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Research Article

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Effect of Belief in Free Will on the Intensity of Third-Party Punishment

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Abstract The institutionalized criminal justice mechanisms are built on two psychological and social traits: third-party punishment (TPP) and belief in free will (BFW). TPP is the administration of a sanction to a transgressor by an individual not affected by the transgression. BFW posits that humans are in control of their actions. Previous studies have indicated that BFW influences TPP. The aim of this study is to investigate whether the level of BFW has an impact on the magnitude of punishment in TPP tasks. Furthermore, it questions whether the degree of affective arousal of the punisher creates an additional effect on the magnitude of the punishment. Our basic hypothesis is that the BFW and punishment magnitude are positively correlated. We also hypothesize that the expected positive correlation between BFW and punishment magnitude will be more manifest in low-affect scenarios than in high-affect ones. Participants (N = 726) were given 49 hypothetical crime scenarios categorized as low- and high-affect cases. Upon reading each scenario, the participants were tasked to attribute a penalty between the two given options. Our results showed that the level of BFW was positively correlated with the degree of punishment administered in the hypothetical crime scenarios and that the average punishment magnitude for participants with a low level of BFW increased in the high-affect crime scenarios. We assume that our results would shed light on the underlying causes of public reactions to criminal sentencing policies, thus helping lawmakers in enacting better regulations in this respect.

Keywords Belief in free will · third-party punishment · high-low affect · criminal sentencing policies · lawmaking

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I. Introduction

The institutionalized criminal justice mechanisms present in every modern human society are built on two psychological and social traits: third-party punishment (TPP) and belief in free will (BFW). TPP is a special type of prosocial behavior, meaning the administration of a sanction to a transgressor by an individual who is not directly or indirectly affected by the transgression. BFW posits that humans are in control of their actions.

Modern criminal justice is based on the idea that the decision whether a perpetrator is guilty of a crime should be taken by an impartial third-party, namely the judge or the jury[1]. Criminal liability in modern justice systems requires two elements: the commission of a legally forbidden act (*actus reus*) and an intent to commit a crime (*mens rea*)[2]. Unintentional crimes are rare, and their punishment is always less heavy[3]. In other words, the status of *men's rea* as an essential element in criminal liability shows that criminal justice systems rely largely on the notion of BFW. Factors that may affect the "free will" of a perpetrator, such as a mental illness, would partially or totally lift criminal responsibility.[4] A person who commits a crime under duress is not considered criminally liable.[5] Finally, the degree of the intention of the perpetrator in committing the criminal act is one of the most essential indicators used to determine the penalty prescribed to the perpetrator.[6]

The criminal justice theory relies on BFW not only in defining the guilt but also in justifying punishment. Theories that explain the rationale for a punishment can be grouped into two main categories. On the one hand, *retributivist* theories explain the basis of criminal punishment with reference to the idea of a "just desert." According to these theories, the blameworthiness of a perpetrator originates mainly from the fact that they "chose" to commit a crime out of their own free will. In other words, retributivist theories make a direct reference to the idea that humans are creatures endowed with free will and that they can freely choose between "good" and "bad." On the other hand, consequentialist or utilitarian theories base punishment on the idea of the common good. According to these theories, any criminal act is harmful, above all to the social order. Thus, punishment should be done with a view to rehabilitating the authors of criminal acts, or to deter would-be authors of such acts, in order to prevent disruption to the social order.[7] Consequentialist theories do not make direct reference to the free will of the perpetrator, although they consider the actual or would-be criminal as a person who would "draw lessons" from punishment, thus as a rational agent who can control their acts.

Taken from a broader perspective, BFW appears to be a factor that affects social relations. The social function of BFW, especially its supposed effect on prosocial behavior, has been a popular topic of scholarly research since the 1980s.[8] The effect of the degree of BFW on the punishment magnitude and rationale in

[1] M. Partington, *Introduction to the English legal system*, (Oxford University Press, 8th ed. 2013) 49-50

[2] A. Ashworth, J. Horder, *Principles of criminal law*, (Oxford University Press, 7th ed. 2013) 83

[3] M. Koca, İ. Üzülmez, *Türk Ceza Hukuku Genel Hükümler*, (Seçkin, 16. Baskı 2023) 185-186

[4] US the Insanity Defense Act of 1984; UK the Criminal Procedure (Insanity and Unfitness to Plead) Act of 1991 art.1; FR Criminal Code of 1994 art.122-1; TR Criminal Code of 2005 art.32.

[5] FR Criminal Code of 1994 art.122-2; TR Criminal Code of 2005 (Türk Ceza Kanunu, Kanun Numarası: 5237, Kabul Tarihi: 26/9/2004, RG 12.10.2004/25611) art.28.

