

INVESTIGATING THE RELATIONSHIP BETWEEN THE MORAL INTUITIONS
AND PRO-ENVIRONMENTAL BEHAVIOR IN TÜRKİYE

by

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ABSTRACT

INVESTIGATING THE RELATIONSHIP BETWEEN THE MORAL INTUITIONS AND PRO-ENVIRONMENTAL BEHAVIOR IN TÜRKİYE

Given the accelerating global climate change and biodiversity crises, the need for pro-environmental action continues to grow. While both individual and governmental action are crucial for addressing these challenges, the moral underpinnings of individual pro-environmental behavior has been receiving increasing attention recently. Moral Foundations Theory (MFT) is an empirical method based on surveys to assess moral intuitions of individuals in different policy-relevant contexts such as political ideology, voting behavior, and recently, pro-environmental behavior (PEB). However, so far, studies have been mainly carried out in high-income countries where options for environmentally-friendly behavior are supported by governments. The present study aims to uncover how moral intuitions, as assessed within the MFT, predict individual PEB based on an online survey conducted with 502 respondents in Türkiye. The survey includes specific modules on the Moral Foundations Questionnaire-2 (care, equality, proportionality, loyalty, authority, purity), political orientation, PEB and socio-demographics. Findings indicate that care, equality and purity foundations positively predicted PEB, without any mediating role of political orientation for the sample at hand. The absence of any influence of political orientation on PEB may be related to the relatively little public polarization with respect to climate change in Türkiye, in contrast to the US samples, for instance. The results of the study contribute to environmental psychology and policy literatures by widening the geographical coverage of PEB and morality studies and providing a baseline for evaluating and enhancing pro-environmental behavior in middle-income, developing country contexts such as Türkiye.

ÖZET

TÜRKİYE’DE AHLAKİ TUTUMLAR İLE ÇEVRE DOSTU DAVRANIŞLAR ARASINDAKİ İLİŞKİNİN ARAŞTIRILMASI

Hızlanan küresel iklim değişikliği ve biyoçeşitlilik krizleri göz önüne alındığında, çevre dostu eyleme olan ihtiyaç artmaya devam etmektedir. Bu zorlukların üstesinden gelmek için hem bireysel eylem hem de devletlerin alacağı önlemler hayati önem taşımakla birlikte, bireysel çevre dostu davranışın altındaki ahlaki temeller son zamanlarda giderek daha fazla ilgi görmektedir. Ahlaki Temeller Teorisi, siyasi ideoloji, oy verme davranışı gibi farklı politik bağlamlarda ve son zamanlarda çevre dostu davranışı ile bireylerin ahlaki tutumlarını değerlendirmek için de kullanılan, anketlere dayanan ampirik bir yöntemdir. Ancak, şimdiye kadar yapılan çalışmalar çoğunlukla çevre dostu davranış imkanlarının hükümetler tarafından desteklendiği yüksek gelir düzeyine sahip ülkelerde gerçekleştirilmiştir. Bu çalışma, Ahlaki Temeller Teorisi kapsamında değerlendirilen ahlaki tutumların, Türkiye’de 502 katılımcıyla yapılan çevrimiçi bir ankete dayanarak bireysel çevre dostu davranışı ne derece öngörebildiğini ortaya çıkarmayı amaçlamaktadır. Anket, Ahlaki Temeller Anketi-2 (bakım, eşitlik, hakkaniyet, sadakat, otorite, saflık), siyasi yönelim, çevre dostu davranış ve sosyo-demografik özellikleri inceleyen anket modülleri içermektedir. Bulgular; bakım, eşitlik ve saflık temellerinin, çalışmadaki örneklem için, siyasi yönelimin herhangi bir aracı rolü olmaksızın çevre dostu davranışı pozitif yönde öngördüğünü göstermektedir. Çalışmada, siyasi yönelimin çevre dostu davranış üzerinde, ABD’deki örneklemelerin aksine, herhangi bir etkisinin bulunmamış olmasının, Türkiye’de iklim değişikliğiyle ilgili toplumsal kutuplaşmanın nispeten düşük seviyede olması ile ilişkili olabilir. Çalışmanın sonuçları, çevre dostu davranış ve ahlak çalışmalarının coğrafi kapsamını genişleterek, Türkiye gibi orta gelirli ve gelişmekte olan ülke bağlamlarında çevre dostu davranışları değerlendirmek ve geliştirmek için bir temel oluşturarak çevre psikolojisi ve çevre politikası literatürüne katkıda bulunmaktadır.

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LIST OF ABBREVIATIONS

Abbreviation	Explanation
MFT	Moral Foundations Theory
MFQ	Moral Foundations Questionnaire
PEB	Pro-Environmental Behavior
PLS-SEM	Partial Least Squares Structural Equation Modelling
WEIRD	Western, Educated, Industrialized, Rich, Democratic



1.INTRODUCTION

In the face of global environmental challenges such as climate and biodiversity crises, environmental concern and the need for environmental action continue to grow. While urgent environmental action is needed to address these twin crises at different levels, including the individual, governmental and intergovernmental levels, the individual motivations behind pro-environmental action has been increasingly receiving attention in the last two decades. In this context, recent studies focused on moral intuitions of individuals as studied by the Moral Foundations Theory which is a psychological and social theory developed by Jonathan Haidt and Jesse Graham at the beginning of the 2000s (Haidt & Graham, 2007). Moral Foundations Theory is an empirical method based on surveys to assess moral intuitions of individuals in different contexts to explain how individuals develop and prioritize moral values. Especially, political ideology and voting behavior of individuals are one of the areas that are studied with MFT. The associations between specific morality dimensions (such as harm, care, fairness) and political orientations have been extensively examined across various cultural contexts and have been well-established in the literature (Dawson and Tyson, 2012; Haidt and Graham, 2007; Kivikangas et al., 2017). Recently, pro-environmental behavior has also been studied through the lens of MFT, to understand the underlying reasons and motivations behind ecological concern of individuals (Dawson and Tyson, 2012; Jansson and Dorrepaal, 2015; Vainio & Mäkinen, 2016; Baldner, 2018; Dickinson et al., 2016; Feinberg & Willer, 2013).

Within the MFT framework, morality judgments are generally discussed together with political orientations (Graham et al., 2009; Haidt, 2012; Dawson & Tyson, 2012; Tekeş et al. 2020, Atari et al., 2023). Especially, individual differences and the specific individual location in the political spectrum from left to right are examined in combination with moral intuitions. It has been suggested that pro-environmental behavior may be linked to moral intuitions as well, which in turn may be linked with political orientations. For instance, scientists have investigated the importance of moral motivations for conservation of the environment (Manner and Gowdy, 2010; Rode et al., 2015; Silfver et al., 2023). In addition, there are studies which relate pro-environmental choices of individuals to their political orientation and socio-economic status (Silfver et al., 2023; Vainio & Mäkinen, 2016). This research has predominantly been conducted in high-income developed countries (IMF, 2025), such as

Finland (Vainio and Mäkinen, 2016), Sweden (Jansson and Dorrepaal, 2015), and the United States (Feinberg & Willer, 2013), leaving a need for further investigation in less frequently studied country contexts. Addressing this gap, the present study focuses on Türkiye, where the tripartite relationship between political orientation, moral foundations, and pro-environmental behavior has yet to be systematically explored. Türkiye represents a unique middle-income, developing country (IMF, 2025) case study to explore the differences and similarities to the studies conducted in the Global North, as pro-environmental attitudes and behavior (for instance, in terms of climate change) are currently not politically polarized as is the case in the US. In addition, so far, the recently updated version of the Moral Foundations Theory by Atari et al. (2023) entailing six foundations (care, equality, proportionality, loyalty, authority, and purity) has not been explored in relation to pro-environmental behavior in Türkiye. Taken together, these considerations lead to the following research questions:

- i) Which specific moral foundations are related to pro-environmental behavior in Türkiye?
- ii) Does political orientation play a role in the relationship between the moral intuitions and pro-environmental behavior of individuals in the country?

To answer these questions, the present study employs a quantitative research methodology to explore the links between the six foundations of the MFT, political orientation and pro-environmental behavior. An online survey was carried out with 502 participants in May and June 2025. The survey consisted of four main modules: the first module, Moral Foundations Questionnaire-2 (MFQ-2) as developed by Atari et al. (2023), aims to analyze the different morality dimensions of individuals based on the six foundations, care, equality, proportionality, loyalty, authority, and purity (Atari et al., 2023) in Türkiye. The aim of the second module is to measure participants' political orientation on a spectrum of 1-10 (leftist versus rightist orientation), the third module asks questions about different environmentally-friendly behaviors in Türkiye based on the self-reported pro-environmental behavior scale items of Schultz et al. (2000) structured to assess individual environmental habits and attitudes. Finally, the fourth module includes questions on demographics of individuals. Data collected in these online surveys was analyzed based on Partial Least Squares-Structural Equation Modelling (PLS-SEM) to examine the relationship between moral intuitions, political orientation and pro-environmental behavior in order to provide crucial insights and to environmental policy and communication in the country.

The present thesis is organized as follows: the next section, Chapter 2, will introduce and discuss MFT and other related concepts used in the study. Historical and scientific background of the MFT will be reviewed in detail, in addition, political orientation and the pro-environmental behavior will be described and defined. Then, the links of these concepts across different cultural settings will be presented based on previous research. Chapter 3 describes the research design, including the sample, data collection procedures, and measurement instruments, and explains the rationale for employing PLS-SEM as the main analytical technique. Chapter 4 reports the empirical results, encompassing descriptive analyses, measurement model assessments, and structural model findings, as well as the outcomes of the mediation tests. Chapter 5 provides a discussion of the results in light of the existing literature, draws theoretical and practical implications, and situates the findings within the Turkish context. Finally, Chapter 6 concludes the thesis by summarizing the main findings, addressing limitations, and offering recommendations for future research.

2. LITERATURE REVIEW

This chapter will first introduce the theoretical framework guiding this research, namely Moral Foundations Theory (MFT), political orientation, and pro-environmental behavior (PEB). Each of these domains will be situated within the existing body of literature, with particular attention to how morality has been conceptualized through MFT, how political orientations are defined and classified in different contexts, and how pro-environmental behavior has been theorized and operationalized in the literature.

2.1. The Theoretical Trajectory of Moral Foundations

Moral Foundations Theory is a theory that was developed by Jonathan Haidt, Jesse Graham and Craig Joseph and at the beginning of 2000s (Haidt & Joseph, 2004; Haidt & Graham, 2007) to understand moral values of people and cultures based on a synthesis of findings from anthropology, cultural and evolutionary psychology (Atari et al., 2023). Haidt and Joseph (2004) asserted that morality is not only innate but also learned through social life. They brought a nativist approach and an empiricist approach together for morality, and proposed that moral intuitions are partly inborn and partly socially constructed (Haidt & Joseph, 2004). The intersecting point of the innate approach and the social approach is intuitions, according to Haidt and Joseph (2004). They described intuitions as “the judgments, solutions, and ideas that pop into consciousness without our being aware of the mental processes that led to them” (Haidt & Joseph, 2004, p. 56). Moral intuitions are described as a sub-category of intuitions in their work as spontaneous feelings or responses like approval or disapproval for someone’s action, decisions for our own (Haidt & Joseph, 2004). Their aim was to examine the relation and distinction between virtues and intuitions in various cultures and in different political ideologies, hoping for the consequence of greater understanding and respect among individuals.

In these early stages of the Moral Foundations study, through meta-empirical surveys and reviewing the related social science works, Haidt and Joseph (2004) identified four moral modules or patterns, as they called intuitive ethics, which were suffering/compassion (later it was identified as care/harm), reciprocity/fairness, hierarchy/respect, and purity. In this work,

the first three intuitions, suffering, hierarchy, and reciprocity were linked to relations to others and about social life challenges, where the last module, purity, was linked to disgust and evolved due to the survival struggle of the body when fighting microbes, pollution and parasites (Haidt & Joseph, 2004).

The modules are explained with the help of proper domain (evolutionary perspective, primary trigger or specific scenario) and actual domain (its consequence, example in modern life) (Haidt & Joseph, 2004). Then, the distinguishing emotions and relevant virtues for a specific moral intuition is described. Similar emotions and responses arise to similar experiences in people's lives and in cultures. For instance, the proper domain for reciprocity/fairness foundation is cheating and its modern example that triggers the intuition can be loyalty in marriage, related emotions regarding to these gratitude or anger. Another example, the initial trigger can be food sharing and its actual domain in modern life can be hospitality and *bread on a hanger*. Reciprocity also enables cooperation and justice among non-kin and motivates individuals to feel bad when cheating. Hence, justice, fairness and trustworthiness are the key virtues for reciprocity (Haidt & Joseph, 2004), which makes justice and loyalty consist of two of five moral foundations later in the theory (Graham et al., 2013; Haidt & Graham, 2007).

Later, these four moral modules/patterns were called moral foundations, as the theory expanded. Today's Moral Foundations Theory is built upon four claims which are nativism, cultural learning, intuitionism, and pluralism (Graham et al., 2013). Nativism entails the claim that morality in the mind is innate but innate means that it is prepared and arranged before experience (Graham et al., 2013). The mind is ready for the experience and the editing process after the consequences and adaptations. It strengthened the preparedness of humans and monkeys by creating mechanisms which process information and learn to solve problems. Finally, the nativism claim of morality comes from innate valuation of pleasure and displeasure in advance of learning. Hence, nativism is the existing initial draft for morality in human beings and shaped by evolution. The second argument for MFT is cultural learning. The initial draft for morality is revised during childhood and adulthood by social experiences and it is not final (Graham et al., 2013). The cultural context influences an individual's morality. The development and the edit in the first draft are a continuum process and this is the reason for the choice of "foundation" word by Graham et al. (2013).

In addition to these two tenets, the third claim for Moral Foundations is intuitionism. As previously described in Haidt and Joseph (2004), intuition is the automatic responses and reactions in the consciousness rather than deliberate evaluations. Graham et al. (2013) compares this definition with that of Kahneman's (2011) System 1 thinking which is effortless, heuristic mental processes and they are emotional and reflexive. System 1 comes first and then moral deliberate evaluation, System 2 thinking, comes later. Haidt (2012) suggested that people first make moral decisions intuitively, and then begin to think to defend, explain, and justify these judgments for socio-strategic purposes.

Finally, pluralism is the fourth claim that forms Moral Foundations Theory. Morality is not a single construct, is not reducible to a single and unified principle (Graham et al., 2013). This claim is the extended version of proper-actual domain theory in the work of Haidt and Joseph (2004). They are also named as "original triggers" and "current triggers" (Haidt, 2012). The explanation is about evolutionary thinking. Since, there have been many different and repeating challenges in humans' lives, it is normal that there will be various moral foundations (Graham et al., 2013). The challenges mentioned are social challenges. Finally, Graham et al. (2013) discussed and brought together Kohlberg's (1969, 1971), monistic claims that morality is developed in childhood, and Gilligan's (1982) critique of single-foundation models of morality, incorporating them with Shweder and colleagues' perspectives on the cultural diversity and scope of moral systems (Schweder, 1990; Shweder et al., 1997) and created the pluralistic view of Moral Foundations Theory. The pluralistic framework of MFT facilitates distinguishing between various moral emotions such as anger, contempt, and disgust by relating them to different sets of moral reasoning. This differentiation enables a more understandable way of how moral responses are formed in distinct areas of social life.

Moreover, the political ideology differences among people were the starting point for Graham and his colleagues to study the variability of moral foundations in different cultures (Graham et al., 2013; Graham, Haidt and Nosek, 2009). Revisiting the aim and the hope of scholars to understand the relations between intuitions and virtues for tolerance and respect among different nations, political groups, and benefiting from the Shweder's morality studies in diverse cultures (Shweder et al., 1997); Graham, Haidt and Nosek (2009), they divided the moral foundations into two main categories as individualizing and binding foundations. Their work demonstrated that different groups and cultures, such as liberals/conservatives and western/non-western, do not consider and judge the same issue in the same way (Graham et

al., 2009). Inspired by the study of Shweder et al. (1997) proposing ethics of three, i.e. ethics of autonomy, community and divinity in non-Western cultures, Graham et al. (2009), categorized the moral foundations into i) individualizing foundations as care and fairness; and ii) binding foundations as loyalty, authority and purity.

Accordingly, individualizing foundations represent the source of individuals' autonomy like welfare, justice and rights, whereas the binding morals display the constraint of individuals by religious values, institutions and authorities. In the light of these, Graham et al. (2009) argued that when Moral Foundations Theory is employed in the realm of political ideology, the moral foundations that individuals adopt differ depending on their political orientation. Individuals who identify themselves as left-wing or liberal put greater value on individualizing foundations, particularly care and fairness, while right-wing individuals, or conservatives, put more balanced value on the five moral values, for the US context (Graham et al., 2009; 2013; Haidt & Graham, 2007). Before 2012, the framework employed somewhat different labels: harm/care, fairness/reciprocity, ingroup/loyalty, authority/respect, and purity/sanctity, whereas after 2013, the terminology was revised to care/harm, fairness/cheating, loyalty/betrayal, authority/subversion, and sanctity/degradation (Graham et al. (2013). The modules formulated by the MFT -care, fairness, loyalty, authority, and purity- will be presented in detail in the following section of this thesis, along with their key characteristics. This first version of the MFT dimensions by Haidt et al. (2009, p.111) is summarized in Table 2.1. below).

Table 2.1. The initial version of MFT dimensions.

Foundation	Definition	The Type of Foundation
Care	Basic concerns for the suffering of others, including virtues of caring and compassion	Individualizing
Fairness	Concerns about unfair treatment, inequality, and more abstract notions of justice.	
Loyalty	Concerns related to obligations of group membership, such as loyalty, self-sacrifice and vigilance against betrayal.	Binding
Authority	Concerns related to social order and the obligations of hierarchical relationships, such as obedience, respect, and proper role fulfillment.	
Purity	Concerns about physical and spiritual contagion, including virtues of chastity, wholesomeness and control of desires.	

2.2. Explanation of Each Moral Foundation as proposed by MFT

2.2.1. Care Foundation

The care/harm foundation constitutes one of the five moral modules in the theory, which proposes that morality is built upon multiple systems that were initially formed over evolution. The care foundation essentially reflects a concern for the protection of individuals from suffering (Graham et al., 2013; Haidt & Joseph, 2004). It is the reflection of being a mammal which takes care of offspring, prevents harm, detects signs of distress and neediness in their child (Graham et al., 2013). Human children are dependent on their parents for a long time and the intuitive responses of parents were evolved to detect the pain. This part is the original trigger for this foundation and is in line with the nativist evolutionary perspective. The sensitivity, compassion and helping for offspring later expanded to kittens, dogs, or suffering of non-kin people and this part constitutes the current triggers of the care foundation. The related emotions arise in the individual as automatic reactions are compassion and anger, that is to say, the compassion for the vulnerable or victim and the anger for the perpetrator or the person or who caused harm or injury. Moreover, nurturance, kindness and empathy are the virtues that point out the care/harm foundation (Graham et al., 2013). It also aligns with Shweder et al. 's (1997) one of the three languages of morality, 'ethics of autonomy' to protect independent individuals (Graham et al., 2013). Since, the care foundation is referred to as an individualizing foundation, the focus of moral concern is on the rights and well-being of individuals (Graham et al., 2009).

