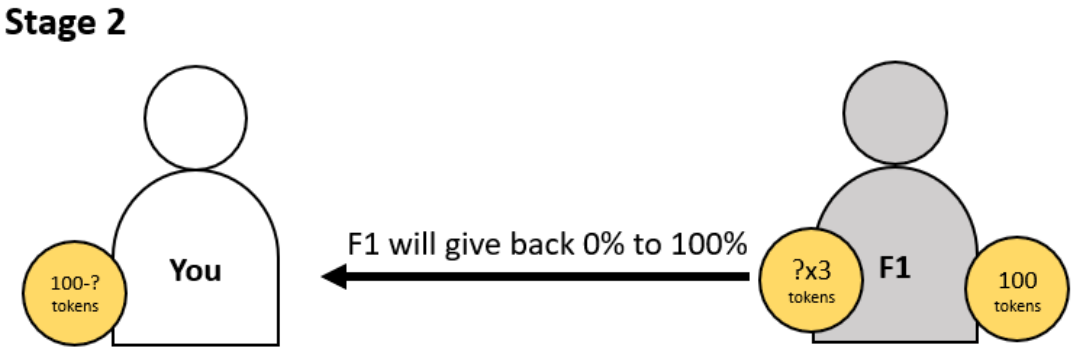
For example, suppose you gave 50 tokens to Participant F1. Then Participant F1 would receive 150 tokens (50 x 3 = 150). Suppose that Participant F1 sent half (50%) of the tripled tokens back to you (75 tokens). In this case, final earnings from Task F would be $1.25 for you (100 - 50 + 75 = 125 tokens) and $1.75 for Participant F1 (100 + 150 - 75 = 175 tokens).

TASK F



How many tokens do you want to give to Participant F1?

TASK F



What percent (%) of the tripled tokens do you think Participant F1 has sent back to you?

TASK G

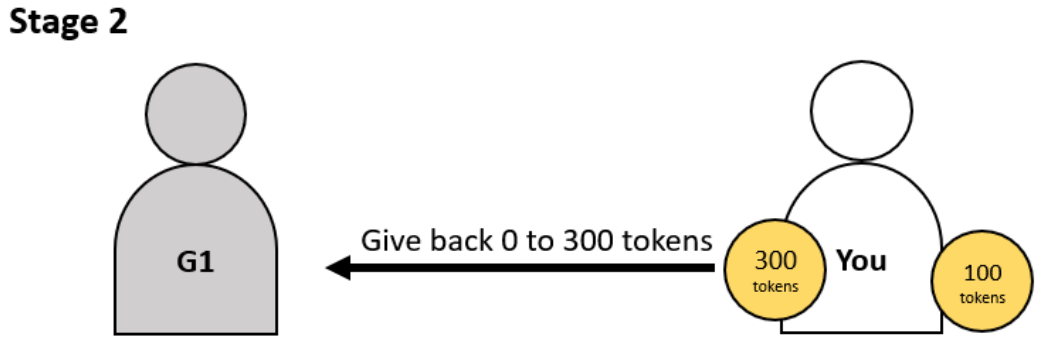
In this task, you will interact with Participant G1.

Each of you is given 100 tokens worth $1 (1 token = 1 cent) for this interaction (in addition to the participation fee).

Task G has two stages: Stage 1 and Stage 2.

Stage 1 is already finished. In Stage 1, while you automatically kept all 100 tokens given, Participant G1 decided to give you all 100 tokens. As depicted below, each token Participant G1 gave you was tripled before it was transferred to you.

It is now Stage 2. 300 tokens are transferred to your account. You will decide how many of the tripled tokens to keep (in addition to the initial 100 tokens kept) and how many (if any) to send back to Participant G1. Any tokens sent back to Participant G1 will be directly transferred to Participant G1's account (without being tripled).



Task G ends after your decision.

Your earnings from Task G will be equal to your initial 100 tokens plus triple the amount Participant G1 gave you (300 tokens) minus the amount you send back to Participant G1, whereas Participant G1's task earnings will be equal to the amount Participant G1 receives from you in return.

For example, suppose that you send half of the received tokens back to Participant G1 (150 tokens) and keep the rest. In this case, final earnings from Task G would be $1.50 for Participant G1 (100 - 100 + 150 = 150 tokens) and $2.50 for you (100 + 300 - 150 = 250 tokens).

For another example, suppose that you send 200 tokens back to Participant G1 and keep the rest. In this case, final earnings from Task G would be $2.00 for Participant G1 (100 - 100 + 200 = 200 tokens) and $2.00 for you (100 + 300 - 200 = 200 tokens).

How many of the 300 tokens received from Participant G1 do you want to give back to Participant G1?