[6] DE Criminal Code of 1871 art.46; TR Criminal Code of 2005 (Türk Ceza Kanunu, Kanun Numarası: 5237, Kabul Tarihi: 26/9/2004, RG 12.10.2004/25611) art.61.

[7] C. Roxin, G. Arzt, and K. Klaus, *Einführung in das Strafrecht und Strafprozessrecht*, (Müller Juristischer Verlag 1983); R.G. Singer and J.Q. La Fond *Criminal Law* (Wolters Kluwer 2013).

[8] For a critical review, see E. Ewusi-Boisvert and E. Racine 'A critical review of methodologies and results in recent research on belief in free will' (2018) Neuroethics 97

TPP has also been the object of much research. This specific link between BFW and TPP is an important aspect of the question of the correlation between BFW and prosocial behavior, for it can provide arguments to shape criminal justice policies.

A further factor used to determine the magnitude of the penalty is the degree of harm caused by the criminal act. Behavioral studies in moral psychology established that the degree of harm caused by the offense, as well as the mental state of the offender, are the primary factors that influence punishment decisions.[9] Crimes committed against highly vulnerable victims, such as children, or crimes of a specific type, such as sexual offenses or brutal violence used in terrorist actions, create strong reactions in public opinion as well as a strong demand for harsh penalties. For example, chemical castration for sexual offenders is a recurrent topic, as is the possibility of the resurgence of the death penalty in countries where it had been abolished. Thus, the punisher's emotional reaction triggered by the gravity of the deed to be punished appears as another factor that influences the magnitude of the punishment in TPP situations.

The central aim of this empirical study is to address the following questions: Does BFW have an impact on punishment magnitude in TPP tasks and does the affective arousal of the punisher create an additional impact in this respect? Nevertheless, we also intend to underline the existence of a connection between the social psychology aspect and the criminal policy aspect of TPP and BFW. Thus, to relate the study's focus to criminal justice policies, this research furthers its scope to include potential correlations between BFW and political attitudes and cognitive tendencies. In this respect, we have undertaken a widespread literature review to express our hypotheses.

II. Literature Review on Third-Party Punishment

Third-party punishment, or altruistic punishment, is a sanction inflicted on a transgressor by an individual who is not harmed by the transgression, be it directly or indirectly. Unlike Second-Party Punishment, where it is the victim who retaliates against the transgressor and which is common in the natural world, TPP is arguably a specifically human prosocial behavior.[10] In evolutionary accounts, the TPP is deemed crucial for the evolutionary stability of solidarity and cooperation in large groups formed by genetically unrelated members.[11] Regardless of the accuracy of these theories, one can easily argue that the TPP is the basis for the formal and informal justice systems present in every type of human society, modern or traditional, complex or simple alike.

The importance of TPP in the organization of society led scholars to conduct research to identify the essential factors that influence punishment decisions. In the following sections, we summarize the scholarship that links the TPP to a number of variables, namely, belief in free will, extraversion, social conservatism, system justification, and rational and experiential thinking styles, as well as to a selection of demographic factors such as gender, age, and education.

[9] K.M. Carlsmith, J.M. Darley and P.H. Robinson 'Why do we punish? Deterrence and just deserts as motives for punishment' (2002) Journal of Personality and Social Psychology 284; C.J. Clark, J.B. Luguri, P.H. Ditto, J. Knobe, A.F. Shariff and R.F. Baumeister 'Free to punish: A motivated account of free will belief' (2014) Journal of Personality and Social Psychology 501; F. Cushman 'Crime and punishment: distinguishing the roles of causal and intentional analyses in moral judgment' (2008) Cognition 353

[10] K. Riedl, K. Jensen, J. Call and M. Tomasello 'No third-party punishment in chimpanzees' (2012) Proceedings of The National Academy of Sciences 14824

[11] J. Buckholtz and R. Marois 'The roots of modern justice: cognitive and neural foundations of social norms and their enforcement' (2012) Nature Neuroscience 655

A. Belief in Free Will

The term "free-will" denotes the ability of people to be in control of their actions. Cross-cultural studies show that the idea that humans are creatures endowed with free-will is universal.[12] There is a growing body of literature demonstrating that BFW has an impact on prosocial behavior, including TPP. Conversely, there is also a growing body of literature reflecting on whether this widespread notion of BFW is grounded in solid evidence. In philosophy, the accuracy of the BFW has been challenged since antiquity.[13] In addition, behavioral and neuroscientific studies conducted since the 1980s have accumulated strong evidence to support the idea that free-will might just be an "illusion."[14] These empirical findings led some scholars to question what might be the social consequences of scientifically demonstrating that there is no such thing as free-will.[15] This scholarship is relevant for our study as it reflects the wider framework in which the effect of BFW on TPP as a specific type of prosocial behavior is situated.