2.2.2. Fairness Foundation

Fairness/cheating represents the second individualizing foundation of the Moral Foundations Theory, which is also an innate but editable moral concern that developed through cultural practices and institutions like other foundations (Graham et al., 2009). The foundation is also known as fairness/reciprocity (Haidt & Graham, 2007). It addresses the adaptive challenge of social interactions in relationships. For instance, maintaining beneficial relationships is possible through trust, justice and cooperation via avoiding exploitation in two-way relationships or in a community. In this sense, the fairness foundation functions as a psychological design mechanism to optimize social justice, generate cooperation and minimize the risks associated with unequal exchanges. In addition, the innate preparedness of the

foundation comes from being social beings that engage in mutually advantageous exchanges and do not approve or like the violative acts from the beginning of infancy (Graham et al., 2013). For instance, toddlers demonstrate sensitivity to fairness in third-party relations when there is a violation, and share rewards in a just way after a collaboration (Graham et al., 2013). Its current triggers are related with the regulation of reciprocal interactions and promotion of sensitivity to issues like lying, freeloading, and fraud. In addition, social and political problems such as economic inequality, systemic injustice, discrimination may serve as an example for current triggers of fairness. People may respond with anger to situations like human rights violations. Anger and guilt are the characteristic emotions linked to fairness foundation, arise in response to unjust experience and unfair advantage. Learning about a deception via gossip or malfunctioning of vending machines can be an example of an indirect or abstract form of a trigger to fairness foundation (Graham et al., 2013). Gratitude is another emotion but a positive one which is linked to the fairness foundation, when there are reciprocal cooperation and equitable exchange. In sum, this foundation underlies the moral importance assigned to concepts such as trustworthiness, justice, and proportionality (Graham et al., 2009). These particular concepts have gradually led scholars to reexamine the scope of the fairness foundation.

In the early years of MFT, the fairness foundation comprised equality instead of recognizing equality as a separate foundation. Particularly, concerns related to equality in the distribution of goods and benefits were viewed as falling under the existing fairness foundation (Graham et al., 2013). Equality is seen as a subset of equity meaning that if all individuals have contributed equally, they should receive equal benefit and share in return, whereas those who take more than their share are the cheaters (Graham et al., 2013). However, this perspective was firstly criticized by Iyer et al. (2010) suggesting that the fairness foundation in MFT predominantly emphasizes moral concerns about equality rather than equity, adding that equality-based moral reasonings are often driven by care motives for others, whereas equity-based concerns may stem from distinct psychological motivations as highlighted by Graham et al. (2013). Later, based on this critique, equality and equity were incorporated as separate moral foundations in the MFT labeled as 'equality' and 'proportionality' (Atari et al., 2023). Atari et al. (2023) also reconsidered the suggestion of Janoff-Bulman & Carnes (2013) that systemic inequalities are lacking in the first version of MFT, and hence, they wanted to reflect the equity in societal inequalities in core moral foundations. Atari et al. (2023) suggested therefore capturing the diversity of fairness-related moral intuitions more accurately via separating

fairness foundation into equality and proportionality. In-kind reciprocity and balance in social interactions were covered in the equality dimension or in both of the (former and later) theories, whereas proportionality covers getting results in proportion to negative or positive contributions (Atari et al., 2023; Rai & Fiske, 2011).

In addition, the updated version of the MFT aimed to go beyond the Western, Educated, Industrialized, Rich, and Democratic (WEIRD) (Henrich et al., 2010) society to create more culturally inclusive and robust moral intuitions for exploring the diversity of moral reasoning across cultures. In the new version of the MFT by Atari et al. (2023), “equality” was conceptualized as moral intuitions highlighting equal treatment, equal outcome and distribution for individuals, whereas “proportionality” was conceptualized as getting rewarded or punished in proportion to their merit, efforts or costs, guilt. The authors used different methods including psychometric network analysis, exploratory structural equations model, alignment measurement equivalence to test their new items for cross-national samples across 25 countries, got feedback and reviews, resulting in a final scale for MFT that contains 6 foundations.

2.2.3. Loyalty Foundation

Loyalty is another core intuition within the MFT. Initially, the loyalty to friends was considered under reciprocity/fairness dimension, whereas the loyalty to superiors was considered under hierarchy/respect foundation (Haidt & Joseph, 2004). However, Haidt and Joseph (2004) also asserted the ingroup module as the best candidate for the fifth module in this work by proposing the original trigger of living together with kin-based communities and the modern example as sport teams and nations that shape contemporary identities. Therefore, they considered loyalty/ingroup foundation as a distinct foundation later.

Haidt & Graham (2007) benefited from the Shweder (1997)’s three ethics, especially the ethic of community which views the world as made up of social units like families, institutions, tribes rather than collection of individuals, when putting loyalty/ingroup foundation forward as one of the five moral modules. In the light of the Shweder (1997)’s ethic of community which focuses on the moral integrity of various positions and roles in a society helps moral regulation, Haidt & Graham (2007) and Graham et al. (2013) brought the evolutionary roots of social and communal lives of humans and other primates together when proposing ingroup/loyalty as one of the five foundations of morality.

The evolutionary roots of loyalty foundation come from the adaptive challenge of establishing and maintaining stable coalitions to survive in tribal conflicts (Haidt, 2012). For a long time, humans and chimpanzees protected their territory, attacked and competed with rival groups in order to survive and maintain their life with their kins (Graham et al., 2013). This innate preparedness helps humans to build cohesive bonds and partnerships when it comes to modern times. For example, companies put forward a narrative related to loyalty intuition when there is a competition so that people can experience the joy of collective action. In addition, a threat and challenge, a derby for a sports team brings together its fans, meaning that people love to compete and form groups just for fun (Haidt, 2012). In this regard, distinguishing emotions related to loyalty are group pride and anger to betrayers and relevant virtues may be self-sacrifice and patriotism (Graham et al., 2013).

The emotions relating to trust, cooperation, solidarity enhanced loyalty and group cohesion which currently leads to patriotism, or being a fanatic for a sports team. In this moral framework, national symbols and conflicts between countries may be another trigger for loyalty foundation. Based on these characteristics and emphasis on group identity and allegiance to one's family or nation, loyalty foundation is considered as a binding foundation (Graham et al., 2009). In parallel with the loyalty foundation, another binding foundation is the authority foundation which similarly emphasizes the importance of maintaining group stability and social order through different values as explained in the next section.

2.2.4. Authority Foundation

In the first version of moral foundations, authority foundation was included in the hierarchy/respect module (Haidt & Joseph, 2004). The disparities in strength or abilities of the individuals in a group make some of them more powerful and some others subordinate. In this context, to maintain the group cohesion, loyalty and respect were the conspicuous virtues related to hierarchy/respect foundation in the first version of morality modules. The original trigger for the authority/respect foundation is difference in physical size, domination and protection with the signs of low and high rank within social groups (Graham et al., 2013; Haidt & Joseph, 2004). Understanding the adaptive challenge of this foundation begins with considering the dominance hierarchies in social animals like chickens, chimpanzees, dogs. It is observed that lower ranking -small, non-threatening appearing- individuals display

submissive behavior, avoiding conflict (Haidt, 2012). At first glance, authority can be confused with mere power with the oppression of the subordinate. However, the functionalities and responsibilities that come with authority like regulating, controlling, and maintaining social stability should be considered with the context of authority/respect foundation as well (Haidt, 2012). Haidt (2012) and Graham et al. (2013) go beyond the evolutionary side of hierarchy and show the current examples by building on the Authority Ranking framework of Fiske's (1991) four relational moral modules. The modern examples for the authority foundation may include bosses, gods, leaders, law and military institutions (Graham et al., 2013). These are legitimate hierarchies which are generally accepted by individuals with the emotional underpinnings like respect, fear, resentment.

Additionally, Graham et al. (2013) take Shweder et al. 's (1997) ethic of community into account for the authority/respect foundation. The concepts like duty, interdependence, respect in order to protect social and institutional order are the key virtues which bind individuals to their community (Graham et al., 2013). Therefore, the authority foundation is a binding foundation which concentrates on the group as the locus of morality (Graham et al., 2009). Cultures and individuals show differences strikingly in the degree of sensitivity to hierarchy and social order, to show respect to elderly or other superior positions of authority and binding foundations generally keeps individuals and groups together.

2.2.5. Purity Foundation

The last module of the MFT is the purity/sanctity foundation. The foundation appears as purity, sanctity and sanctity/degradation in different studies (Graham et al., 2013; Haidt & Graham, 2007; Haidt & Joseph, 2004). It is a complex module which connects a basic emotion of disgust within religious beliefs. Haidt and Joseph (2004) suggested that many Eastern religious systems and societies are undeniably concerned with the issues of pollution and purity both in physical and symbolic terms through taboos and rituals. It is an odd part of morality for Western cultures but it is deeply embedded in daily life of Eastern cultures according to Haidt and Joseph (2004) and Shweder et al. (1997). The evolutionary adaptive challenge for the purity foundation was the need to avoid infectious diseases and some of the original triggers for this foundation are parasites and people carrying diseases (Graham et al., 2013). In addition, being an omnivore was another evolutionary origin for the purity foundation because humans are required to discover new food sources besides being cautious about the harmful microbes and

toxicity (Haidt, 2012). These estimations through smells and observations help people to predict whether something is edible or not. The purity foundation and related emotional responses have been expanded by different cultures into rules and systems to regulate bodily practices like dietary habits and hygiene (Haidt & Joseph, 2004). In this context, disgust has appeared as both a biological reaction and a social emotion (Haidt & Graham, 2007). Many societies have extended the domain of disgust to bodily behaviors and religious activities and promoted some notions such as piety, chastity, spiritual discipline and disapproved lust, greed and viewed it as unclean, sinful and inferior (Haidt & Graham, 2007). In other words, purity/sanctity concerns reflect both disease avoidance and judgments of self-control and sacredness.

Graham et al. (2013) matched the concern of maintaining spiritual and physical purity with the Shweder et al. 's (1997) ethics of divinity that protect the divine nature in each individual against hedonistic behaviors. The modern triggers for purity/sanctity foundation are therefore natural or chemical medications and the taboos related to sexuality (Atari et al., 2023; Graham et al., 2013). Temperance, cleanliness, and sacredness are the relevant concepts which are embedded in this foundation. The foundation operates in two directions: negative and positive untouchability (Haidt, 2012). The avoidance (negative untouchability) originates from the dirt, whereas positive untouchability comes from the protection of something that is so hallowed from desecration (Haidt, 2012). For instance, national flags, religious places like mosques are sacred objects which foster the emotion of reverence and belonging. Hence, purity is a binding foundation which reinforces cohesion in different communities by deep emotions.

In summary, each of the moral modules within the MFT has an underlying value judgment which is shaped by evolution, cultural experiences, and intuitions. These judgments, unsurprisingly, have an impact on the perspectives and behaviors of people. Political ideology is one of the areas that is influenced by morality, so the next chapter will provide a brief historical overview of political ideology in relation to MFT.

2.3. The Evolution of the Moral Foundations Questionnaire: From Its Initial Construction to Its Recent Extensions

As noted earlier, Haidt and Joseph (2004) drew upon numerous scientific works on morality when laying the foundations of the MFT, later, Graham et al. (2013) established and

detailed its criteria and questionnaire items. At this point, the criteria established by the authors can be summarized as follows: the evidence of evolution and innate preparedness, automatic evaluations, being common in external normative judgments, and observed broadly in diverse cultures (Graham et al., 2013). These principles served as the conceptual basis for the construction of the Moral Foundations Questionnaire (MFQ), which operationalizes the five moral foundations into measurable items. To create a valid and reliable measurement tool to evaluate the level to which a person's moral intuitions are based on these five foundations, the different versions of the questionnaire were tested on many large samples, and the validity and reliability analyses were done for both internally and externally (Graham et al., 2011).

Then, since the scholars have always been open to critiques and new foundation suggestions they also developed the new version of MFQ because it seems that the MFQ-1 lacked in giving insight about non-Western cultures (Atari et al., 2023). As mentioned earlier, fairness separated into equality and proportionality, so they wanted to create a new version of MFQ. The revised scale (MFQ-2) demonstrated strong structural validity across varied populations and allowed for a more detailed examination of moral differences in both WEIRD and non-WEIRD contexts (Atari et al., 2023). In the new version of MFQ (MFQ-2), there are only judgment items. The participants indicate how well the sentences describe their opinions on a 1-5 likert scale. At first, there were 50 candidate items but at the end, they aimed for six items for each six foundation (Atari et al., 2023). After testing and analyzing across nineteen nations, the structural validity and comparability are ensured. Specifically, they want to ensure the MFQ-2's validity on non-WEIRD context, too. For example, it is tested for Iran because of being "approximately culturally equidistant for WEIRD countries" (Atari et al., 2023, p.7). They also categorize equality as individualizing, and proportionality as binding foundation based on the findings as seen at Table 2 (Atari et al., 2023, p.5). Hence, at the end MFQ-2 is now a new tool to see the morality differences between individuals and cultures and it is also validated for Turkish context, too (Dogruyol et al., 2024).

Table 2.2. Updated version of MFT dimensions.

Foundation	Definition	The Type of The Foundation
Care	Intuitions about avoiding emotional and physical damage to another individual.	Individualizing
Equality	Intuitions about equal treatment and equal outcome for individuals	
Proportionality	Intuitions about individuals getting rewarded in proportion to their merit or contribution	Binding
Loyalty	Intuitions about cooperating with ingroups and competing with outgroups.	
Authority	Intuitions about deference toward legitimate authorities and the defense of traditions, all of which are seen as providing stability and fending off chaos.	
Purity	Intuitions about avoiding bodily and spiritual contamination and degradation.	

2.4. Political Orientation

Political ideology is defined as the collection of the attitudes that carry cognitive, emotional and motivational constituents to achieve a functioning society (Jost, 2006). It serves as a mechanism which explains why individuals act in certain ways by classifying “their values and beliefs, leading to political behavior” (Jost, 2006, p.653). In recent decades, political orientation has been increasingly studied in connection with morality, because the importance and meaning people give to different values change and this correlates with their political views (Graham et al., 2009; Haidt & Graham, 2007; Kivikangas et al., 2017; Smith et al., 2017). It is one of the individual differences which shapes attitudes, behaviors and one of the indications how people interpret and respond to social issues. When discussing political orientation, some ideological labels such as left/right, liberal/conservative generally serve as reference points to describe individuals' attitudes toward social, economic, and environmental circumstances.

The history of left versus right distinction goes back to the 18th century French Parliament seating placements (Bobbio, 1996). Even though the left/right distinction changes from place to place and time to time, it has been one of the most useful ways to distinguish political ideologies for centuries (Jost, 2006). For instance, in the context of American political

discourse, the left of the political spectrum is commonly reflected through ‘liberal’ whereas the right refers to the ‘conservative’. Jost et al. (2003) identifies the differences between liberal/conservative or left/right ideologies according to their main approaches toward inequality and societal reforms. As claimed by Erikson et al. (1988) in the work of Jost (2006), the liberals/leftists seek equal opportunities for all people including the disadvantaged, and seek social changes while the conservatives seek order and stability through tradition and authority. In addition, McCrae (1996) adds another label to this differentiation as progressive for the left wing and traditional for the right wing, pointing out that the supporters of right-wing ideology are likely to be socially conforming and unadventurous.

For the Turkish political context, it is often difficult to clearly distinguish between political orientations between left and right, as political parties exhibit periodically shifting alliances, pragmatic collaborations, and ideological fluidity. Türkiye’s geographical position, being located between Europe and Asia, non-western and pre-dominantly Muslim country makes political parties adopt pragmatic stances and adjust their positions depending on the issue at hand (Öniş, 2007). However, this complex structure does not preclude analyzing individuals' fundamental political positions. Using conceptual frameworks such as Jost's (2006) general left-right distinction, individuals' core values, worldviews, and ideological orientations can be meaningfully positioned along a left-right axis in Türkiye (Öniş, 2007). In addition, governments are still commonly referred to as right-wing or left-wing governments; these labels retain their significance and relevance in contemporary discourse in Türkiye. This axis should be considered a spectrum encompassing diverse political and ideological positions, rather than a single polar distinction.

Political orientation is often considered reflecting different positions regarding social and global issues. It could potentially play an important role for the individuals’ perspectives regarding the urgent global and local environmental problems we are facing today (Cruz, 2017; McCright & Dunlap, 2011). Hence, the role of individual political perspectives in shaping pro-environmental behaviors can be crucial, especially for certain national contexts like the US. However, this relation in Türkiye has been so far under-investigated with a few exceptions which imply that this relationship is not very robust (Taniguchi and Marshall, 2018; Ignatow, 2005).

2.5. Pro-Environmental Behavior

Pro-environmental behavior is “a sub-set of environmental action” (Jensen, 2002, p. 325) seeking “to minimize the negative impact of one’s actions on the natural and built world” (Kollmuss & Agyeman, 2002, p.240). Decreasing energy consumption and waste production, using non-toxic materials are typically the first examples that come to mind when discussing the concept on an individual level (Kollmuss & Agyeman, 2002). The origins of individual environmental awareness at least date back to the 1960s when industrial pollution and negative impacts of pesticides were being felt severely perhaps for the first time in history. Rachel Carson wrote the book “Silent Spring” in 1962 to address the damages of pesticides on nature which is one of the starting points of the environmental movement. The depletion of the world's natural resources and the environmental damage resulting from people's profit- and growth-based economic activities have led scientists to criticize the existing socio-economic system, or the dominant economic paradigm, leading to research and new approaches such as spaceship earth and steady state economics (Boulding, 1966; Daly, 1973). These new approaches emphasized that economic activities should be carried out in a balanced manner, without harming existing natural resources and by respecting the environmental balance. They also pointed out that a growth-oriented economy has its biophysical limits (Meadows et al., 1972).

In response, Dunlap and Van Liere (1978) conducted research on how much people care about the environment and nature, which they termed the New Environmental Paradigm (NEP). In this theory, the scholars tested individual perspectives regarding nature conservation by asking how much they agree on phrases like “plants and animals exist primarily to be used by humans”, “there are limits to growth beyond which our industrialized society cannot expand” and “mankind is severely abusing the environment” (Dunlap & Van Liere, 1978, p. 13). Later, Stern and Dietz (1994) started to discuss environmental justice and ethics, then presented a theory of the value basis of environmental concern. In their work, they proposed the three types of values named as biospheric, social-altruistic, and egoistic value orientations which are the bases for environmentalism. In addition, they tested whether these three values are the behavioral indicators of environmentalism (Stern & Dietz, 1994).

Building upon the value orientations, Stern et al. (1999) proposed Value-Belief-Norm Theory for environmentalism/environmental activism especially for environmental movements. According to Stern et al. (1999) the success of a movement relies on gaining

support from activists and organizations by influencing their personal norms or reshaping them to foster a sense of obligation. In addition, Stern (2000) expanded and detailed this theory with private-sphere environmental activism and finally called them ‘environmentally significant behaviors.’ The determinants for environmentally significant behaviors were related to “attitudinal, personal features and contextual factors” (Stern, 2000, p. 421). Attitudinal factors are related to personal norms and values, personal features are related to education, status and contextual factors are related to public policies, laws and regulations (Stern, 2000).

In addition to these, Schultz and Zelezny (1998) brought Stern’s Value-Belief-Norm (VBN) Theory and Schwartz’s Norm Activation Model (NAM) together to assess people’s pro-environmental behavior. Schwartz’s (1977) Norm Activation Model explains pro-social behaviors through the activation of personal moral norms. If people have personal norms and awareness of their actions’ consequences, and ascribe their responsibility, it may increase their likelihood of engaging in pro-social behavior (Schwartz, 1977). Schultz and Zelezny (1998) used these models as predictors of pro-environmental behavior. Accordingly, environmentally responsible behaviors consist of “recycling, energy conservation, using public transportation, purchasing environmentally safe products and water conservation” (Schultz & Zelezny, 1998, p. 545). Later, Schultz et al. (2000) tested whether religion played a role in environmental concern and found a significant link between Christian beliefs and an anthropocentric view (rather than an eco-centric basis) on environmental concern. In this study, they also expanded the scope of the pro-environmental behavior scale to 12 items by including public environmental acts such as environmental volunteering, donation for nature, writing a petition for ecological issues and encouraging people to recycle (Schultz et al., 2000). This study constitutes one of the fundamental scales for pro-environmental behavior (Stern, 2000; Lee et al, 2015; Gifford & Nilsson 2014; Milfont & Duckitt, 2010).