APPENDIX K

THIRD-PARTY PUNISHMENT GAME

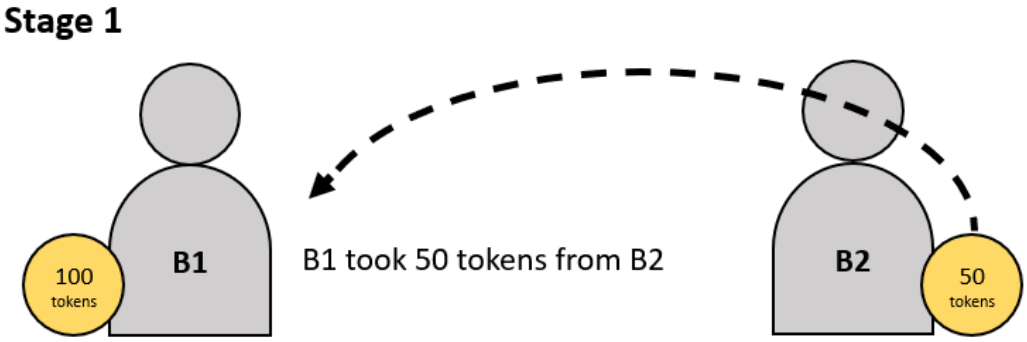
TASK B

In this task, you will interact with Participant B1 and Participant B2.

You are given 100 tokens worth $1 (1 token = 1 cent) for this interaction (in addition to the participation fee).

Task B has two stages.

Stage 1 is already finished. In Stage 1, Participant B1 was given 100 tokens (worth $1), whereas Participant B2 was given 50 tokens (worth $0.50). Participant B1 had to decide whether to take 50 tokens from Participant B2 or not. As depicted below, Participant B1 decided to take 50 tokens from Participant B2. As a result, Participant B1 currently has 150 tokens (worth $1.50), whereas Participant B2 will not receive any money from Task B.



In Stage 2, you will decide how many (if any) tokens to reduce from Participant B1's current total of 150 tokens. Participant B1 will keep any remaining tokens as earnings from Task B. However, each token you reduce from Participant B1's task earnings will cost you one third of a token. In other words, every three token you reduce from Participant B1's task earnings will lower your task earnings by one token.

For example, if you reduce 0 tokens (at zero cost to you) then Participant B1 will end Task B with 150 tokens and receive $1.50, and you will end Task B with 100 tokens and receive $1. If you reduce 75 tokens (at a cost of 25 tokens to you) then both you and Participant B1 will each end Task B with 75 tokens and receive $0.75. If you reduce all 150 tokens (at a cost of 50 tokens to you) then Participant B1 will not receive any money from Task B, and you will end task B with 50 tokens and receive $0.50.

TASK B

How many tokens do you want to reduce from Participant B1's task earnings?

APPENDIX L

THIRD-PARTY PUNISHMENT GAME WITH COUNTER-PUNISHMENT RISK

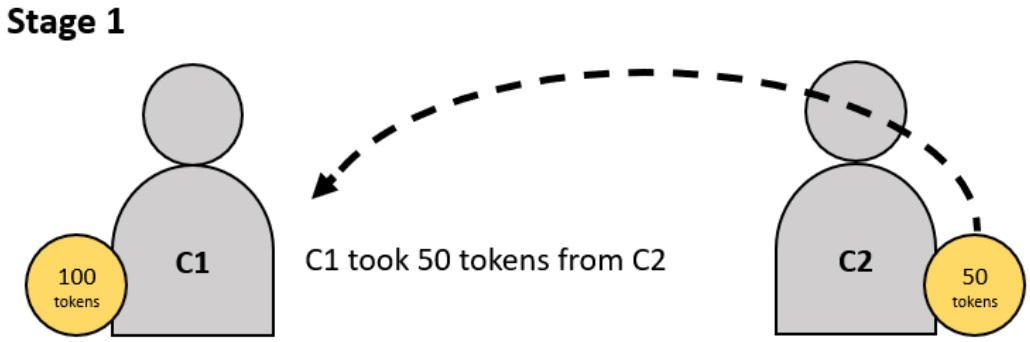
TASK C

In this task, you will interact with Participant C1 and Participant C2.

You are given 100 tokens worth $1 (1 token = 1 cent) for this interaction (in addition to the participation fee).