The debate on the supposed effect of BFW on prosocial behavior heated up in the second decade of the 21st century, in the wake of findings obtained in some studies published in 2008 and 2009.[16] These studies, which collected several citations, showed that a reduced BFW caused an increase in antisocial behaviors, including cheating, stealing, aggression, and defection. However, recent studies could not replicate the results of these earlier studies.[17] Thus, the issue of whether the degree of BFW affects prosocial behaviors remains unresolved.[18] The question of whether BFW impacts the magnitude or on the rationale of punishment, however, has been investigated earlier than other types of prosocial behavior.

One of the basic premises in moral philosophy, moral psychology, and legal theory is that an agent who committed an offense is punishable for their harmful deed only if they were able to act differently than they did. Thus, the attribution of free-will, in a basic sense, to the perpetrator of an offense appears, in principle, to be the primary condition for the administration of a penalty. This line of argumentation leads to the hypothesis that the degree of BFW of the penalizing actor influences the degree of the punishment administered. More precisely, it could be argued that for the same offense, actor 1, characterized by a high degree of BFW, would administer a higher penalty than actor 2, characterized by a lower level of BFW, because actor 1 believes that the perpetrator acted in full control of their action, whereas actor 2 will take into greater consideration the circumstantial factors that could have influenced the deviant behavior.

It is possible to develop a similar hypothesis relating to the correlation between BFW and the punishment rationale. The retributivist perspective, starting from the assumption that offenders have control over their actions, holds offenders accountable for the latter and aims at making them suffer the consequences of their crimes. The utilitarian or consequentialist perspective, on the other hand, considers the potential benefits of punishment, such as deterrence, without an explicit reference to the concept of "just desert."

[12] H. Sarkissian, A. Chatterjee, F. de Brigand, J. Knobe, S. Nichols and S. Sirker 'Is belief in free will a cultural universal?' (2010) Mind & Language 346

[13] S. Bobzien *Determinism and Freedom in Stoic Philosophy* (Oxford University Press, 2001)

[14] D. Wegner *The Illusion of Conscious Will* (MIT Press 2002)

[15] R. Baumeister, A. Crescioni and J. Alquist 'Free will as advanced action control for human social life and culture' (2010) Neuroethics 1; A. Shariff and K. Vohs 'The world without free will' (2014) Scientific American 76

[16] K. Vohs and J. Schooler 'The value of believing in free will' (2008) Psychological Science 49; R.F. Baumeister, E.J. Masicampo, and C.N. Dewall 'Prosocial benefits of feeling free: disbelief in free will increases aggression and reduces helpfulness' (2009) Personality & Social Psychology Bulletin 260 (2009).

[17] E.A. Caspar, L. Vuillaume, P.A. Magalhães De Saldanha da Gama and A. Cleeremans 'The influence of (Dis)belief in free will on immoral behavior' (2017) Frontiers in Psychology 20; D.L. Crone and N.L. Levy 'Are free-will believers nicer people? (Four studies suggest not)' (2019) Social Psychological and Personality Science 612; T. Nadelhoffer, J. Shepard, D. Crone, J. Everett, B. Earp, and N. Levy 'Does encouraging a belief in determinism increase cheating? Reconsidering the value of believing in free will' (2020) Cognition 104342

[18] For a meta-analysis, see O. Genschow, E. Cracco, J. Schneider, J. Protzko, D. Wisniewski, M. Brass and J.W. Schooler 'Manipulating Belief in Free Will and Its Downstream Consequences: A Meta-Analysis' (2022) Personality and Social Psychology Review 52

Thus, one may expect that people with lower levels of BFW will justify punishment on utilitarian grounds, whereas those with higher BFW will opt for retributivist logic.

These two hypotheses have been tested in several behavioral studies whose results initially did not confirm their validity. In the study carried out by Viney et al., the participants (all college students) were tasked to fill in two questionnaires prepared by the researchers.[19] One of the scales in the questionnaire aimed at measuring the level of belief in free will and in determinism, and the other served to determine the participants' attitude toward deviant behavior, that is, whether they would recommend punitive measures. The results showed that participants with higher BFW scores recommended less punitive measures for deviant behavior than the participants with lower BFW scores.[20] In another study[21], the questionnaire from the previous study[22] was used to assess the level of BFW of participants who were tasked with selecting a concrete penalty among a series of penalties provided by the researchers for four types of crimes (premeditated murder, premeditated burglary, arson, and manslaughter). The participants were also required to indicate the rationale behind their decision by selecting one of four options; this allowed the researchers to categorize their penalization motives as either utilitarian or retributivist. The results indicated no significant correlation between the level of BFW and either the magnitude or the rationale of the recommended punishment.[23]