Apart from the individual features related to values, beliefs, environmental knowledge, and personal norms (Kollmuss & Agyeman, 2002), there are other factors that may have an impact on pro-environmental behavior. For instance, economic situations, laws and regulations, policies and politics are the contextual and external factors which may predict environmentally- friendly behavior (Kollmuss & Agyeman, 2002; Stern, 2000). For instance, a recent study in Finland showed that age, gender, education, and income may also have an influence on pro-environmental lifestyle choices (Silfver et al., 2023). Having higher

education, being younger and woman are associated with more pro-environmental practices (Silfver et al., 2023).

2.6. Linking Morality, Political Orientation, and Pro-Environmental Action: A Review of Recent Empirical Findings

2.6.1. MFT and Political Views

Haidt and Joseph (2004) found that American political conservatives give more weight to respect for authority, spiritual purity, fairness, while American liberals value more the virtues of care (suffering module in this study) and fairness, since liberals are more sensitive about victimization and equality. Hence, they wanted to test whether political conservatives are more moralistic via directly asking their position on the political spectrum and asking the foundations which they consider when deciding something is right or wrong (Haidt & Graham, 2007). They found that right-wing people prioritize all five moral foundations almost equally, while left-wing people attach more importance to care and fairness (Haidt & Graham, 2007).

Given the Jost et al. (2003)'s explanation on conservatism related to a social motivation for being in a comfort zone to reduce fear, ambiguity and accepting inequality, order; Haidt & Graham (2007) relates the motivation of reducing ambiguity and chaos to moral foundations of authority and loyalty. The right-wing's sensitivity for order, stability, and loyalty seems like a positional ideology for Graham et al. (2009). At this point, Graham et al. (2009)'s classification between individualizing and binding foundations was useful for exploring this. Endorsing the binding foundations -loyalty, authority, purity- is more widely observed in conservatives as this is about centering the group, nation, or country as the locus of morality. Since conservatives believe human beings are selfish and imperfect, this imperfection can be regulated by institutions, traditions and these are the norms which unite individuals (Graham et al., 2009). In addition, Graham et al. (2009) benefited from McCrae's (1996) findings when arguing that liberals are more open to new experiences and change. In other words, left-wing leaning people focus on individual welfare and rights, which are the features for individualizing foundations; the left perspective requires liberty, equality and openness, also the left values care and fairness more than conservatives do. In addition, authority foundation was found to be a negative predictor for left-wings' moral assessments (Graham et al., 2013). However, these

findings apply mainly to WEIRD (Western, Educated, Industrialized, Rich, and Democratic) societies, especially for the United States.

Yet, Türkiye is far from being a -WEIRD society according to Muthukrishna et al. (2020), hence, the link between moral foundations and political orientation may be different in the country. Both MFT and its link to political orientation was tested in Türkiye by a few recent studies. Yilmaz et al. (2016) found that individualism increases concern for care/harm and collectivism increases concern for loyalty/ingroup in the country (Yilmaz et al., 2016). Moreover, the study also found that the five-foundation model of the MFT is the best-fitting model for Türkiye, rather than the two-foundation (individualizing and binding) structure. Another study evaluated the link between political orientation and moral foundations among Turkish young adults and found a similar positive relationship between binding foundations and right-wing orientation parallel to earlier studies (Tekeş et al., 2021). However, of the individualizing foundations, fairness was the only one negatively related to right-wing orientation (Tekeş et al., 2021).

2.6.2. MFT and Environmentalism

Using the MFT framework and the questionnaire, Jansson & Dorrepaal (2015) showed that care/harm and fairness positively predict personal norms for climate change in Sweden. Another study delivered similar results: care and fairness were found to have the highest predictive power for supporting the government's climate change measures in Australia (Dawson & Tyson, 2012).

In contrast, Dawson and Tyson (2012) found that loyalty foundation is a negative contributor for attitudes towards climate change. The authors interpreted these findings as concerns about protecting national interests; economic prosperity may outweigh support for global cooperation for climate change, because they specifically asked for opinions on the government's climate action. Similar results also found in a study conducted in Türkiye tested the link between the five module moral foundations and pro-environmental engagement, showing that care is positively and loyalty is negatively associated with pro-environmentalism whereas other foundations do not show any significant association for pro-environmental behavior (Ertör-Akyazı and Akçay, 2021). Another study in Finland by Vainio and Mäkinen (2016) demonstrated that both individualizing (care, fairness) and binding foundations

(loyalty, authority, purity) are associated with climate-friendly choices of individuals. In support of this finding, another study by Feinberg and Miller (2013) in the US has shown that purity-based messaging on environmental issues positively affected environmental attitudes, hence, scholars criticized the dominance of care rhetoric in the literature. In addition, Koleva et al. (2012) found that purity has equal predictive power with care foundation on the support for more stringent actions against global warming in the US. However, these findings do not align with another US study which Dickinson et al. 's (2016) findings on compassion and fairness foundation as the strong predictor of climate-friendly behavioral intentions, while purity was found to be a weak predictor.

Another study by Adger et al. (2017) has extended this framework by classifying moral arguments into two broader categories: vulnerability-based and system-based and studied them for climate change adaptation policies. This framework is similar to individualizing and binding morality distinction. Vulnerability-based moral positions on climate change are grounded in principles of solidarity, protection from harm and fairness in costs and burdens, whereas system-based moral arguments were grounded in respect, stability, responsibility and naturalness (Adger et al., 2017). Their findings indicate that while diverse moral positions were expressed, vulnerability-based arguments dominated the public views. In other words, the UK public is found to be more likely to support policies that prioritize investments in vulnerable areas, even at higher costs (Adger et al., 2017).

In conclusion, the different modules of morality play a strong role in shaping environmental concerns and attitudes. However, the specific moral foundations that are highlighted in each study and national context vary depending on whether the focus is on governmental environmental action or on individual-level pro-environmental behavior. For instance, in the work of Dawson and Tyson (2012) loyalty has been found to negatively predict support for governmental climate action, whereas its effect on personal environmental behavior appears to be non-significant in the study of Dickinson et al. (2016). Moreover, most studies showed that care and fairness positively predict both governmental and individual-level pro-environmental actions as seen in the Table 3 below (Jansson & Dorrepaal, 2015; Dawson & Tyson, 2012; Vainio & Mäkinen, 2016; Dickinson et al., 2016). These findings suggest that considering politics and culture alongside moral foundations may provide valuable insights for pro-environmental engagement.

Table 2.3. Summary of MFT and PEB relationship in the Existing Literature

Country	Which foundations?	Type of Environmental Engagement	Authors
Sweden	Care, fairness (+)	Personal norms for climate change	(Jansson & Dorrepaal, 2015)
Australia	Care, fairness (+) Loyalty (-)	Government's climate change measures	(Dawson & Tyson, 2012)
Finland	General – individualizing (+), binding (-) Issue specific – individualizing (+), binding (+)	Climate-friendly consumption	(Vainio & Mäkinen, 2016)
USA	Care and purity (+)	Actions on global warming	(Koleva et al., 2012)
USA	Care and fairness (+) Purity – non significant (+)	Climate-friendly behavioral intentions	(Dickinson et al., 2016)
Türkiye	Care (+) Loyalty (-)	Pro-environmental behavior	(Ertör-Akyazı and Akçay, 2021)

2.6.3. Recent Empirical Literature on the Interplay of Political Orientation, MFT, and Pro-Environmental Behavior

In many studies, left-wing or liberal leaning individuals and parties were found to be associated with pro-environmental positions, while right-leaning individuals and parties were found to adopt the opposite stance (Dawson & Tyson, 2012; McCright & Dunlap, 2011; Mostafa, 2016; Neumayer, 2004). Whereas this pattern reflects a broader political divide in how environmental problems are prioritized and perceived, there are studies which show that when moral reasoning is taken into account, the influence of political orientation on environmental attitudes may shift (Feinberg & Willer, 2013; Vainio & Mäkinen, 2016, Baldner, 2018). This indicates that political ideology alone does not fully account for variations in environmental concern, but rather operates in interaction with underlying moral motivations.

Investigating the direct link between political position and environmentalism, Neumayer (2004) evaluated environmental policies of political parties from 25 countries and found that left-libertarian parties were more environmentalist than other parties. In addition, Neumayer (2004) also analyzed individual pro-environmental orientation and environmental beliefs with political ideology with survey data from 45 countries, and discovered that left-leaning individuals tend to prioritize environmental protection over economic growth, and are more likely to engage in pro-environmental political behavior, whereas the effect of being left-wing was less consistent for individual consumer behavior (Neumayer, 2004). Also, left-leaning

individuals have willingness to pay higher prices and taxes for environmental reasons but they do not differ significantly in practices such as choosing environmentally friendly products, recycling, or reusing goods (Neumayer, 2004).

In addition, political views can also diverge on beliefs regarding climate change. A study by McCright & Dunlap (2011) showed that the left and the right divide on the US political arena also divide the public for concern on environmental problems. In this work, the liberals and conservatives also differed in their beliefs about the climate crisis (McCright & Dunlap, 2011). Supporting these results, the large-scale study of Mostafa (2016) across 40 countries found that alongside left-leaning political orientation, religiosity was also positively associated with concern about climate change. The study shows that political ideology and religious commitment may jointly shape individuals' levels of environmental concern, thereby highlighting the importance of considering both cultural and ideological factors in cross-national analyses of global warming concern (Mostafa, 2016). In this regard, the results may be in line with Koleva et al. (2012)'s finding on purity foundation, for which conservative and religious individuals had higher scores in relation to attitudes about global warming. Therefore, incorporating morality into the analysis allows for a more nuanced understanding of how politics and morality jointly shape pro-environmental behavior. Moral Foundations Theory (Haidt & Graham, 2007; Graham et al., 2013) offers a beneficial framework for understanding how these moral concerns intersect with political ideology in shaping pro-environmental orientation in many studies (Dawson and Tyson, 2012; Jansson and Dorrepaal, 2015; Vainio & Mäkinen, 2016; Baldner, 2018; Dickinson et al., 2016; Feinberg & Willer, 2013; Wolsko, 2017).

For instance, Dawson and Tyson's (2012) findings in the Australian example indicate that while care (positively), fairness (positively), and loyalty (negatively) predict attitudes toward climate change significantly, the effect of political orientation is considerably stronger, accounting for roughly twice the explanatory power of the moral foundations. In addition, the effect of different moral foundations in the environmental discourses differs for left- and right-wing individuals in the US. Environmental rhetoric framed within the care foundation resonated with left wing individuals whereas purity foundation resonated with both left- and right-leaning individuals and led them to express pro-environmental attitudes (Feinberg & Willer, 2013). In line with this study, Kidwell et al. (2013) also tested the persuasive calls for recycling framed as either individualizing or binding, aligned with participants' political

orientation and found that recycling intentions are higher when messages align with political ideology, with liberals responding to individualizing foundations and conservatives to binding ones. In addition, Wolsko et al. (2016) studying US climate change communication showed that liberals' responses did not significantly differ across message frames, whereas conservatives demonstrated substantially stronger conservation behaviors, and increased donations to an environmental organization when exposed to a binding moral frame. Lastly, Dickinson et al. 's (2016) US study on this relationship showed similar patterns regarding how liberals and conservatives differ in their valuation of the moral foundations, adding that compassion and fairness, and to a lesser extent purity, emerged as positive predictors of willingness to act on climate change, whereas loyalty and authority were not significant in this study.

Extending the scope of research beyond the United States, comparable results have been observed. For instance, Vainio & Mäkinen (2016) tested the mediator effect of political orientation for the link between moral foundations and climate-friendly consumption and found that political orientation alone was correlated with climate-friendly consumption, for left-wing positively and for right-wing negatively, but when morality was taken into account, political orientation did not mediate the association. The authors attributed this finding to the fact that Finland's political landscape is less polarized compared to the US context (Vainio & Mäkinen, 2016). Similar results were also reached in the study of Baldner (2018) for Italy. Baldner (2018) showed that moral foundations have a significant effect on environmental attitudes when political orientation was excluded from the analysis. Lastly, the findings of Milfont et al. (2019) were similar for New Zealand. Their analysis revealed that pro-environmental behavior was primarily shaped by the interplay between liberal orientation and individualizing concerns rather than by binding moral values. In addition, political ideology alone failed to emerge as a significant predictor for pro-environmental actions in the New Zealand sample (Milfont et al., 2019). However, another study in Finland demonstrated that political orientation and moral foundations jointly shape pro-environmental lifestyle choice (Silfver et al., 2023). Left-wing orientation was linked to practices such as veganism, ecological non-food consumption, and communal living, which were also positively associated with individualizing foundations and negatively related to binding foundations (Silfver et al., 2023). Surprisingly, local and natural food choice bridged both moral perspectives and exhibited no political divide (Silfver et al., 2023). In summary, the effect of political orientation on environmental concern appears to diverge depending on whether it is analyzed in combination

with moral foundations. Moreover, this effect differs when considering support for governmental environmental actions as opposed to individual-level pro-environmental behaviors.

Table 2.4. Summary for The MFT & PEB & Political Orientation Link in the Literature

Country	Which foundations?	Political Orientation	Type of Environmental Engagement	Authors
USA	Endorsing Individualizing -> Endorsing Binding Frames->	Left (+) Right (+)	Recycling	(Kidwell et al., 2013)
USA	Care-based rhetoric -> Purity –based rhetoric ->	Left (+) Left and Right (+)	Express pro-environmental attitudes	(Feinberg & Willer, 2013)
USA	Individualizing and binding frames -> Binding	Left (did not vary) Right (+)	Conservation behaviors	(Wolsko et al., 2016)
Finland	Individualizing and Binding	No mediation effect (RWO alone -0.29)	Climate friendly consumption	(Vainio & Mäkinen, 2016)
Italy	Individualizing Binding	No mediation effect (RWO alone -0.18)	Environmental attitudes	(Baldner, 2018)
Finland	Individualizing Binding	Left Right	Veganism, ecological non-food consumption, and communal living (L) Local and natural food choice (L and R)	(Silfver et al., 2023)
New Zealand	Individualizing + Binding	Left -> (Alone Political Or. NS)	Pro-environmental behavior	(Milfont et al., 2019)

To sum up, moral foundations provide a crucial framework for cross-cultural and political comparisons of these dynamics. To the best of knowledge, no study has studied the tripartite relationship between pro-environmental behavior, moral foundations, and political orientation in Türkiye so far. In addition, the recent version of MFT with six structural foundations is not tested with pro-environmental engagement in any other country. Hence, this thesis aims to address this gap by examining these links with the following hypotheses in the Turkish context:

- (1) Individualizing foundations (i.e. equality and care) are positively associated with pro-environmental behavior
- (2) Binding foundations (i.e. proportionality, loyalty, authority, except purity) are negatively associated with pro-environmental behavior.

- (3) Purity is positively associated with pro-environmental behavior.
- (4) Political orientation does not have a mediating effect between moral intuitions and pro-environmental behavior.



3. METHODOLOGY

3.1. Data collection: Participants and Sampling Procedure

To explore the relation between moral intuitions, pro-environmental behavior and political orientation in Türkiye, the study targeted adult participants residing in Türkiye, and data were collected through an online self-report survey created via Google Forms and administered in May-June 2025. Power calculations revealed that the sample size should be at least 385 individuals (based on the statistical power calculations given Türkiye's population of 85,372,377 (TÜİK, 2024a) at a confidence level of 95%. Initially, the survey was distributed via the researcher's personal social media channels. Participants were encouraged to forward the survey link to their own network in line with a snowball sampling method to expand the sample size. Even though this approach does not guarantee random sampling, it enabled the researcher to reach large and heterogeneous groups in a short time, especially in the absence of formal sampling frames. The survey took 10 minutes, on average. Participation was voluntary and anonymous. All participants were provided information regarding their ethical rights, and informed consent was obtained prior to beginning of the survey. The study received ethical approval from SBINAREK (Record No: 2024-84T).

The raw data comprised responses from 511 participants. Prior to the main analyses, a data screening and cleaning procedure was conducted to ensure the quality and appropriateness of the responses. As a result, the following participants were excluded: Two participants were removed due to providing invalid answers and failing to report their place of residence. Another 6 participants were excluded because they reported residing outside of Türkiye, which was out of the intended geographic scope of the study. One participant did not indicate their political orientation. After these exclusions, the final sample consisted of 502 participants, whose data were included in subsequent statistical analyses. The literature indicates that the sample size required for PLS-SEM analysis should correspond to at least ten times the maximum number of structural paths pointing to any single construct in the model (Hair et al., 2017), in our case, there were 13 paths and the study exceeded the required sample size of 130 with 502 participants.

3.2. Statistical Models used in the Study

First, in order to examine whether the MFQ-2 scale accurately represents the investigated constructs and whether they are consistent, I carried out Cronbach's Alpha and Exploratory Factor Analysis using IBM SPSS 25. Then, I computed Spearman-rank correlations to examine associations between the core constructs of the survey (e.g., care, equality, proportionality, loyalty, authority, purity, pro-environmental behavior) and key socio-demographics (age, income, education). To compare mean differences across gender groups, I ran one-way ANOVA. These preliminary steps were undertaken to acquire an initial understanding of the data at hand, to check basic assumptions, and to inform subsequent model specification. After examining the binary correlations between different variables, a linear regression was run in order to check for significant associations between different independent variables and the dependent variable, individual pro-environmental behavior, while controlling for other variables.

Finally, to answer the specific research questions and test the hypotheses proposed in the study, a Partially Least Squares Structural Equation Modeling (PLS-SEM) was run in order to evaluate the measurement model (reliability; convergent/discriminant validity) and the structural model (path coefficients and direct effects), with statistical significance assessed via bootstrapping. PLS-SEM was used for simultaneous analysis of multiple latent variables and their relationships between them (Hair et al., 2017), where latent variables were moral foundations and pro-environmental behavior, and political orientation served as a mediator variable between them.

Partial Least Squares Structural Equation Modeling (PLS-SEM), a variance-based type of SEM, is suitable for small sample sizes, works with non-normally distributed data, and can handle models with a limited number of indicators (Hair et al., 2019a). In PLS-SEM, two models are specified: the measurement model, which tests whether the variables represent the theoretically proposed constructs, and the structural (path analysis) model, which examines the relationships among the latent variables (Hair et al., 2019b; Dash & Paul, 2021). SEM has been often used for testing the relationship between moral intuitions and political ideology (Kivikangas et al. 2017), and pro-environmental behavior with mediating variables and analyzing determinants for environmental attitudes in the literature (Vainio & Mäkinen, 2016; Bamberg & Möser, 2007; Milfont & Duckitt, 2004).

To the best of my knowledge, no prior study has examined empirically the most recent version of Moral Foundations Theory (MFQ-2), political orientation, and pro-environmental behavior together within the Turkish context. The PLS-SEM analysis conducted in the present study is expected to provide both exploratory and explanatory insights into the relationships among these variables for the Turkish sample.

3.3. Materials

3.3.1. Moral Foundations Questionnaire–2

To assess the moral intuitions of individuals, the Moral Foundations Questionnaire by Atari et al. (2023) is used as the main tool in this study. Doğruyol et al. (2024)'s recent study on the the MFQ-2 instrument provided evidence for the validity of the questionnaire in Türkiye and confirmed the 6-factor structure of the MFQ-2 for a representative sample in Türkiye.