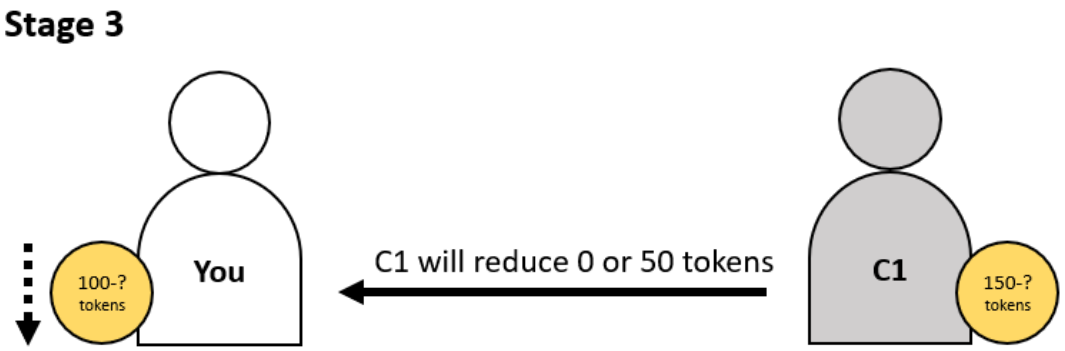
Task C has three stages. The first two stages in Task C are exactly the same as those in Task B, but Task C has an additional stage (Stage 3).

Stage 1 is already finished. In Stage 1, Participant C1 was given 100 tokens (worth $1), whereas Participant C2 was given 50 tokens (worth $0.50). Participant C1 had to decide whether to take 50 tokens from Participant C2 or not. As depicted below, Participant C1 decided to take 50 tokens from Participant C2. As a result, Participant C1 currently has 150 tokens (worth $1.50), whereas Participant C2 will not receive any money from Task C.



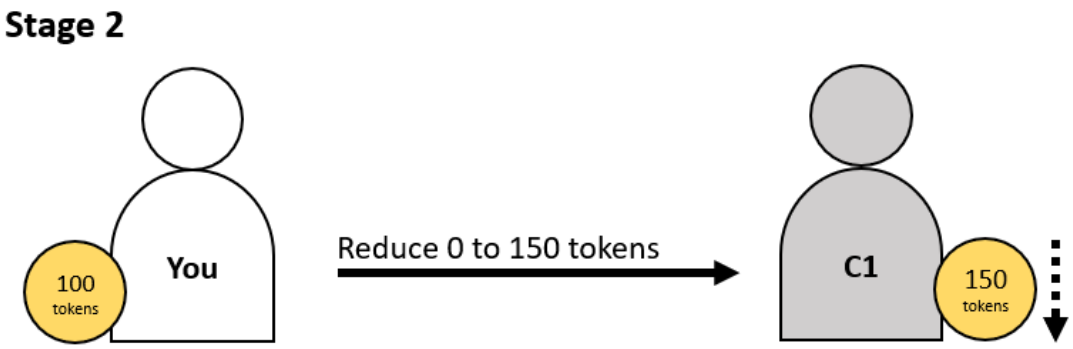
In Stage 2, you will decide how many (if any) tokens to reduce from Participant C1's current total of 150 tokens. Participant C1 will keep any remaining tokens as earnings from Task C. However, each token you reduce from Participant C1's task earnings will cost you one third of a token. In other words, every three token you reduce from Participant C1's task earnings will lower your task earnings by one token.

In Stage 3, after learning your Stage 2 decision regarding how many tokens (if any) you reduced from Participant C1's task earnings, Participant C1 will decide whether or not to reduce 50 tokens from your task earnings (at no additional cost to Participant C1).



For example, suppose that in Stage 2 you had reduced Participant C1's task earnings of 150 tokens by 75 tokens (at a cost of 25 tokens to you). As a result, Participant C1 would earn 75 tokens from Task C and you would have 75 tokens remaining. If in Stage 3 Participant C1 decides to reduce your earnings by 50 tokens then you would end Task C with 25 tokens and earn $0.25. Otherwise, if in Stage 3 Participant C1 decides not to reduce your earnings, then you would end Task C with 75 tokens and earn $0.75.

TASK C



How many tokens do you want to reduce from Participant C1's task earnings?

CURRICULUM VITAE

MELİKE ALBAYRAK

Education

- **Kadir Has University**
  M.A in Psychological Sciences
  2020– 2023

- **Istanbul Medipol University**
  B.A in Psychology
  2015 –2020

Experiences and Scholarships

- Paid research scholar at Tübitak (The Scientific and Technological Research Council of Turkey) 3501 - *How to Promote Cooperation under Resource Scarcity? The Moderating Role of Intuitive/Analytical Thinking*. January 2022 – April 2023

- Research assistant at Moral Intuitions Research Laboratory October 2020 – Present

- Full scholarship, Kadir Has University, Istanbul, Turkey

Skills and Languages

- IBM SPSS
- Jamovi
- Microsoft Office
- R Programming (Beginner)
- Turkish (Native)
- English (C1)