In the MFQ-2 instrument, there are 6 judgments/items for each foundation (care, equality, proportionality, loyalty, authority, purity) and a five-point Likert-scale is used for responses varying from “Does not describe me at all” (1) to “Describes me extremely well” (5). In the present study, the questionnaire items were translated to Turkish and then back-translated to English and then were examined by the researcher and an expert in line with the best practices in the literature. While MFQ-2 has 36 questions, the present study removed three of them and kept the remaining 33 items. The three items eliminated were all part of the Purity foundation and represented relatively sensitive questions for the Turkish context about sexual life which could potentially lower the response rates. The eliminated statements were: “I believe chastity is an important virtue.”, “If I found out that an acquaintance had an unusual but harmless sexual fetish I would feel uneasy about them.” and “I admire people who keep their virginity until marriage.”. The decision was driven by ethical and methodological considerations: such items are highly personal and potentially intrusive, can elevate respondent discomfort and perceived sensitivity, and are prone to social-desirability and nonresponse biases in general-population surveys. Therefore, the survey proceeded with the three remaining (non-sexual) Purity items instead. All the other moral foundation items for care, equality, proportionality, loyalty, and authority (six items for each foundation) were kept in the survey, leading to a total of 33 items.

3.3.2. Political Orientation Scale

Following KONDA (2018), which notes that the labels ‘right’ and ‘left’ are among the most commonly used in Turkish politics, the questionnaire in the present study measures political orientation with a single-item by asking respondents to place themselves on a 1 = very left to 10 = very right scale. Higher scores therefore indicate greater right-wing orientation. This is common practice in several other studies (Dawson & Tyson, 2012; Silfver et al., 2023; Vainio & Mäkinen, 2016; Milfont et al. 2019). Hence, this variable will be labeled as Right-Wing Orientation (RWO) in the estimated models in the following sections.

3.3.3. Pro-Environmental Behavior Scale

This module focuses on participants’ daily behaviors and concerns related to the environment. The pro-environmental behavior items gauge how frequently participants engage in eco-friendly practices like buying sustainable products or reducing food and energy waste and their public environmental actions, i.e. information seeking and reflection about environmental issues, and prosocial support for environmental organizations. The items for Pro-Environmental Behavior were formulated based on the 12-item scale of Schultz et al. (2000). For adapting this 12-item scale to the Turkish context, items on recycling were combined, and the combustion of food waste item was excluded. These items are not used widely in PEB scales such as that of Goldman et al. (2006), Milfont and Duckitt (2010), Milfont and Duckitt (2004). Finally, three extra items were added from Timur and Yılmaz (2013) and benefitting from Goldman et al. (2006) which show similarities with the scales of Schultz et al. (2000) and Stern (2000). Finally, this scale was a 15-item measure rated on a five-point scale of frequency of each behavioral item (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, 5 = Always).

4. RESULTS

4.1 Descriptive Statistics

Of the 511 individuals who participated in the survey, responses of 502 participants were included into the statistical analysis. Statistics for age, gender, education level, and monthly household income appear in below Table 4.1.

Table 4.1. Demographic Information of Participants.

Demographic Information		Frequency	Percentage
Age	18-25	79	15,7
	26-32	147	29,3
	33-48	187	37,3
	49-65	80	15,9
	66+	9	1,8
	Total	502	100
Gender	Female	258	51,4
	Male	239	47,6
	Non-specified	5	1
	Total	502	100
Education	Middle-school or below	1	0,2
	Highschool	67	13,3
	Pre-Graduate	39	7,8
	Graduate	297	59,2
	Post-Graduate	98	19,5
	Total	502	100
Monthly Household Income (Turkish Lira)	≤ 25,000	30	6
	25.001 TL-50.000	66	13,1
	50.001 TL – 75.000	140	27,9
	75.001 TL - 100.000	92	18,3
	≥ 100.001	174	34,7
	Total	502	100

Comparing the survey sample to Türkiye statistics, the sample at hand is slightly younger than the Turkish population above 18 because 26-48 amounts to 34% of the Turkish population, and 18-25 to 11.9% of the population (TURKSTAT, 2025a). In terms of education, the survey sample is more educated than the national population: respondents with tertiary education (college/university) and above are 25.1% and high-school graduates are 23.9% according to

TURKSTAT data (TURKSTAT, 2025b). Lastly for household income, the sample at hand was richer than the Turkish population (TURKSTAT, 2024b).

Descriptive statistics, including means, standard deviation, and percentages, for pro-environmental behavior and political orientation are summarized in the Table 4.2. and Table 4.3. below. The descriptives for the MFT modules are provided in the Tables B1, B2, B3, B4, B5, B6 within Appendix B. In summary of the descriptives for MFT, care and proportionality items exhibited highest endorsement overall whereas equality items were the weakest and most divisive. Lastly, loyalty, authority, and purity items exhibited moderate endorsement.

Table 4.2. Descriptive Statistics for Political Orientation.

N=502	1 - Left	2	3	4	5	6	7	8	9	10 - Right	MEAN	SD
n	76	34	82	69	103	41	24	21	6	46	4.54	2.6
%	15.1	6.8	16.3	13.7	20.5	8.2	4.8	4.2	1.2	9.2		

For the module of political orientation, the question was as follows: “How do you place yourself on a 1 = very left to 10 = very right scale?”. In the module, the mean political self-placement is $M = 4.54$ ($SD = 2.60$), indicating a distribution slightly left of center. The median was 4 and the mode 5. Responses cluster mostly on the center–left: 38.2% fall in the left range (1–3), 42.4% in the center (4–6), and 19.4% in the right range (7–10). At the extremes, 15.1% chose 1 and 9.2% chose 10, suggesting no strong polarization, with a somewhat heavier left tail.

Table 4.3. Descriptive Statistics for Pro-environmental Behavior.

N=502		Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Mean	SD
PEB1 Looked for ways to reuse things	%	0,8	4,6	25,9	39,8	28,9	3,91	0,893
PEB2 I throw materials such as plastic bottles, glass bottles and paper into the recycling bin.	%	0,4	7,4	20,1	43,8	28,3	3,92	0,9
PEB3 Encouraged friends or family to recycle	%	2,8	11,8	27,5	34,3	23,7	3,64	1,053
PEB4 I prefer to buy environmentally friendly products when shopping.	%	2,4	15,3	31,7	35,3	15,3	3,46	1,004
PEB5 Picked up litter that was not your own.	%	1,6	16,7	36,1	29,1	16,5	3,42	1,003
PEB6 To get somewhere, I prefer to use public transportation, which produces less carbon emissions, or I walk.	%	11,6	24,7	28,1	24,3	11,4	2,99	1,187
PEB7 Wrote a letter/petition supporting an environmental issue	%	8,8	25,3	34,5	20,7	10,8	2,99	1,115
PEB8 Voted for a candidate who supported environmental issues	%	2,4	11,2	24,5	39,2	22,7	3,69	1,019
PEB9 Donated money to an environmental group	%	17,3	32,1	32,5	12,4	5,8	2,57	1,09
PEB10 Volunteered time to help an environmental group or project	%	17,3	36,1	31,7	10,6	4,4	2,49	1,036
PEB11 I sign campaigns related to the environment and nature.	%	9,2	19,1	30,9	28,3	12,5	3,16	1,149
PEB12 I use energy resources (e.g. electricity, water, natural gas) economically.	%	1	2,6	12,7	46,2	37,5	4,17	0,818
PEB13 I try to get information about the environment from media channels such as television, newspapers and the internet	%	2	9,4	26,7	40	21,9	3,71	0,977
PEB14 I think about whether my actions harm nature.	%	1	3	16,5	40,8	38,6	4,13	0,863
PEB15 I try to consume less, being aware of the negative impact of excess consumption (food, clothing, etc.) on the environment.	%	1,2	7,2	24,3	40,6	26,7	3,84	0,939

Overall, in terms of Pro-Environmental Behavior, respondents reported higher frequency and highest means for low-cost, private-sphere habits such as saving energy, reusing, and recycling, whereas lower frequencies were found for public-sphere actions like donating, volunteering, and writing petitions.

4.2 Uniqueness and Reliability of the Six Moral Foundation Categories

Uniqueness of each of the six moral foundation categories was assessed via Exploratory Factor Analysis (EFA). When KMO and Bartlett's Test were checked, KMO coefficient was 0.923 and Bartlett's Test of Sphericity was significant, $\chi^2(528) = 8389.918$, $p < 0.001$ (Table 7 at Appendix B). In other words, the collected data showed adequacy and suitability for EFA. Later, PAF analysis was used with direct oblimin rotation. Based on eigenvalues > 1 criterion and inspection of screeplots, the presence of a six-factor structure was provided by EFA. The initial eigenvalues indicated that these six factors accounted for 59.83% of total variance. As shown in Table B9 in Appendix B, EFA provided a six-factor structure in line with the MFQ-

2 by Atari et al. (2023). This was also in line with the validated MFQ-2 survey items for the Turkish representative sample by Doğruyol et al. (2024).¹

Next, to assess reliability of each moral foundation category, Cronbach Alpha was calculated for each foundation. They were all found to be greater than 0.7, except purity which was still within the acceptable range, i.e., above 0.6 (care = 0.814, equality = 0.812, proportionality = 0.791, loyalty = 0.880, authority = 0.886, purity = 0.608). Cronbach alpha was also calculated for the 15 item-scale representing pro-environmental behavior, and the measure was also found to be reliable with Cronbach alpha equal to 0.895.

4.3 Binary Correlations between Variables

Following the reliability analyses and EFA, Spearman's correlations were calculated to explore the strength and direction of associations between different variables (except for gender). For multi-item constructs such as MFT foundations and PEB, scores were calculated by the mean of the responses to the relevant items. For instance, $(\text{CARE1} + \text{CARE2} + \text{CARE3} + \text{CARE4} + \text{CARE5} + \text{CARE6})/6 = \text{ALLCARE}$, this calculation was also done for Equality, Proportionality, Loyalty, Authority, Purity, and Pro-environmental behavior variables. Correlation matrices are provided in Table B10, B11, B12 and B15 in Appendix B. Also, the abbreviations used in the rest of the analyses are in Table 4.4. below.

¹ Similar to the findings of Doğruyol et al. (2024), there were seven items that cross-loaded on non-target factors with larger loadings, however, I decided to keep these items in further statistical analysis as the validated MFQ-2 questionnaire by Doğruyol et al (2024) retained these items as well, due to additional statistical analyses they did using Exploratory Structural Equational Modelling.

Table 4.4. Abbreviations and Explanations Used in the Model

Abbreviation	Explanation
CARE	Care foundation
EQU	Equality foundation
PROP	Proportionality foundation
LOY	Loyalty foundation
AUTH	Authority foundation
PUR	Purity foundation
PEB	Pro-Environmental Behavior
RWO	Right-Wing Orientation

The correlation analysis results showed that there was no significant correlation between income and PEB ($p=0.619>0.05$). However, having higher education was found to be positively correlated with higher pro-environmental behavior ($\beta = 0.092$, $p = 0.038$), also higher age showed a similarly positive association for pro-environmental behavior ($\beta = 0.318$, $p = 0.000$). Finally, no statistically significant difference was found between the gender of the participants for pro-environmental behavior (See Table B13 and B14 at Appendix B).

Lastly to gather an initial understanding regarding the associations between individualizing and binding foundations and political orientation, Pearson correlations were calculated, which delivered associations broadly in line with the literature. The individualizing foundations (care and equality) were moderately correlated with each other (care–equality $r = .41$, $p < 0.05$) and the binding foundations (proportionality, loyalty, authority, and purity) were moderately to highly correlated with each other (loyalty–authority $r = .78$, authority–purity $r = .63$, loyalty–purity $r = .56$, prop–Loyalty $r = .47$, prop–authority $r = .36$, prop–purity $r = .31$, all with $p < 0.05$). Lastly, the correlation between the binding foundations and right-wing orientation was significantly positively associated, meaning that participants positioning themselves on the right of the political spectrum are significantly more likely to endorse binding intuitions (authority: $r = .572$, loyalty: $r = .479$, purity: $r = .435$, proportionality: $r = .215$ all $p < 0.05$) (See Table 4.5. at below).

Table 4.5. Correlation Matrix for the Moral Foundations and Right-Wing Orientation.

Correlations								
	ALLCARE	ALLEQU	ALLPROP	ALLLOY	ALLAUTH	ALLPUR	ALLPEB	Right Wing Orientation
ALLCARE								
ALLEQU	0.411**							
ALLPROP	0.365**	0.056						
ALLLOY	0.368**	0.100*	0.474**					
ALLAUTH	0.457**	0.191**	0.362**	0.777**				
ALLPUR	0.432**	0.245**	0.311**	0.561**	0.630**			
ALLPEB	0.351**	0.284**	0.177**	0.223**	0.220**	0.318**		
Right Wing Orientation	0.247**	-0.069	0.215**	0.479**	0.572**	0.435**	0.087	
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

4.4. Linear Regression Analysis

Following the preliminary analysis of correlations among variables, linear regression analysis was conducted to investigate the determinants of pro-environmental behavior, controlling for all other independent variables.

In regression analyses, the dependent variable was pro-environmental behavior and the independent variables consisted of care, equality, loyalty, proportionality, purity, authority, right-wing orientation, age, income level, gender, and education level (See Appendix Table 18). The model was found to be significant, $F(10, 491)=14,131$ $p<0.001$, explaining 24.1% of the variance in Pro-Environmental Behavior ($R^2=0.241$, $R=0.491$)(Table 16 and 17 at Appendix B).

The findings indicate that age ($\beta=0.257$, $p<.001$), care ($\beta=0.174$, $p=.001$), equality ($\beta=0.141$, $p=.002$), and purity ($\beta=0.162$, $p=.003$) were positive and significant predictors of PEB. Proportionality, loyalty, authority, education, income, and gender were not significant, and political orientation showed a slightly negative but non-significant association with PEB ($B=-0.017$, $p=0.185$). Collinearity diagnostics were in the acceptable range between 1.20–3.58 VIF values. Overall, older respondents and those endorsing care, equality, and purity more strongly reported higher PEB, while political ideology did not add unique explanatory power to the analysis, once moral foundations and demographics were controlled for.

Table 4.6. Regression Analysis (Dependent variable: PEB).

Variable	95% Confidence Interval	Coefficients
(Constant)	[1.057, 1.990]	
ALLCARE	[0.070, 0.254]	0.174**
ALLEQU	[0.036, 0.165]	0.141*
ALLPROP	[-0.042, 0.145]	0.051
ALLLOY	[-0.016, 0.161]	0.109
ALLAUTH	[-0.165, 0.025]	-0.109
ALLPUR	[0.037, 0.178]	0.162*
Right-Wing Orientation	[-0.041, 0.008]	-0.068
AGE	[0.107, 0.225]	0.257
EDUCATION	[-0.054, 0.072]	0.013
INCOME	[-0.045, 0.044]	0.000
GENDER	[-0.177, 0.040]	-0.053
**. Significant at the 0.01 level.		
*. Significant at the 0.05 level.		

4.5. Partial Least Squares - Structural Equation Modelling (PLS-SEM)

Next, I proceeded with Structural Equation Modeling as an exploratory approach. SEM can work with small samples and non-normally distributed data, and also enables the analysis of mediating variables with the simultaneous analysis of multiple latent variables and their relationships (Hair et al., 2017). It has been also widely used in the analysis of environmental attitudes, behavior and political orientation (Vainio & Mäkinen, 2016; Bamberg & Möser, 2007; Milfont & Duckitt, 2004; Kivikangas et al. 2017).

The starting point for the model is given below in Figure 4.1. First, the adequacy of the model was tested based on indicators for convergent and discriminant validity for the measurement model. Next, the structural model was evaluated by examining the path coefficients and overall model fit indices.

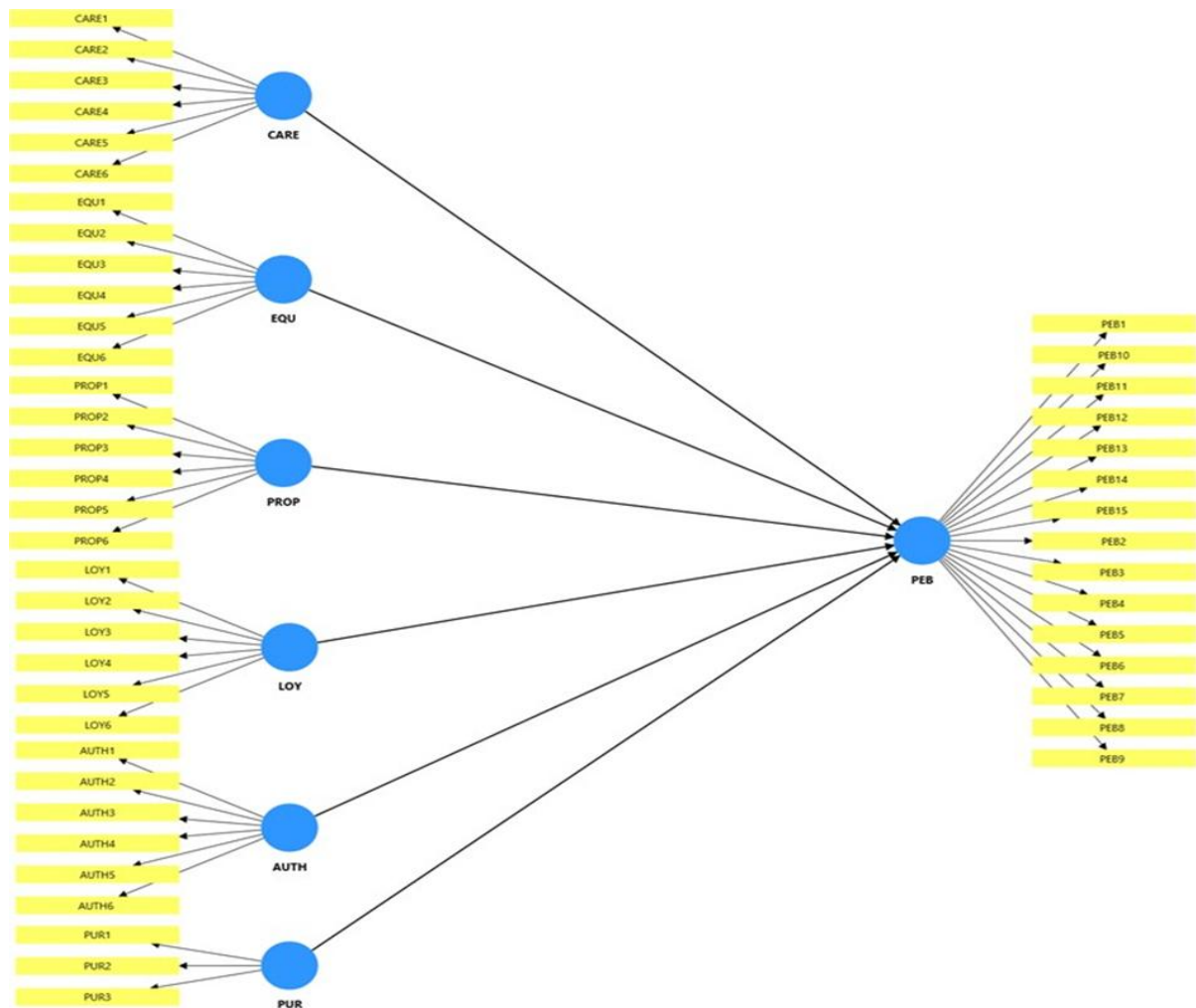


Figure 4.1. The Starting Point of the PLS-SEM for MFT-PEB Model.

As a first step, convergent and discriminant validity of the measurement model was assessed. For convergent validity, Cronbach's Alpha (CA), Composite Reliability (CR), and outer loadings (factor loadings) were examined. Initially, all items and variables were included in the analysis, and CA, CR were found to be greater than 0.7, with only the PURITY (PUR) variable having a CA and CR value of 0.6, which was still within the acceptable range (See Table 18 Appendix B).

The Average Variance Extracted (AVE) of all moral foundation categories were above 0.5, except for proportionality (AVE=0.472) and for pro-environmental behavior (AVE=0.408). Therefore, the items with the lowest factor loadings were removed from the study one by one until their AVEs exceeded 0.5, and the AVE value was rechecked each time. PROP6 had a factor loading of 0.491 and was removed from the study. As a result, AVE value of the PROP increased to 0.518, exceeding the desired level. When items PEB12, PEB1, PEB2,

PEB14, PEB5, PEB15, and PEB6 were removed one by one, the AVE value of the PEB variable increased to 0.516. Thus, the convergent validity of our variables was ensured by removing these items from further analysis. (See Table 20 Appendix B)

To ensure discriminant validity, cross-loadings, Farnell-Larcker criterion, and HTMT coefficients were examined. Item AUTH6 was removed from the analysis due to its high factor loading across the LOY variable (See Table 21 at Appendix B). Examining the Fornell-Larcker criterion and HTMT coefficients, the results confirmed that discriminant validity was fulfilled (See Table 22 and 23 at Appendix B). In addition, the HTMT coefficients of closely related constructs are expected to be between 0.85 and 0.90, while the coefficients of theoretically distant constructs are expected to be less than 0.85. The theoretically closer constructs, PUR and AUTH, had values greater than 0.85 and less than 0.9. All other distant constructs were found to be below the threshold of 0.85, thus ensuring the model's discriminant validity.

To assess multicollinearity among the latent variables, variance inflation factor (VIF) values were calculated within the SmartPLS 4 environment. Multicollinearity refers to a high degree of correlation among independent variables, which can inflate standard errors and reduce the stability of coefficient estimates. Following the guidelines of Hair et al. (2019b), VIF values close to 3 and lower are considered indicative of no serious multicollinearity issues, which was the case for the sample at hand (See Table 24 Appendix B).

Finally, after confirming the adequacy of the measurement model, the structural model was evaluated by examining the path coefficients (which should range between -1 and +1 with significant p-values), along with overall model fit indices such as R^2 (explained variance, coefficients of determination), f^2 (effect size), and Q^2 (predictive relevance) (Hair, 2017). All analyses in this part were conducted using SmartPLS 4 software.

First, as the below model (Figure 4.2.) shows, I did not include any mediating variables but tested the direct effects between the moral foundation categories and PEB.

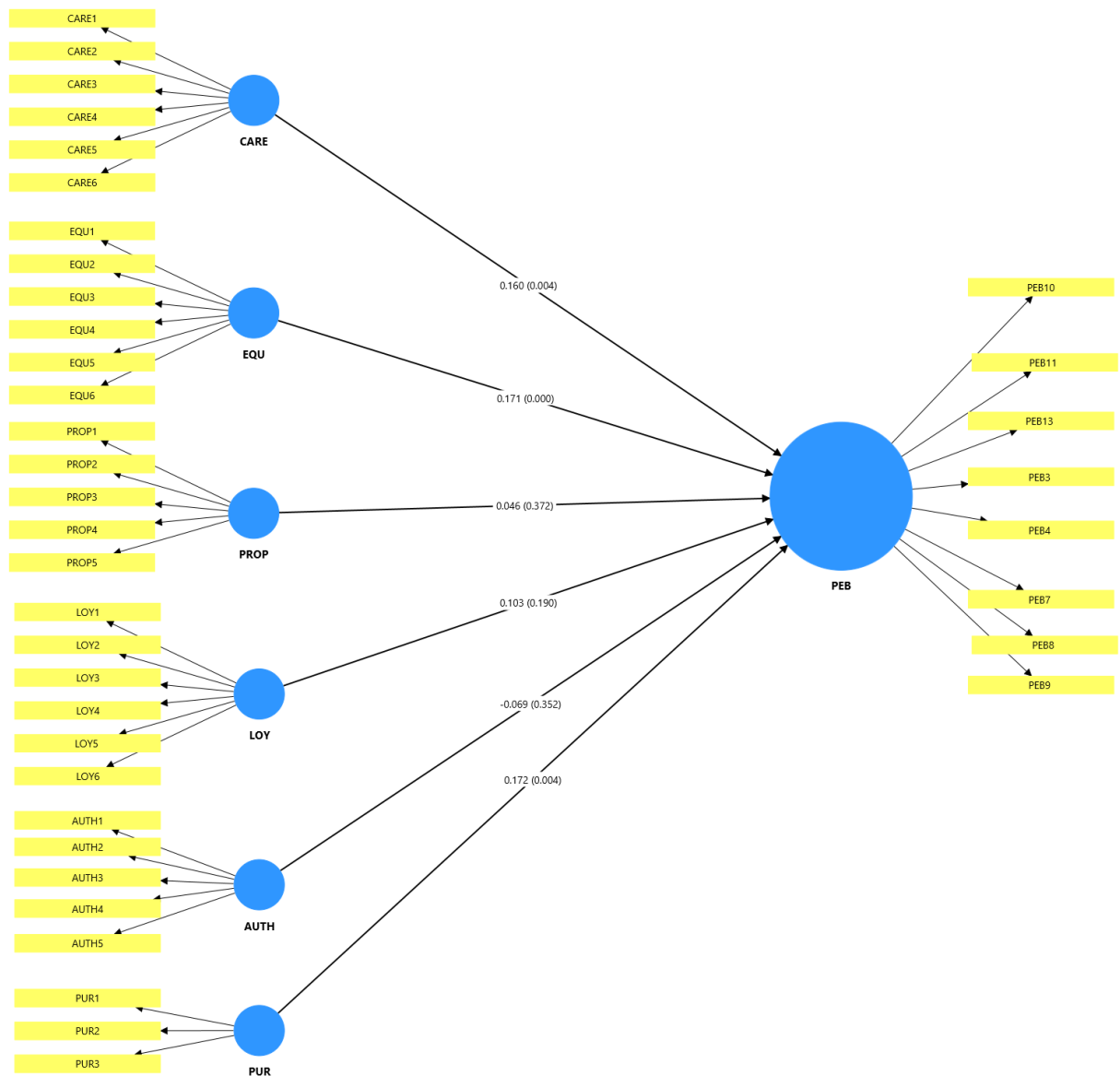


Figure 4.2. Path Coefficients and P values Results for Moral Foundations and Pro Environmental Behavior Relationship.

An examination of the path coefficients revealed that care ($\beta = 0.160$, $p = 0.004$), equality ($\beta = 0.171$, $p < 0.001$), and purity ($\beta = 0.172$, $p = 0.004$) had significant and positive effects on pro-environmental behavior. In contrast, the effects of proportionality, loyalty, and authority were not statistically significant ($p > 0.05$). These findings indicate that purity, equality, and care are the moral foundations that most strongly explain pro-environmental behavior for the sample at hand.

The predictive power of the model was examined using the PLSpredict (XVPAT) method in SmartPLS 4. According to the results, Q^2_{predict} values for all dependent variables were

found above zero ($Q^2_{\text{predict}} > 0$). This finding indicates that the model has sufficient predictive validity (Hair et al., 2017). R^2 is 0.172 meaning that the model explains 17% of the variance in pro-environmental behavior ($R^2 = 0.172$, $p < .001$). According to Hair et al. (2017), the value indicates a low explanatory power for PEB but it was at acceptable levels for social sciences research. An examination of the effect sizes (f^2) of the independent variables on pro-environmental behavior reveals that the effect of equality ($f^2 = 0.028$), care ($f^2 = 0.019$), and purity ($f^2 = 0.020$) were relatively small. In contrast, the f^2 values for authority, loyalty, and proportionality were below 0.01, i.e. negligible. These findings indicate that the most significant contributions to pro-environmental behavior came from the equality, care, and purity foundations. Finally, the goodness of fit of the structural model was assessed using the SRMR (Standardized Root Mean Square Residual) criterion and the model demonstrated good fit with $SRMR = 0.070 < 0.08$ (Hair et al., 2022). The SRMR value reflects the difference between the predicted variance matrix provided by the model and the observed variance matrix. In the literature, values below 0.08 indicate a good fit, while values up to 0.10 indicate acceptable fit (Hair et al., 2022).

Next, I assessed the potential of adding political orientation as a mediating variable to the study. Again, I started with assessing the measurement model's discriminant and convergent validities. All Cronbach's Alpha and Composite Reliability values exceeded the 0.7 threshold, with the exception of the Purity, for which Cronbach's Alpha was 0.608, yet, it still fell within the acceptable range.

For discriminant validity, cross-loadings, Farnell-Larcker criterion, and HTMT coefficients were reviewed and I found that all criteria were met. For multicollinearity test among the latent variables, variance inflation factor (VIF) values were calculated and all VIF values were found to be below the recommended threshold of 5 (Hair et al., 2019a), indicating that multicollinearity was not a concern in this model. Consequently, the adequacy of the measurement model was confirmed and I proceeded with the assessment of the structural model as provided graphically in Figure 4.3 below.

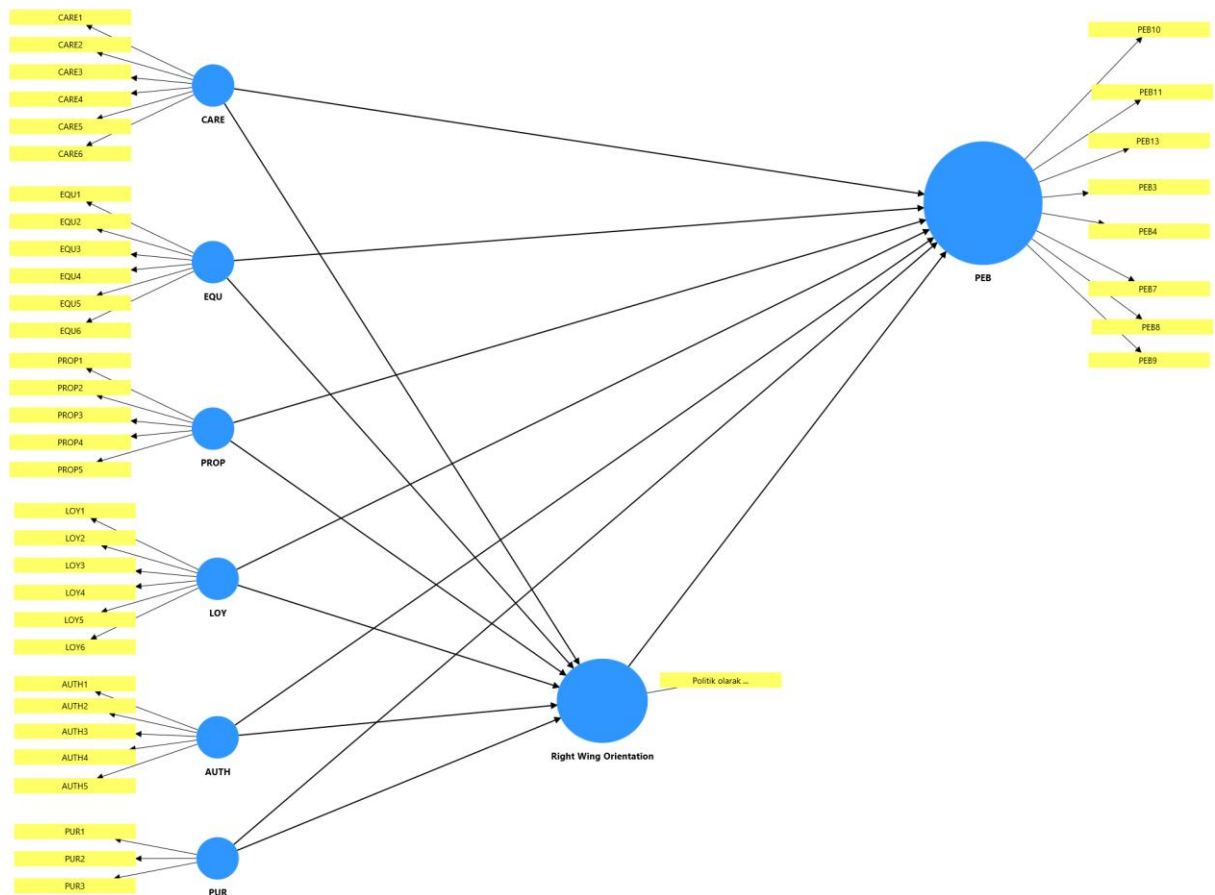


Figure 4.3. The Structural Model for the Mediator Effect of Right-Wing Orientation.

In this structural model, path coefficients with p values, and explanatory and predictive model fit metrics R^2 , Q^2 , f^2 were examined in SmartPLS 4 software. In addition, since there is a possibility of a mediator effect of right-wing orientation (RWO) in this model, direct effects, indirect effects and total effects were also evaluated.

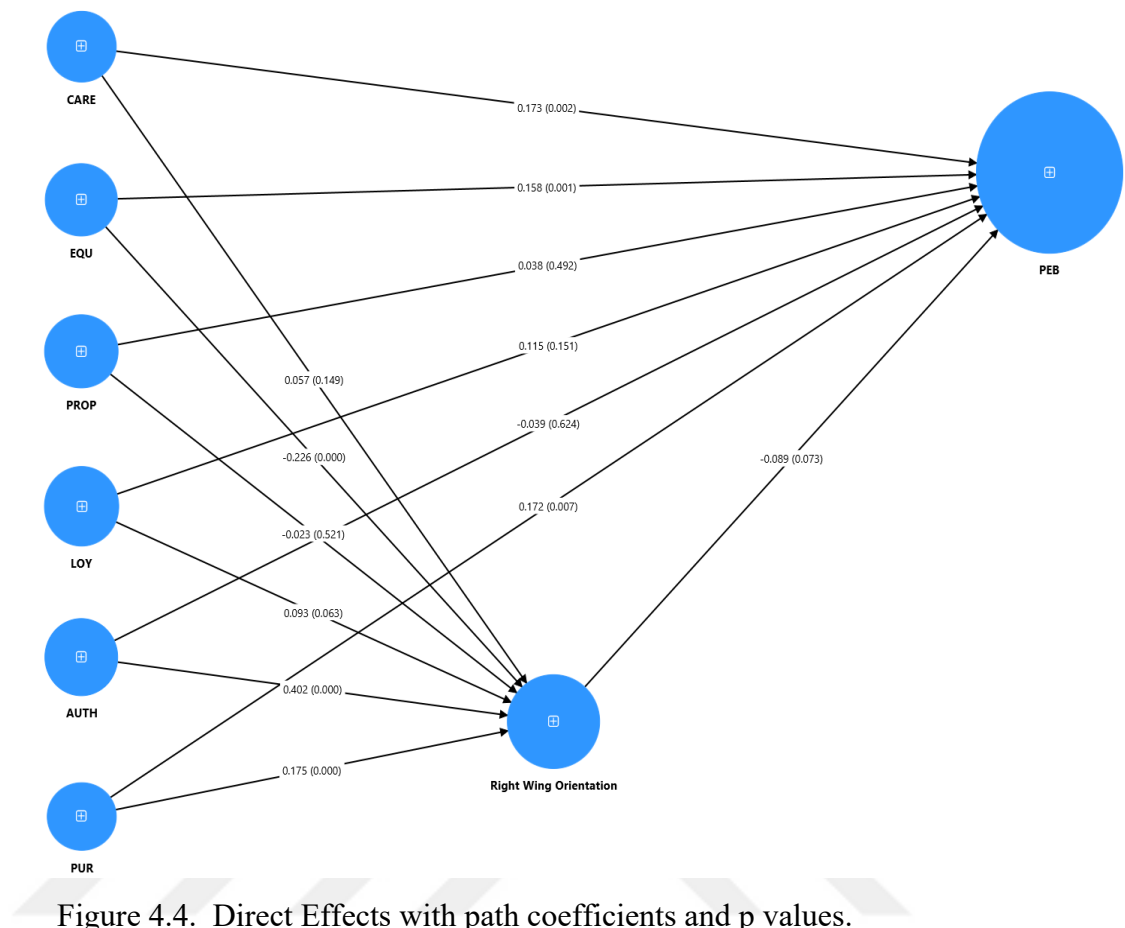


Figure 4.4. Direct Effects with path coefficients and p values.

The direct effects analysis revealed that the Moral Foundations Theory (MFT) dimensions of care, equality, and purity had significant and positive effects on pro-environmental behavior (PEB). Specifically, the care → PEB path ($\beta = 0.173$, $p = .002$) was found to be significant. Equality also had a significant effect on PEB ($\beta = 0.158$, $p = .001$). Similarly, the purity foundation was found to have a significant and positive effect on PEB ($\beta = 0.172$, $p = .007$). On the other hand, the direct effects of proportionality ($\beta = 0.038$, $p = .492$), loyalty ($\beta = 0.115$, $p = .151$), and authority ($\beta = -0.039$, $p = .624$) on PEB were not found to be statistically significant. This result suggests that these dimensions are not strong predictors of pro-environmental behavior for the sample at hand. Finally, the Right-Wing Orientation (RWO) → PEB path was also tested in the model, and it was not found to be significant ($\beta = -0.089$, $p = .073$). This finding suggests that individuals' political orientations do not directly determine pro-environmental behavior for the sample.

Table 4.7. Indirect Effects.

	Path Coefficients (β)	Standard Deviation	T Statistics	P values
CARE -> RWO -> PEB	-0.005	0.005	1.031	0.302
EQU -> RWO -> PEB	0.020	0.013	1.604	0.109
PROP -> RWO -> PEB	0.002	0.004	0.536	0.592
LOY -> RWO -> PEB	-0.008	0.007	1.217	0.224
AUTH -> RWO -> PEB	-0.036	0.021	1.705	0.088
PUR -> RWO -> PEB	-0.016	0.010	1.623	0.105

Indirect effects were tested with bootstrapping and none of the indirect effects were found to be statistically significant (all $p > .05$). Therefore, one can suggest that the right-wing orientation does not mediate the relationship between moral foundations and pro-environmental behavior.

Lastly, total effect analysis showed that care ($\beta = 0.168$, $p = .003$), equality ($\beta = 0.178$, $p < .001$), and purity ($\beta = 0.156$, $p = .014$) have significant and positive total effects on pro-environmental behavior. In contrast, the effects of proportionality, loyalty, and authority dimensions were not found to be statistically significant.

In terms of political orientation, authority ($\beta = 0.402$, $p < .001$) and purity ($\beta = 0.175$, $p < .001$) predicted right-wing orientation, while equality ($\beta = -0.226$, $p < .001$) negatively predicted right-wing orientation. Other foundations such as care and proportionality were non-significant predictors, while loyalty displayed only a marginal effect ($\beta = 0.093$, $p = 0.063$). The total effect of right-wing orientation on pro-environmental behavior was, however, negative and not statistically significant ($\beta = -0.089$, $p = .073$). Therefore, the findings reveal that pro-environmental behaviors are more directly affected by care, equality and purity dimensions, while political orientation does not play a mediating role in these relationships.

For the checking the model fit and explanatory power of the model, the obtained Therefore, Overall fit of this model was found to be satisfactory as SRMR (Standardized Root Mean Square Residual) value was below 0.08. In addition, Q^2_{predict} values were greater than zero for all dependent variables, indicating that the model exhibits satisfactory predictive

relevance (Hair et al., 2019a). R^2 was found to be 0.172 implying that the model explains 17% of the variance in pro-environmental behavior (low explanatory power) ($R^2 = 0.172$, $p < 0.001$) and 37% of the variance in right-wing orientation (moderate explanatory power) ($R^2 = 0.371$, $p < 0.001$). Both of them were at acceptable levels for social sciences research according to Hair et al. (2019b).

Effect size (f^2) analysis indicated that among the moral foundations, care ($f^2 = 0.022$) and equality ($f^2 = 0.022$) had small but meaningful effects on pro-environmental behavior. The effect size for purity was also non-negligible ($f^2 = 0.018$), whereas loyalty, authority, proportionality, and right-wing orientation had negligible effects ($f^2 < 0.01$). For right-wing orientation, authority showed the largest effect size ($f^2 = 0.087$), followed by equality ($f^2 = 0.064$) and purity ($f^2 = 0.026$), all within the small effect range, while care, loyalty, and proportionality were negligible. Therefore, although predictors like care, equality, purity are statistically significant in the path model, their practical contribution to explained variance is relatively small (Hair et al., 2019b).

In addition, the trends in moral foundation scores (the average of the items for each foundation) as a function of political orientation were visualized by plotting mean scores (1–5) for the six foundations by political orientation (See Figure 2 at Appendix B). This showed that right-leaning respondents broadly prioritized binding foundations, while left-leaning respondents emphasized individualizing foundations.

In summary, the findings of the study provided support for *the first hypothesis* of the present study: Individualizing moral foundations, namely equality and care, were positively associated with pro-environmental behavior with path coefficients 0.160 ($p < 0.05$), 0.171 ($p < 0.5$), respectively. However, *the second hypothesis* was not lent support by the data at hand, as binding foundations (proportionality, loyalty, authority) did not show any significant association with PEB. *The third hypothesis* was also supported by the data as purity was positively associated with PEB (with a path coefficient 0.172 ($p < 0.05$)) even though the effect size was relatively small. The data also supported *the last hypothesis*, because political orientation did not play a mediating role between moral intuitions and pro-environmental behavior.

5. DISCUSSION

The data collected in the present study provided similar results with the existing literature with respect to the impacts of individualizing foundations on PEB: care and equality exhibited positive and significant impacts on pro-environmental behavior like in the Swedish sample showing similar impacts of care and fairness for climate change norms (Jansson & Dorrepaal, 2015). In addition, Vainio and Mäkinen (2016) previously displayed that individualizing foundations, care and fairness/justice, were related to increased environmentally-friendly individual choices. However, in contrast to my findings, the same study also found significantly negative impacts of binding foundations on pro-environmental consumption choices in the Finnish sample. Similarly, in the study of Jansson and Dorrepaal (2015), authority foundation showed negative relation to personal climate crisis norms, whereas the present study did not find any significant effects of authority dimension regarding pro-environmental behavior.

For the Australian sample, Dawson and Tyson's (2012) found that individuals with higher compassion and fairness intuitions are more responsive to climate change. However, in their study, having high scores for loyalty foundation was also an indicator for lower responses to climate change. In addition, the findings of the present study provide support for the importance of care foundation that was found in an experimental setting with Turkish university students, as that study also demonstrated a positive relation of care to pro-environmental engagement (Ertör-Akyazi and Akçay, 2021). The same study did not find any significant impacts for the loyalty foundation, similar to the findings of the present study. These findings regarding the significantly positive impact of care foundation on PEB were therefore expected, as care foundation originates from caring for and protection of the vulnerable (Graham et al. 2013). As human activities and corporate practices exploit and pollute the nature, the environment itself becomes increasingly vulnerable, positioning its protection as a moral obligation rooted in the prevention of harm and the provision of care.

The findings regarding the positive impacts of purity foundation on PEB (the only binding foundation positively correlated with PEB in the present study) were also broadly in line with the literature. However, this relationship is not that straightforward like care or equality foundations. For instance, based on a US sample, Koleva et al. (2012) found that purity

foundation predicts positive attitudes toward global warming. The authors interpreted this result as plausible by arguing that individuals who construe the natural world as “sacred” evaluate environmental issues through a contamination and sanctity lens (Koleva et al., 2012). However, another potential explanation may be related with religion. For instance, a study across 40 nations showed that religiosity may drive global warming concerns (Mostafa, 2016). In Türkiye’s Muslim-majority context, Islamic teachings focusing on the right of living (Mohamed, 2014) that construe both nature and the human body as sacred and as a trust to be safeguarded (*emanet* in Turkish) may have strengthened the observed association between purity and positive environmental attitudes. The finding of the present study also resonates with Feinberg and Willer’s experimental evidence that purity-based moral reframing increased conservatives’ attitudes about environmental issues and support for related policies (Feinberg & Willer, 2013). Due to the fact that the religious perspective on environmental degradation is framed as a desecration of God’s creation—a direct violation of the moral principles of purity and sanctity, the authors argued that this effect is helpful in explaining why some traditionally conservative Christian constituencies are mobilized on environmental matters (Feinberg & Willer, 2013).

Another study by Dickinson et al. (2016) showed that compassion, justice and purity are the predictors for willingness to act on climate change, but purity’s impact was only tentative with $p=0,07$ in that study. The same study found no significant impacts for authority and loyalty. In contrast, Baldner (2018) found that loyalty may positively predict pro-environmental behaviors in addition to individualizing foundations for the Italian sample in the study. Dawson and Tyson (2012) found a negative association between loyalty foundation and governmental environmental actions in Australia. In addition, Ertör-Akyazi & Akçay (2021) found a negative relationship between pro-environmental behavior and loyalty foundations in Türkiye in their experimental study. On the other hand, Silfver et al. (2023) proposed that different moral views have an impact on different types of specific pro-environmental preferences. For instance, while authority, loyalty and purity were positively related to using natural food and climate-friendly transportation, they were not associated with having a preference for plant-based diets. However, they also found that care and fairness were positively related to both plant-based and natural food consumption as well as sustainable transportation choices (Silfver et al., 2023). In that study, the positive relation of all moral foundations including purity on the local food preferences suggests that considering the naturalness of the food and the source of food may align with diverse moral viewpoints (Silfver

et al., 2023). In summary, all these findings in the literature show that the effect of the same type of moral intuition may differ depending on the country context and whether individual versus governmental action is considered for environmental action in each study.

The impacts of fairness/justice foundation (or equality foundation in the recent MFQ-2 surveys) were mostly robust across several studies. Therefore, their implications for real life policy contexts need to be further discussed. This possibly implies that maintaining production and consumption patterns in a way that safeguards the ‘ecological’ rights of future generations has the strongest potential to resonate with the individuals’ justice, fairness and equality considerations. Intergenerational justice concept entails ensuring a fair distribution of natural resources across generations, and prevention of unsustainable practices creating inequalities between the present and future generations (Gardiner, 2011). Hence, within the recently updated Moral Foundations Theory (MFQ-2) by Atari et al. (2023), the justice concern is possibly linked to the module on equality, i.e. equal treatment and outcomes for individuals. Moreover, references to the concept of environmental justice (i.e. equitable distribution of environmental risks, burdens and benefits across different groups of individuals, especially, between the rich and the poor, between the economically-dominant and the marginalized, etc.) (Martinez-Alier and O’Connor, 2002) could possibly be useful for any environmental policy proposal to be implemented based on individual pro-environmental action. At this point, important questions can be raised regarding care, value, fairness, and equality: Who suffers the most from ecological crises? Who wins and loses from any environmental policy? How do people perceive and behave in relation to nature? And what do we owe to future generations?

The potential impact of political orientation was also another central question for the present study. In much of the empirical studies, mostly done in the US, where the public is substantially politically polarized in terms of climate change, political orientation plays an important role for pro-environmental behavior and attitudes. For instance, McCright and Dunlap’s (2011) and Dickinson et al.’s (2016) studies demonstrated that the US leftists are more likely to believe in the existence of the climate crisis and to hold higher environmental concerns, which was also consistent with the results of the Australian sample by Dawson and Tyson (2012). Interestingly, a cross-national study by Neumayer (2004) exploring both Global North and South countries together suggested that left-leaning individuals are more likely to engage in saving water and paying environmental taxes, but they are not more likely to engage in daily environmental-friendly habits. The author explained this finding based on leftists’

preferences for governmental intervention over individual action in addressing environmental problems because they supposedly believe individual behaviors have limited impact on environmental improvement.

In contrast, in the present study, there was no direct or indirect effect of political orientation on PEB. The standardized path from political orientation (higher values means more right-leaning) to environmentally-friendly behavior was negative ($\beta = -0,089$), indicating that right-wing orientation is associated with slightly lower pro-environmental engagement, but this effect was not statistically significant ($p = 0,073$).

Additionally, Dawson and Tyson (2012) studied the effect of political affinity as a mediating variable between moral intuitions and attitudes to climate change in Australia. Their findings indicated that going from the left to right in the political spectrum, endorsement of binding foundations increased and, climate change attitudes were partially mediated by political orientation and progressivism. Similarly, Vainio and Mäkinen (2016) also found a mediating effect for political orientation for their Finnish sample. Accordingly, binding foundations were negatively correlated with pro-climate consumption, and a negative relation was exhibited between right-wing orientation and climate-friendly consumption habits. Silfver et al. (2023) also examined the moderation effect of political orientation between individualizing moral foundations and environmental habits, i.e. veganism, preference for local/natural food and ecological non-food consumption for Finland and they found no significant interaction. This was similar to the findings by Baldner (2018) Italian sample. Baldner (2018) found a positive correlation between being left-leaning and engaging in pro-environmental attitudes, but once they incorporated moral foundations into their analyses, the impact of political orientation vanished.

Complementing these findings, several researchers studied the framing of environmental discourse. For instance, Milfont et al. (2019) found that environmental framing based on care and fairness foundations play an important role for the leftists in New Zealand to lean towards pro-environmental engagement. For a US sample, Feinberg and Willer (2013) also showed that if the environmental discourse is based on the care foundation, the view is generally shared by liberals. However, when the environmental rhetoric was based on purity, it found an echo for both political groups in the US (Feinberg & Willer, 2013). Wolsko (2016) also demonstrated that public communication framed in terms of binding foundations may increase conservatives'

environmentalism. Overall, therefore, these studies provide some evidence that issue-specific moral endorsement can be helpful for a common and successful environmental policy across the political spectrum. However, in countries like Türkiye, where the public is not as much polarized on environmental issues as in the US, for instance, framing environmental policies with care, equality and purity narratives can be an easy way to communicate and promote a dialog with the shared values for the environmental concerns.

A few important limitations apply to the present study that could further be overcome in future studies. First, the analysis is not based on a representative sample of the entire adult population of Türkiye. While I gave substantial efforts for reaching a balanced sample similar to the national averages reported by TURKSTAT, the sample is slightly younger, more educated and more prosperous than the average citizen in Türkiye. In addition, due to the self-administered online survey distributed in the researcher's network and through social media, those who do not have Internet access may be underrepresented in the sample. Therefore, caution needs to be taken for generalizing the findings of the present study to all different socio-demographic strata, hence, further studies are needed for using a nationally representative data. Secondly, within the MFT framework, the removal of the three specific purity items may have weakened the construct's content coverage and measurement reliability. However, including them into the survey could have reduced the response rate of the study possibly causing selection bias. A similar trade-off has been faced by Jansson and Dorrepaal's (2015) for the Swedish sample, as a result, the researchers had to remove two items based on chastity and religion-based purity foundations from their study. Third, even though the MFQ-2 survey has been validated in several countries by Atari et al. (2023), and also in Türkiye by Doğruyol et al. (2024), the Moral Foundations Questionnaire-2 was not originally developed in Turkish language. Hence, a more rigorous cultural–linguistic adaptation could be helpful for further research. Lastly, the present thesis is not an experimental study testing specifically cause-effect relationships directly with a control versus treatment group, hence, again, caution needs to be taken when interpreting the findings.

6. CONCLUSION

The aim of the present research was to understand the link between moral foundations and pro-environmental behavior, and also the role of political orientation in this relation in Türkiye. To explore these relations, the six module MFQ-2 by Atari et al. (2023) on moral intuitions (care, equality, proportionality, loyalty, authority, purity) was used and, to the best of my knowledge, the present study was the first study adopting MFQ-2 for investigating the relationship between moral foundations, pro-environmental behavior and political orientation in Türkiye. The study found that care, equality, and purity foundations showed a significant positive association with pro-environmental behavior, and political orientation did not exhibit any significance in mediating this relationship. Also, political orientation alone did not exhibit any significant impacts on environmentally-friendly behavior in Türkiye.

When compared with the existing literature, the findings had similar patterns for the dynamics between morality and pro-environmental engagement, especially for individualizing foundations. Care and fairness, which are the individual-focused modules in the older version of the MFT, were found to be positively related to pro-environmental behaviors in several countries such as Sweden (Jansson & Dorrepaal, 2015), Finland (Vainio and Mäkinen, 2016), and Australia (Dawson and Tyson, 2012). In line with this, in the present study, care and equality were the individualizing foundations showing similar patterns. In addition, purity was the only binding moral foundation which had a significant and positive impact on environmentally-friendly behavior similar to the US context where purity-environmentalism interaction was shown to be present in the studies of Koleva et al. (2012) and Feinberg and Willer (2013).

Furthermore, the study also suggests that the function of political orientation for the interplay between morality and pro-environmentalism can be diverse. For instance, political orientation did not have a significant mediation impact in the present study and in the Italy example of Baldner (2018), but Dawson and Tyson (2012) found the opposite for the Australian sample. However, particular moral messaging for different socio-political groups displayed a positive effect for environmental friendliness in the US (Feinberg and Willer, 2013; Hurst & Stern, 2020) and the UK (Adger et al., 2017). Hence, a diverse set of moral messaging

narratives for environmental problems may be helpful for environmental governance (Adger et al., 2017). Ecological economics, for instance, a scientific discipline which has long criticized the standard microeconomic models of profit- and utility maximizations for being overly reductionist, highlights moral and normative factors for explaining economic behavior and for designing governance arrangements that align with prevailing social values (Turaga et al., 2010). In line with this approach, the study suggests that since pro-environmental behavior has remarkable and significant implications for environmental governance and policies (Turaga et al., 2010; Sharpe et al., 2021), individual and government-level environmental action can be sparked by different moral intuition messaging.

In summary, the present study examined the possible differences in terms of morality, political orientations and pro-environmental behavior for a rather large sample in Türkiye, a middle-income developing country where individual pro-environmental behavior has not been strongly encouraged so far, and other widely studied WEIRD samples from the high-income developed countries like the US, Australia, Finland, Sweden, where pro-environmental behavior has been mostly backed by governmental policies and more widely practiced at the individual level. The study mainly confirmed that moral intuitions can promote a dialogue space for some of the shared environmental and climate crisis concerns in the country. Understanding these moral dimensions and mobilizing them in environmental discourse and policy may be motivating for transformation of ecological concern into action and be a driver of social change.

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APPENDIX A: ONLINE SURVEY

Türkiye'de Ahlaki Tutumlar ile Çevre Dostu Davranışlar Arasındaki İlişkinin İncelenmesi

Bölüm 1/5

Bu anket, Türkiye'de ahlaki tutumlar ile çevre-dostu davranışlar arasındaki ilişkiyi inceleyen bir yüksek lisans tezi kapsamında yürütülmektedir. Anket ile elde edilen tüm veri gizli ve anonim kalacak, üçüncü kişi ve kuruluşlarla paylaşılmayacak ve sadece akademik çalışmalarda kullanılacaktır. Ankete katılım tamamen gönüllülük esasına dayanmaktadır. Anket yaklaşık 10 dakikanızı alacaktır. Anketi istediğiniz anda yarıda bırakma hakkına sahipsiniz, böyle bir durumda verileriniz silinecek ve çalışmada kullanılmayacaktır. Bu bilimsel çalışmaya desteğiniz için teşekkür ederiz.

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Bana anlatılanları ve yukarıda yazılanları anladım. Çalışmaya katılmayı kabul ediyorum.

✓ Onaylıyorum

Bölüm 2/5	Ahlaki Tutumlar
	Aşağıdaki ifadelerin her biri için lütfen ifadenin sizi veya görüşlerinizi ne kadar iyi tarif ettiğini, size uyup uymadığını, belirtin. Yanıt seçenekleri: Beni hiç tarif etmiyor (1); beni biraz tarif ediyor (2); beni orta düzeyde tarif ediyor (3); beni oldukça iyi tarif ediyor (4); ve beni son derece iyi tarif ediyor (5). 1. Acı çeken insanları umursamak önemli bir erdemdir. 2. Herkes aynı miktarda kazansa dünya daha iyi bir yer olurdu. 3. Daha çalışkan insanların daha fazla para kazanması gerektiğini düşünüyorum. 4. Çocuklara vatanseverlik duygusunun aşılması gerektiğini düşünüyorum. 5. Toplumların geleneksel değerlerine sahip çıkmasının önemli olduğunu düşünüyorum. 6. İnsan bedeni kutsaldır ve bedeni taşıyan kişi buna göre davranmalıdır. 7. Acı çekenlere merhamet göstermek en önemli erdemlerdendir. 8. Herkes aynı gelire sahip olsa toplumsal sorunlar azalırdı. 9. İnsanların topluma/üretime sağladıkları katkı ile orantılı olarak karşılığını alması gerektiğini düşünüyorum. 10. Ülkesine sadakat duymayan insanlardan hoşlanmam. 11. Çoğu geleneğin toplum düzenini sağlama konusunda önemli bir işlevi olduğunu düşünüyorum. 12. Duygusal anlamda zor bir dönem geçiren insanlarla herkes ilgilenmelidir. 13. Dünyadaki herkesin aynı imkanlara erişim hakkı olmalıdır. 14. Bir çalışanın aldığı zam miktarı, harcadığı emekle orantılı olmalıdır. 15. Herkes kendi toplumunu sevmeli. 16. Anne-baba sözü dinlemenin önemli bir erdem olduğunu düşünüyorum. 17. Küfürlü konuşmanın sıradanlaşması beni rahatsız ediyor. 18. Zorluklarla dolu bir hayat geçirmiş insanlara empati duyarım. 19. Toplumdaki herkesin yaklaşık olarak aynı miktarda paraya sahip olması ideal olurdu. 20. Bir kişinin yeteneklerinin hak ettiği değeri görmesi beni mutlu eder. 21. Herkes gerektiğinde ülkesini savunmalıdır. 22. Hepimizin büyüklerimizden öğrenecek çok şeyi var. 23. Zor bir süreçten geçen insanlara herkes destek olmalıdır. 24. Ortak bir amaç için birlikte çalışan kişiler, aralarından bazıları daha çok çalışmış olsa bile bu çalışmanın karşılığını eşit olarak paylaşmalıdırlar.

	25. Adil bir toplumda daha çok çalışanların daha iyi yaşam standartlarına sahip olması gerekir. 26. Bir insan, kendi ülkesinden biri uluslararası bir yarışmayı kazandığında bununla gurur duymalıdır. 27. Çocuklara öğretilmesi gereken en önemli değerlerden birinin otoriteye saygı duymak olduğunu düşünüyorum. 28. İnsan yapımı kimyasal ilaçlar yerine bu ilaçların eşdeğeri olan doğal ilaçları kullanmaya çalışmalıyız. 29. Birinin başka bir insanın ihtiyaçlarını göz ardı ettiğini görmek beni üzer. 30. Yaşadığım ülkede bazı insanların diğerlerinden çok daha fazla paraya sahip olması beni sinirlendirir. 31. Dolandırıcıların yakalanıp ceza aldığını görmek beni mutlu eder. 32. Bir spor takımının gücünün, üyelerinin birbirlerine olan sadakatinden kaynaklandığını düşünüyorum. 33. Toplumların başında güçlü bir lider olmasının iyi olduğunu düşünüyorum.
Bölüm 3/5	Çevre Dostu Davranışlar
	Bu kısımda size çevreye duyarlı davranışlar hakkında sorular soracağız, lütfen size en uygun seçeneği işaretleyiniz. ("1-Asla, 2-Nadiren, 3-Bazen, 4-Sıklıkla, 5-Her zaman" anlamına gelen cetveli kullanarak belirtir misiniz?) 1. Eşyaları yeniden kullanmanın yollarını ararım. 2. Plastik şişe, cam şişe ve kağıt gibi materyalleri geri dönüşüm kutusuna atarım. 3. Ailemi veya arkadaşlarımı geri dönüşüme teşvik ederim. 4. Alışveriş yaparken çevre dostu ürünler almayı tercih ederim. 5. Bana ait olmayan çöpleri yerden alırım, çöp kutusuna atarım. 6. Bir yere ulaşmak için daha az karbon salımı yapan toplu taşıma araçlarını tercih ederim ya da yürürüm. 7. Çevre ile ilgili sorunları yetkililere bildiririm. 8. Çevreyle ilgili sorunları gündemine alan adaylara oy veririm. 9. Çevreyle ilgili kuruluşlara, doğa ve doğayı korumaya yönelik organizasyonlara (TEMA, Greenpeace, WWF vb.) maddi bağışta bulunurum. 10. Çevresel konularla ilgili projelere veya gruplara gönüllü olarak zaman ayırırım. 11. Çevre ve doğa ile ilgili kampanyaları imzalarım. 12. Enerji kaynaklarını (örn. elektrik, su, doğalgaz) tasarruflu kullanırım. 13. Televizyon, gazete, internet gibi medya kanallarından çevre ile ilgili bilgi edinmeye çalışırım. 14. Davranışlarımın doğaya zarar verip vermediğini düşünürüm.

	15. İhtiyaç fazlası tüketimin (gıda, giyim, vs) çevre üzerindeki olumsuz etkisinin bilincinde olarak daha az tüketmeye gayret ederim.
Bölüm 4/5	Politik Görüş
	Politik olarak sol - sağ ekseninde kendinizi nasıl konumlandırırsınız?
	1-Sol, 2,3,4,5,6,7,8,9,10-Sağ
Bölüm 5/5	Demografi
	Yaşınız kaç?
	18-25
	26-32
	33-48
	49-65
	66 veya üstü
	Cinsiyetiniz nedir?
	Kadın
	Erkek
	Belirtmek istemiyorum
	En son mezun olduğunuz öğrenim düzeyi nedir?
	Ortaokul Mezunu veya altı
	Lise Mezunu
	Ön Lisans Mezunu
	Üniversite Mezunu
	Lisansüstü Mezunu
	Aylık olarak hanenize giren gelir miktarı aralığı nedir?
	25.000 TL veya daha az
	25.001 TL – 50.000 TL
	50.001 TL – 75.000 TL
	75.001 TL - 100.000 TL
	100.001 TL veya daha fazla
	Hanenizdeki kişi sayısı nedir?
	1-2 kişi
	3-5 kişi
	6-8 kişi
	9 ve daha fazla kişi
	Mesleğiniz nedir?

	...
	Hangi şehirde yaşıyorsunuz?
	...



APPENDIX B: FURTHER STATISTICAL ANALYSES

Descriptive statistics for all foundations and items in the Moral Foundations Questionnaire are below. The question is: For each of the statements below, please indicate how well each statement describes you or your opinions. Response options: Does not describe me at all (1); slightly describes me (2); moderately describes me (3); describes me fairly well (4); and describes me extremely well (5).

Table B1. Descriptive Statistics for Care Foundation Items

	N=502	Does not describe me at all (1)	Slightly describes me (2)	Moderately describes me (3)	Describes me fairly well (4)	Describes me extremely well (5)	Mean	SD
CARE1 Caring for people who have suffered is an important virtue.	n	6	17	45	193	241	4,29	0,856
	%	1,2	3,4	9	38,4	48		
CARE2 I believe that compassion for those who are suffering is one of the most crucial virtues.	n	6	15	73	180	228	4,21	0,885
	%	1,2	3	14,5	35,9	45,4		
CARE3 We should all care for people who are in emotional pain.	n	35	82	185	133	67	3,23	1,091
	%	7	16,3	36,9	26,5	13,3		
CARE4 I am empathetic toward those people who have suffered in their lives.	n	9	27	117	207	142	3,89	0,939
	%	1,8	5,4	23,3	41,2	28,3		
CARE5 Everyone should try to comfort people who are going through something hard.	n	12	63	129	174	124	3,67	1,055
	%	2,4	12,5	25,7	34,7	24,7		
CARE6 It pains me when I see someone ignoring the needs of another human being.	n	8	23	90	208	173	4,03	0,923
	%	1,6	4,6	17,9	41,4	34,5		

Table B2. Descriptive Statistics for Equality Foundation Items

	N=502	Does not describe me at all (1)	Slightly describes me (2)	Moderately describes me (3)	Describes me fairly well (4)	Describes me extremely well (5)	Mean	SD
EQU1 The world would be a better place if everyone made the same amount of money.	n	92	95	153	90	72	2,91	1,293
	%	18,3	18,9	30,5	17,9	14,3		
EQU2 Our society would have fewer problems if people had the same income.	n	105	102	147	94	54	2,78	1,27
	%	20,9	20,3	29,3	18,7	10,8		
EQU3 I believe that everyone should be given the same quantity of resources in life	n	25	54	95	163	165	3,77	1,161
	%	5	10,8	18,9	32,5	32,9		
EQU4 I believe it would be ideal if everyone in society wound up with roughly the same amount of money.	n	96	105	150	98	53	2,81	1,249
	%	19,1	20,9	29,9	19,5	10,6		
EQU5 When people work together toward a common goal, they should share the rewards equally, even if some worked harder on it.	n	137	115	136	74	40	2,53	1,253
	%	27,3	22,9	27,1	14,7	8		
EQU6 I get upset when some people have a lot more money than others in my country.	n	67	77	153	113	92	3,17	1,273
	%	13,3	15,3	30,5	22,5	18,3		

Table B3. Descriptive Statistics for Proportionality Foundation Items

	N=502	Does not describe me at all (1)	Slightly describes me (2)	Moderately describes me (3)	Describes me fairly well (4)	Describes me extremely well (5)	Mean	SD
PROP1 I think people who are more hardworking should end up with more money.	n	17	22	81	215	167	3,98	0,988
	%	3,4	4,4	16,1	42,8	33,3		
PROP2 I think people should be rewarded in proportion to what they contribute.	n	18	16	58	213	197	4,11	0,974
	%	3,6	3,2	11,6	42,4	39,2		
PROP3 The effort a worker puts into a job ought to be reflected in the size of a raise they receive.	n	20	14	74	174	220	4,12	1,022
	%	4	2,8	14,7	34,7	43,8		
PROP4 It makes me happy when people are recognized on their merits.	n	3	4	22	172	301	4,52	0,676
	%	0,6	0,8	4,4	34,3	60		
PROP5 In a fair society, those who work hard should live with higher standards of living.	n	15	26	88	208	165	3,96	0,99
	%	3	5,2	17,5	41,4	32,9		
PROP6 I feel good when I see cheaters get caught and punished.	n	5	5	18	102	372	4,66	0,691
	%	1	1	3,6	20,3	74,1		

Table B4. Descriptive Statistics for Loyalty Foundation Items

	N=502	Does not describe me at all (1)	Slightly describes me (2)	Moderately describes me (3)	Describes me fairly well (4)	Describes me extremely well (5)	Mean	SD
LOY1 I think children should be taught to be loyal to their country.	n	35	23	72	115	257	4,07	1,21
	%	7	4,6	14,3	22,9	51,2		
LOY2 It upsets me when people have no loyalty to their country.	n	50	63	83	93	213	3,71	1,381
	%	10	12,5	16,5	18,5	42,4		
LOY3 Everyone should love their own community	n	56	79	138	122	107	3,29	1,272
	%	11,2	15,7	27,5	24,3	21,3		
LOY4 Everyone should defend their country, if called upon.	n	30	48	78	117	229	3,93	1,237
	%	6	9,6	15,5	23,3	45,6		
LOY5 Everyone should feel proud when a person in their community wins in an international competition	n	14	30	55	149	254	4,19	1,035
	%	2,8	6	11	29,7	50,6		
LOY6 I believe the strength of a sports team comes from the loyalty of its members to each other	n	34	44	155	155	114	3,54	1,134
	%	6,8	8,8	30,9	30,9	22,7		

Table B5. Descriptive Statistics for Authority Foundation Items

	N=502	Does not describe me at all (1)	Slightly describes me (2)	Moderately describes me (3)	Describes me fairly well (4)	Describes me extremely well (5)	Mean	SD
AUTH1 I think it is important for societies to cherish their traditional values.	n	24	51	119	119	189	3,79	1,187
	%	4,8	10,2	23,7	23,7	37,6		
AUTH2 I feel that most traditions serve a valuable function in keeping society orderly.	n	57	100	147	128	70	3,11	1,207
	%	11,4	19,9	29,3	25,5	13,9		
AUTH3 I think obedience to parents is an important virtue.	n	54	72	137	129	110	3,34	1,264
	%	10,8	14,3	27,3	25,7	21,9		
AUTH4 We all need to learn from our elders.	n	29	79	133	132	129	3,5	1,195
	%	5,8	15,7	26,5	26,3	25,7		
AUTH5 I believe that one of the most important values to teach children is to have respect for authority.	n	155	94	139	70	44	2,51	1,294
	%	30,9	18,7	27,7	13,9	8,8		
AUTH6 I think having a strong leader is good for society	n	47	50	97	134	174	3,67	1,295
	%	9,4	10	19,3	26,7	34,7		

Table B6. Descriptive Statistics for Purity Foundation Items

	N=502	Does not describe me at all (1)	Slightly describes me (2)	Moderately describes me (3)	Describes me fairly well (4)	Describes me extremely well (5)	Mean	SD
PUR1 I think the human body should be treated like a temple, housing something sacred within.	n	51	42	83	136	190	3,74	1,315
	%	10,2	8,4	16,5	27,1	37,8		
PUR2 It upsets me when people use foul language like it is nothing.	n	34	53	64	99	252	3,96	1,29
	%	6,8	10,6	12,7	19,7	50,2		
PUR3 People should try to use natural medicines rather than chemically identical human-made ones.	n	43	62	113	129	155	3,58	1,275
	%	8,6	12,4	22,5	25,7	30,9		

Table B7. EFA – KMO and Bartlett Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of		0,923
Bartlett's Test of Sphericity	Approx.	8389,918
	Chi-Square	
	df	528
	Sig.	0,000



Figure B1. EFA - Scree Plot

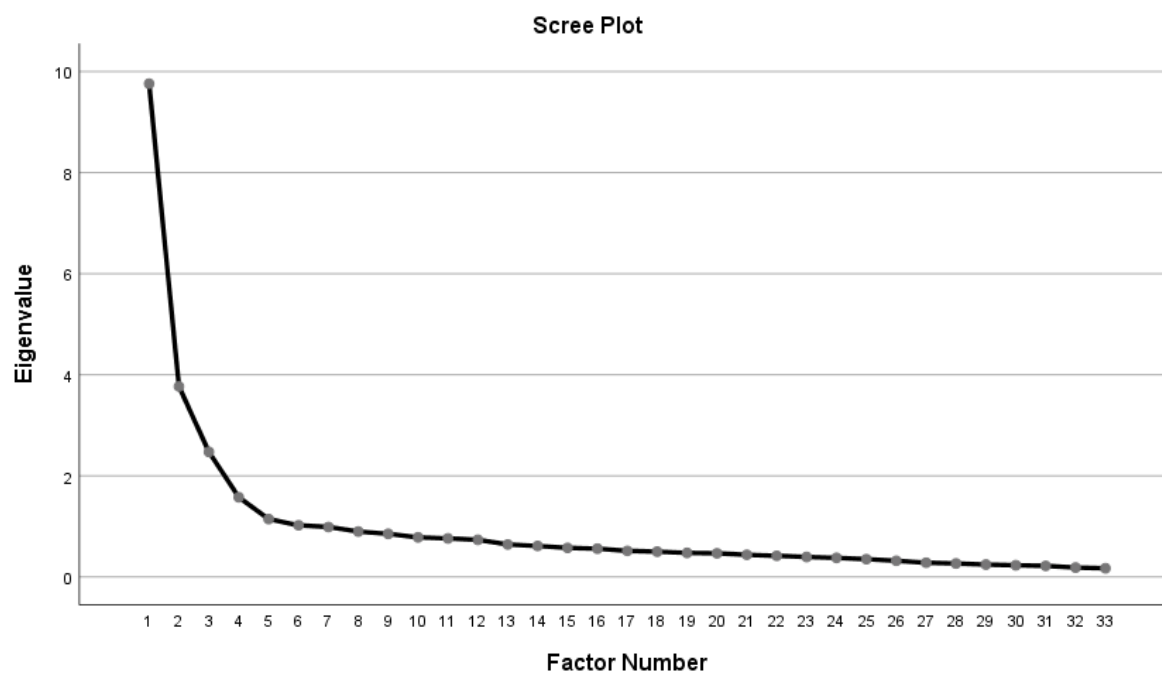


Table B8. EFA – Total Variance Explained

Total Variance Explained							
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9,759	29,573	29,573	9,333	28,283	28,283	7,695
2	3,768	11,419	40,991	3,367	10,204	38,487	3,602
3	2,474	7,498	48,489	1,962	5,946	44,433	4,469
4	1,576	4,777	53,266	1,145	3,469	47,902	5,041
5	1,145	3,468	56,734	0,647	1,961	49,863	2,033
6	1,022	3,096	59,830	0,538	1,632	51,495	4,851
7	0,988	2,994	62,824				
8	0,898	2,720	65,544				
9	0,852	2,583	68,127				
10	0,782	2,371	70,497				
11	0,762	2,309	72,807				
12	0,734	2,225	75,032				
13	0,642	1,946	76,978				
14	0,612	1,855	78,833				
15	0,574	1,740	80,573				
16	0,559	1,693	82,267				
17	0,515	1,562	83,828				
18	0,500	1,514	85,342				
19	0,476	1,442	86,784				
20	0,467	1,416	88,200				
21	0,437	1,325	89,526				
22	0,418	1,267	90,793				
23	0,395	1,197	91,989				
24	0,377	1,142	93,131				
25	0,351	1,065	94,196				
26	0,319	0,966	95,162				
27	0,281	0,851	96,014				
28	0,266	0,806	96,819				
29	0,244	0,741	97,560				
30	0,230	0,697	98,257				
31	0,219	0,664	98,921				
32	0,185	0,561	99,483				
33	0,171	0,517	100,000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.

Table B9. EFA – Items and Factor Loadings

Pattern Matrix ^a						
	Factor					
	1	2	3	4	5	6
LOY1 Çocuklara vatanseverlik duygusunun aşılmasını gerektiğini düşünüyorum.	0,976			0,131		0,115
LOY2 Ülkesine sadakat duymayan insanlardan hoşlanmam.	0,894					
LOY4 Herkes gerektiğinde ülkesini savunmalıdır.	0,880					
LOY5 Bir insan, kendi ülkesinden biri uluslararası bir yarışmayı kazandığında bununla gurur duymalıdır.	0,675		0,136			
AUTH1 Toplamların geleneksel değerlerine sahip çıkmasının önemli olduğunu düşünüyorum.	0,538					-0,357
LOY3 Herkes kendi toplumunu sevmeli.	0,502	0,114	0,139			-0,188
AUTH6 Toplamların başında güçlü bir lider olmasının iyi olduğunu düşünüyorum.	0,439		0,117			-0,222
LOY6 Bir spor takımının gücünün, üyelerinin birbirlerine olan sadakatinden kaynaklandığını düşünüyorum.	0,284		0,117			
EQU4 Toplumdaki herkesin yaklaşık olarak aynı miktarda paraya sahip olması ideal olurdu.		0,846				
EQU1 Herkes aynı miktarda kazansa dünya daha iyi bir yer olurdu.		0,841			0,111	-0,104
EQU2 Herkes aynı gelire sahip olsa toplumsal sorunlar azalırdu.		0,826				-0,145
EQU6 Yaşadığım ülkede bazı insanların diğerlerinden çok daha fazla paraya sahip olması beni sinirlendirir.		0,469				0,234
EQU3 Dünyadaki herkesin aynı imkanlara erişim hakkı olmalıdır.		0,463		-0,259		0,144
EQU5 Ortak bir amaç için birlikte çalışan kişiler, aralarından bazıları daha çok çalışmış olsa bile bu çalışmanın karşılığını eşit olarak paylaşmalıdırlar.		0,357	-0,115	-0,155		-0,238
PROP1 Daha çalışan insanların daha fazla para kazanması gerektiğini düşünüyorum.			0,715	0,177	0,127	-0,119
PROP5 Adil bir toplumda daha çok çalışanların daha iyi yaşam standartlarına sahip olması gerekir.			0,707			
PROP3 Bir çalışanın aldığı zam miktarı, harcadığı emekle orantılı olmalıdır.			0,655			
PROP2 İnsanların topluma/üretime sağladıkları katkı ile orantılı olarak karşılığını alması gerektiğini düşünüyorum.			0,629		0,121	
PROP6 Dolandırıcıların yakalanıp ceza aldığını görmek beni mutlu eder.			0,480	-0,132	-0,161	
PROP4 Bir kişinin yeteneklerinin hak ettiği değeri görmesi beni mutlu eder.			0,391	-0,270		0,205
CARE5 Zor bir süreçten geçen insanlara herkes destek olmalıdır.				-0,842		
CARE3 Duygusal anlamda zor bir dönem geçiren insanlarla herkes ilgilenmelidir.		0,108		-0,653		
CARE6 Birinin başka bir insanın ihtiyaçlarını göz ardı ettiğini görmek beni üzer.				-0,570	0,196	
CARE4 Zorluklarla dolu bir hayat geçirmiş insanlara empati duyarım.			0,114	-0,469	0,118	
PUR3 İnsan yapımı kimyasal ilaçlar yerine bu ilaçların eşdeğeri olan doğal ilaçları kullanmaya çalışmalıyız.	0,180			-0,257		-0,182
CARE1 Acı çeken insanları umursamak önemli bir erdemdir.				-0,111	0,672	
CARE2 Acı çekenlere merhamet göstermek en önemli erdemlerdendir.				-0,228	0,595	
AUTH3 Anne-baba sözü dinlemenin önemli bir erdem olduğunu düşünüyorum.	0,227		0,149	-0,118		-0,552
AUTH2 Çoğu geleceğin toplum düzenini sağlama konusunda önemli bir işlevi olduğunu düşünüyorum.	0,284			-0,131		-0,551
AUTH4 Hepimizin büyüklerimizden öğrenecek çok şeyi var.	0,215			-0,281		-0,525
AUTH5 Çocuklara öğretirmesi gereken en önemli değerlerden birinin otoriteye saygı duymak olduğunu düşünüyorum.	0,269					-0,431
PUR1 İnsan bedeni kutsaldır ve bedeni taşıyan kişi buna göre davranmalıdır.	0,289		0,110			-0,416
PUR2 Küfürülü konuşmanın sıradanlaşması beni rahatsız ediyor.		0,119		-0,152		-0,208

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Table B10. Spearman-rank correlation between Income Level and the means of Moral Foundations, Pro-Environmental Behavior

			Correlations							
			INCOME	ALLCARE	ALLEQU	ALLPROP	ALLLOY	ALLAUTH	ALLPUR	ALLPEB
Spearman's rho	INCOME	Correlation Coefficient	1,000	-,143**	-,171**	0,009	-,104*	-,111*	-,167**	-0,022
		Sig. (2-tailed)		0,001	0,000	0,835	0,020	0,013	0,000	0,619
		N	502	502	502	502	502	502	502	502
	ALLCARE	Correlation Coefficient	-,143**	1,000	,396**	,413**	,439**	,468**	,483**	,336**
		Sig. (2-tailed)	0,001		0,000	0,000	0,000	0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLEQU	Correlation Coefficient	-,171**	,396**	1,000	0,083	,166**	,216**	,259**	,282**
		Sig. (2-tailed)	0,000	0,000		0,063	0,000	0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLPROP	Correlation Coefficient	0,009	,413**	0,083	1,000	,450**	,332**	,349**	,194**
		Sig. (2-tailed)	0,835	0,000	0,063		0,000	0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLLOY	Correlation Coefficient	-,104*	,439**	,166**	,450**	1,000	,767**	,608**	,254**
		Sig. (2-tailed)	0,020	0,000	0,000	0,000		0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLAUTH	Correlation Coefficient	-,111*	,468**	,216**	,332**	,767**	1,000	,647**	,218**
		Sig. (2-tailed)	0,013	0,000	0,000	0,000	0,000		0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLPUR	Correlation Coefficient	-,167**	,483**	,259**	,349**	,608**	,647**	1,000	,333**
		Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000		0,000
		N	502	502	502	502	502	502	502	502
	ALLPEB	Correlation Coefficient	-0,022	,336**	,282**	,194**	,254**	,218**	,333**	1,000
		Sig. (2-tailed)	0,619	0,000	0,000	0,000	0,000	0,000	0,000	
		N	502	502	502	502	502	502	502	502

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table B11. Spearman-rank correlation between Education Level and the means of Moral Foundations, Pro-Environmental Behavior

		Correlations								
		EDUCATION LEVEL	ALLCARE	ALLEQU	ALLPROP	ALLLOY	ALLAUTH	ALLPUR	ALLPEB	
Spearman's rho	EDUCATION LEVEL	Correlation Coefficient	1,000	-0,033	-0,015	-0,016	-,139**	-,112*	-0,071	,092*
		Sig. (2-		0,455	0,744	0,715	0,002	0,012	0,113	0,038
		N	502	502	502	502	502	502	502	502
	ALLCARE	Correlation Coefficient	-0,033	1,000	,396**	,413**	,439**	,468**	,483**	,336**
		Sig. (2-	0,455		0,000	0,000	0,000	0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLEQU	Correlation Coefficient	-0,015	,396**	1,000	0,083	,166**	,216**	,259**	,282**
		Sig. (2-	0,744	0,000		0,063	0,000	0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLPROP	Correlation Coefficient	-0,016	,413**	0,083	1,000	,450**	,332**	,349**	,194**
		Sig. (2-	0,715	0,000	0,063		0,000	0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLLOY	Correlation Coefficient	-,139**	,439**	,166**	,450**	1,000	,767**	,608**	,254**
		Sig. (2-	0,002	0,000	0,000	0,000		0,000	0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLAUTH	Correlation Coefficient	-,112*	,468**	,216**	,332**	,767**	1,000	,647**	,218**
		Sig. (2-	0,012	0,000	0,000	0,000	0,000		0,000	0,000
		N	502	502	502	502	502	502	502	502
	ALLPUR	Correlation Coefficient	-0,071	,483**	,259**	,349**	,608**	,647**	1,000	,333**
		Sig. (2-	0,113	0,000	0,000	0,000	0,000	0,000		0,000
		N	502	502	502	502	502	502	502	502
	ALLPEB	Correlation Coefficient	,092*	,336**	,282**	,194**	,254**	,218**	,333**	1,000
		Sig. (2-	0,038	0,000	0,000	0,000	0,000	0,000	0,000	
		N	502	502	502	502	502	502	502	502
**. Correlation is significant at the 0.01 level (2-tailed).										
*. Correlation is significant at the 0.05 level (2-tailed).										

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table B12. Spearman-rank correlation between Age and the means of Moral Foundations, Pro-Environmental Behavior

		Correlations							
		AGE	ALLCARE	ALLEQU	ALLPROP	ALLLOY	ALLAUTH	ALLPUR	ALLPEB
Spearman's rho	AGE	1,000	,210**	,117**	0,088	,203**	,277**	,277**	,318**
	Correlation Coefficient								
	Sig. (2-tailed)		0,000	0,008	0,127	0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
	ALLCARE	,210**	1,000	,396**	,413**	,439**	,468**	,483**	,336**
	Correlation Coefficient								
	Sig. (2-tailed)	0,000		0,000	0,000	0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
	ALLEQU	,117**	,396**	1,000	0,083	,166**	,216**	,259**	,282**
	Correlation Coefficient								
	Sig. (2-tailed)	0,008	0,000		0,083	0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
	ALLPROP	0,088	,413**	0,083	1,000	,450**	,332**	,349**	,194**
	Correlation Coefficient								
	Sig. (2-tailed)	0,127	0,000	0,083		0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
	ALLLOY	,203**	,439**	,166**	,450**	1,000	,767**	,608**	,254**
	Correlation Coefficient								
	Sig. (2-tailed)	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
	ALLAUTH	,277**	,468**	,216**	,332**	,767**	1,000	,647**	,218**
	Correlation Coefficient								
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000		0,000	0,000
	N	502	502	502	502	502	502	502	502
	ALLPUR	,277**	,483**	,259**	,349**	,608**	,647**	1,000	,333**
	Correlation Coefficient								
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000		0,000
	N	502	502	502	502	502	502	502	502
	ALLPEB	,318**	,336**	,282**	,194**	,254**	,218**	,333**	1,000
	Correlation Coefficient								
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
	N	502	502	502	502	502	502	502	502

** . Correlation is significant at the 0.01 level (2-tailed).

Table B13. Descriptives for Gender and Pro-Environmental Behavior

Descriptives								
ALLPEB								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Women	258	3,4824	0,57235	0,03563	3,4123	3,5526	1,73	5,00
Men	239	3,4552	0,70543	0,04563	3,3653	3,5451	1,27	5,00
Not-Specified	5	3,8533	0,82111	0,36721	2,8338	4,8729	2,73	5,00
Total	502	3,4732	0,64145	0,02863	3,4169	3,5294	1,27	5,00

Table B14. No Significance Evidence for Gender Difference and Pro-Environmental Behavior

ANOVA					
ALLPEB					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0,822	2	0,411	0,998	0,369
Within Groups	205,322	499	0,411		
Total	206,143	501			

Table B15. Pearson Correlation between Right-Wing Orientation and the Means of Moral Foundations and Pro-Environmental Behavior

		Correlations							
		ALLCARE	ALLEQU	ALLPROP	ALLLOY	ALLAUTH	ALLPUR	ALLPEB	Right Wing Orientation
ALLCARE	Pearson Correlation	1	,411**	,365**	,368**	,457**	,432**	,351**	,247**
	Sig. (2-tailed)		0,000	0,000	0,000	0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
ALLEQU	Pearson Correlation	,411**	1	0,056	,100*	,191**	,245**	,284**	-0,069
	Sig. (2-tailed)	0,000		0,206	0,025	0,000	0,000	0,000	0,121
	N	502	502	502	502	502	502	502	502
ALLPROP	Pearson Correlation	,365**	0,056	1	,474**	,362**	,311**	,177**	,215**
	Sig. (2-tailed)	0,000	0,206		0,000	0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
ALLLOY	Pearson Correlation	,368**	,100*	,474**	1	,777**	,561**	,223**	,479**
	Sig. (2-tailed)	0,000	0,025	0,000		0,000	0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
ALLAUTH	Pearson Correlation	,457**	,191**	,362**	,777**	1	,630**	,220**	,572**
	Sig. (2-tailed)	0,000	0,000	0,000	0,000		0,000	0,000	0,000
	N	502	502	502	502	502	502	502	502
ALLPUR	Pearson Correlation	,432**	,245**	,311**	,561**	,630**	1	,318**	,435**
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000		0,000	0,000
	N	502	502	502	502	502	502	502	502
ALLPEB	Pearson Correlation	,351**	,284**	,177**	,223**	,220**	,318**	1	0,087
	Sig. (2-tailed)	0,000	0,000	0,000	0,000	0,000	0,000		0,052
	N	502	502	502	502	502	502	502	502
Right Wing Orientation	Pearson Correlation	,247**	-0,069	,215**	,479**	,572**	,435**	0,087	1
	Sig. (2-tailed)	0,000	0,121	0,000	0,000	0,000	0,000	0,052	
	N	502	502	502	502	502	502	502	502

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table B16. Regression Analysis Results for PEB with All Independent Variables

Model Summary ^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,491 ^a	0,241	0,224	0,56514	0,241	14,131	11	490	0,000

Table B17. ANOVA Results

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49,646	11	4,513	14,131	,000
	Residual	156,497	490	0,319		
	Total	206,143	501			

Table B18. Regression Results for Coefficients

Coefficients										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1,524	0,237		6,420	0,000	1,057	1,990		
	ALLCARE	0,162	0,047	0,174	3,447	0,001	0,070	0,254	0,605	1,653
	ALLEQU	0,101	0,033	0,141	3,075	0,002	0,036	0,165	0,736	1,358
	ALLPROP	0,051	0,048	0,051	1,083	0,279	-0,042	0,145	0,709	1,411
	ALLOY	0,073	0,045	0,109	1,617	0,107	-0,016	0,161	0,340	2,938
	ALLAUTH	-0,070	0,048	-0,109	-1,456	0,146	-0,165	0,025	0,279	3,589
	ALLPUR	0,107	0,036	0,162	2,978	0,003	0,037	0,178	0,522	1,914
	Right-Wing Orientation	-0,017	0,013	-0,068	-1,326	0,185	-0,041	0,008	0,594	1,683
	AGE	0,166	0,030	0,257	5,507	0,000	0,107	0,225	0,711	1,406
	EDUCATION	0,009	0,032	0,013	0,285	0,776	-0,054	0,072	0,772	1,295
	INCOME	0,000	0,023	0,000	-0,006	0,995	-0,045	0,044	0,802	1,247
	GENDER	-0,069	0,055	-0,053	-1,237	0,217	-0,177	0,040	0,832	1,203

Table B19. First Validity Check for PLS SEM Measurement Model

Variable	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
CARE	0.814	0.831	0.519
EQU	0.812	0.846	0.531
PROP	0.791	0.787	0.472
LOY	0.880	0.894	0.636
AUTH	0.886	0.918	0.636
PUR	0.608	0.610	0.557
PEB	0.895	0.905	0.408

Table B20. After the Items Removed Validity Check for PLS SEM Measurement Model

Variable	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
CARE	0.812	0.833	0.519
EQU	0.812	0.854	0.531
PROP	0.774	0.793	0.526
LOY	0.879	0.899	0.637
AUTH	0.887	0.919	0.639
PUR	0.608	0.609	0.558
PEB	0.867	0.883	0.516

Table B21. Factor Loadings

	AUTH	CARE	EQU	LOY	PEB	PROP	PUR
AUTH1	0.838	0.373	0.180	0.697	0.193	0.258	0.537
AUTH2	0.845	0.376	0.243	0.632	0.233	0.259	0.549
AUTH3	0.845	0.423	0.163	0.639	0.202	0.324	0.520
AUTH4	0.862	0.472	0.225	0.594	0.262	0.260	0.561
AUTH5	0.743	0.317	0.202	0.553	0.165	0.242	0.412
AUTH6	0.640	0.258	0.048	0.610	0.096	0.316	0.391
CARE1	0.172	0.568	0.208	0.138	0.177	0.218	0.186
CARE2	0.345	0.693	0.250	0.269	0.214	0.336	0.296
CARE3	0.354	0.786	0.420	0.252	0.275	0.224	0.301
CARE4	0.337	0.652	0.253	0.294	0.194	0.344	0.309
CARE5	0.456	0.838	0.378	0.336	0.291	0.249	0.377
CARE6	0.345	0.753	0.295	0.274	0.256	0.296	0.395
EQU1	0.179	0.355	0.871	0.059	0.264	0.044	0.229
EQU2	0.230	0.347	0.848	0.109	0.229	0.052	0.237
EQU3	0.086	0.390	0.642	0.058	0.178	0.179	0.201
EQU4	0.190	0.347	0.867	0.094	0.229	0.033	0.207
EQU5	0.295	0.257	0.580	0.171	0.200	-0.016	0.235
EQU6	-0.096	0.095	0.455	-0.072	0.083	0.035	-0.025
LOY1	0.616	0.242	0.034	0.868	0.226	0.366	0.406
LOY2	0.686	0.299	0.074	0.894	0.238	0.379	0.525
LOY3	0.637	0.364	0.213	0.775	0.211	0.389	0.466
LOY4	0.688	0.308	0.069	0.883	0.198	0.399	0.472
LOY5	0.578	0.293	0.028	0.786	0.157	0.423	0.415
LOY6	0.399	0.247	0.124	0.520	0.153	0.241	0.292
PEB10	0.181	0.229	0.226	0.120	0.754	0.070	0.198
PEB11	-0.005	0.210	0.169	0.030	0.692	0.059	0.110
PEB13	0.101	0.172	0.230	0.114	0.628	0.103	0.189
PEB3	0.244	0.217	0.177	0.240	0.710	0.150	0.253
PEB4	0.206	0.288	0.192	0.203	0.772	0.198	0.337
PEB7	0.309	0.280	0.223	0.293	0.793	0.187	0.294
PEB8	0.108	0.272	0.234	0.160	0.716	0.203	0.171
PEB9	0.159	0.196	0.185	0.156	0.666	0.088	0.180
PROP1	0.250	0.192	-0.042	0.348	0.076	0.674	0.185
PROP2	0.236	0.259	0.037	0.326	0.133	0.722	0.226
PROP3	0.279	0.325	0.105	0.392	0.166	0.800	0.246
PROP4	0.113	0.304	0.126	0.180	0.135	0.589	0.181
PROP5	0.321	0.257	-0.006	0.412	0.173	0.815	0.249
PUR1	0.628	0.332	0.154	0.580	0.205	0.290	0.736
PUR2	0.347	0.264	0.224	0.280	0.247	0.147	0.746
PUR3	0.461	0.383	0.225	0.394	0.260	0.255	0.760

Table B22. Fornell-Larcker Criterion

	AUTH	CARE	EQU	LOY	PEB	PROP	PUR
AUTH	0.830						
CARE	0.478	0.720					
EQU	0.246	0.428	0.728				
LOY	0.747	0.366	0.113	0.798			
PEB	0.259	0.331	0.284	0.252	0.718		
PROP	0.322	0.376	0.070	0.460	0.198	0.725	
PUR	0.626	0.437	0.273	0.545	0.320	0.304	0.747

Table B23. HTMT coefficients

	AUTH	CARE	EQU	LOY	PEB	PROP	PUR
AUTH							
CARE	0.548						
EQU	0.301	0.502					
LOY	0.847	0.434	0.164				
PEB	0.266	0.380	0.329	0.260			
PROP	0.387	0.480	0.139	0.559	0.216		
PUR	0.863	0.614	0.391	0.762	0.409	0.444	

Table B24. VIF Coefficients

	Variance Inflation Factor (VIF)
AUTH -> PEB	2.909
CARE -> PEB	1.666
EQU -> PEB	1.273
LOY -> PEB	2.666
PROP -> PEB	1.391
PUR -> PEB	1.781

Table B25. The PLS-SEM examination results for Moral Foundations and Pro-Environmental Behavior

	Path Coefficients (β)	Standard Deviation	T Statistics	P values
CARE -> PEB	0.160	0.056	2.853	0.004
EQU -> PEB	0.171	0.046	3.707	0.000
PROP -> PEB	0.046	0.051	0.892	0.372
LOY -> PEB	0.103	0.078	1.309	0.190
AUTH -> PEB	-0.069	0.074	0.931	0.352
PUR -> PEB	0.172	0.059	2.918	0.004

Table B26. Validity Check After POLS added the PLS-SEM

Variable	Cronbach's Alpha (CA)	Composite Reliability (CR)	Average Variance Extracted (AVE)
CARE	0.812	0.864	0.519
EQU	0.812	0.867	0.533
PROP	0.774	0.846	0.531
LOY	0.879	0.911	0.637
AUTH	0.887	0.917	0.690
PUR	0.608	0.790	0.558
PEB	0.774	0.846	0.531

Table B27. Direct Effects

	Path Coefficients (β)	Standard Deviation	T Statistics	P values
CARE -> PEB	0.173	0.057	3.049	0.002
CARE -> RWO	0.057	0.039	1.443	0.149
EQU -> PEB	0.158	0.049	3.251	0.001
EQU -> RWO	-0.226	0.046	4.873	0.000
PROP -> PEB	0.038	0.055	0.687	0.492
PROP -> RWO	-0.023	0.036	0.642	0.521
LOY -> PEB	0.115	0.080	1.435	0.151
LOY -> RWO	0.093	0.050	1.860	0.063
AUTH -> PEB	-0.039	0.079	0.490	0.624
AUTH -> RWO	0.402	0.058	6.982	0.000
PUR -> PEB	0.172	0.064	2.700	0.007
PUR -> RWO	0.175	0.042	4.177	0.000
RWO -> PEB	-0.089	0.050	1.791	0.073

Table B28. Total Effects

	Path Coefficients (β)	Standard Deviation	T Statistics	P values
CARE -> PEB	0.168	0.057	2.939	0.003
CARE -> RWO	0.057	0.039	1.443	0.149
EQU -> PEB	0.178	0.047	3.804	0.000
EQU -> RWO	-0.226	0.046	4.873	0.000
PROP -> PEB	0.040	0.056	0.722	0.470
PROP -> RWO	-0.023	0.036	0.642	0.521
LOY -> PEB	0.106	0.081	1.322	0.186
LOY -> RWO	0.093	0.050	1.860	0.063
AUTH -> PEB	-0.075	0.076	0.985	0.325
AUTH -> RWO	0.402	0.058	6.982	0.000
PUR -> PEB	0.156	0.064	2.455	0.014
PUR -> RWO	0.175	0.042	4.177	0.000
RWO -> PEB	-0.089	0.050	1.791	0.073

Figure B2. Trends In Foundation Scores as a Function of Political Orientation (1- very left, 10- very right)

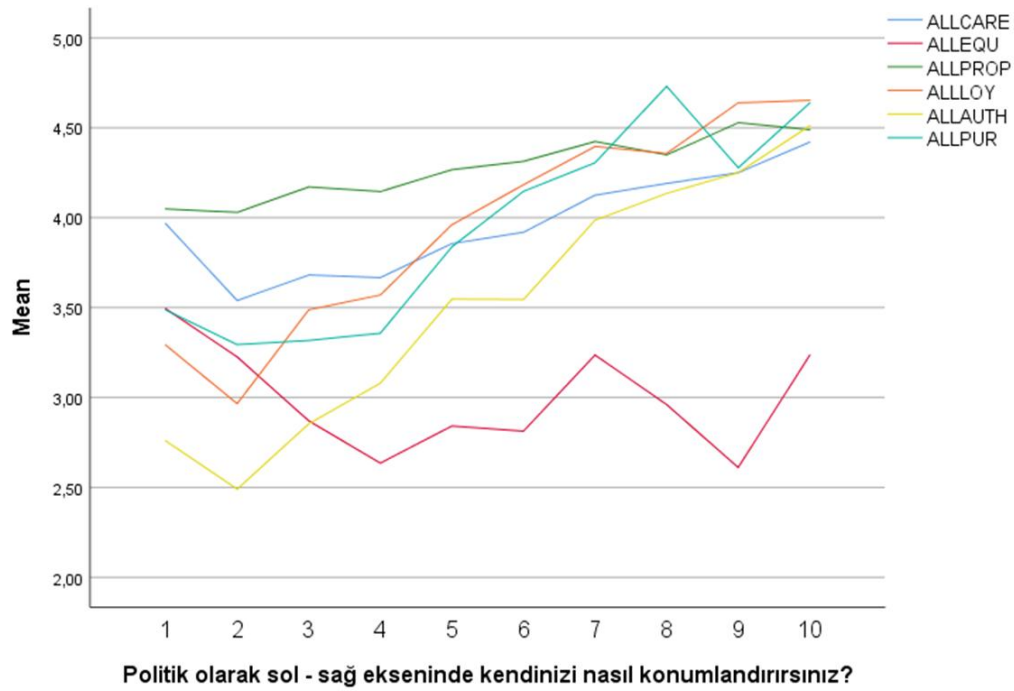


Table B29. PLS-SEM results for the link between Moral Foundations and Right-Wing Orientation

	Path Coefficients (β)	Standard Deviation	T Statistics	P values
CARE -> RWO	0.057	0.039	1.443	0.149
EQU -> RWO	-0.226	0.046	4.873	0.000
PROP -> RWO	-0.023	0.036	0.642	0.521
LOY -> RWO	0.093	0.050	1.860	0.063
AUTH -> RWO	0.402	0.058	6.982	0.000
PUR -> RWO	0.175	0.042	4.177	0.000