In a later empirical study, Stroessner and Green (1990) claimed that contrary to the findings of the two previous studies by Viney et al., there was a correlation between attitudes toward punitiveness, BFW, and determinism.[24] However, the correlation they found was not along the line of free-will believers vs. determinism believers, but rather extremist and moderate views in either BFW or belief in determinism. In this study[25], a scale prepared by the researchers from items adapted from the previous scale[26] was used to measure the participants' position toward BFW and determinism. Two other scales were included in the questionnaire to measure attitudes toward punishment and punitiveness. Stroessner and Green stated that their data provided evidence for two distinct types of determinism, namely, religious-philosophical determinism and psychosocial determinism.[27] Nevertheless, their results indicated that those who scored high in both the BFW and the two distinct types of determinism were more punitive than those who scored lower on these subscales.

However, Haynes et al. rejected Stroessner and Green's conclusions, claiming that determinism should be treated as a single category under a strict definition.[28] According to them, it was more appropriate to break down the group of free-will believers into subcategories. In their study, Haynes et al. used the Free Will-Determinism Scale developed by Viney et al. On the basis of the scores obtained on this scale, the participants were divided into four categories: determinists, weak libertarians, moderate libertarians, and strong libertarians. All participants then selected a concrete penalty from a series of penalties provided

[19] W. Viney, D. Waldman and J. Barchilon 'Attitudes toward punishment in relation to beliefs in free will and determinism' (1982) Human Relations 939

[20] ibid

[21] W. Viney, P. Parker-Martin and S. Dotten 'Beliefs in free will and determinism and lack of relation to punishment rationale and magnitude' (1988) The Journal of General Psychology, vol. 15, 1988.

[22] Cf. Viney et al. 'Attitudes toward punishment ...' (n 19)

[23] Cf. Viney et al. 'Beliefs in free will and determinism...' (n 21)

[24] S. Stroessner and C. Green 'Effects of belief in free will or determinism on attitudes toward punishment and locus of control' (1990) The Journal of Social Psychology 789

[25] ibid

[26] Cf. Viney et al. 'Attitudes toward punishment ...' (n 19)

[27] S. Stroessner and C. Green (n 24)

[28] S. Haynes, D. Rojas and W. Viney 'Free will, determinism, and punishment' (2003) Psychological Reports 1013

by the researchers for four types of crimes (premeditated murder, premeditated burglary, arson, and manslaughter) and indicated the rationale, among the four options given, behind their choice of penalty for each of the crimes. According to the results, the determinists recommended less punishment than any of the libertarians on two of the four types of felonies (premeditated burglary and arson), whereas there was no significant difference between the groups in the manslaughter scenario.[29]

In the second decade of the 2000s, a series of studies with new methodologies appeared, with results that were more in favor of establishing the validity of the two hypotheses concerning the correlation between BFW and the magnitude and rationale of punishment. Carey and Paulhus studied the correlation between BFW and punishment magnitude and rationale, as well as the worldview implications of BFW.[30] The research methodology involved four different scales. The first one was the free-will determinism scale (FAD-Plus) developed by the researchers themselves.[31] This scale, which we also used in our present research, has four subscales: free-will, scientific determinism, fatalistic determinism, and unpredictability. In addition to this scale, Carey and Paulhus used a 7-point self-rating religiosity scale, a 15-item version of Altemeyer's[32] 23-item Right Wing Authoritarianism scale developed by Zakrisson[33], and Lerner's 12-item individual difference measure.[34] In this way, they were able to measure the potential correlations between BFW and religiosity, authoritarianism, and belief in a just world. The research consisted of three studies. The results of Study 1 revealed that BFW was positively correlated with three other variables, namely religiosity, authoritarianism, and belief in a just world. Study 2 confirmed the findings of Study 1 with a larger sample. The results of Study 3, on the other hand, indicated that free-will believers prefer more severe criminal punishment and that BFW entailed punishment for retributive reasons.

Shariff et al. could confirm the correlation between BFW and punishment magnitude and rationale using another methodology.[35] Their research, consisting of four studies, examined the link between BFW and punitiveness not only by measuring the innate level of BFW of the participants but also by manipulating it. In Study 1, the participants were tasked to fill in the free-will subscale of FAD-Plus[36] and to rate on a Likert scale their support for the retributivist or consequentialist punishment rationale. The results showed that a high level of BFW positively correlated with a retributivist view on punishment. Studies 2, 3, and 4 involved BFW manipulation. In Study 2, the participants were given either a text rejecting free-will and advocating a mechanistic view of human behavior (the anti-free-will condition) or a text that did not discuss a free-will topic at all (the neutral condition). Following exposure to the texts, the participants were tasked with choosing, among a series of options, a penalty for a hypothetical crime scenario. The results showed that reduced BFW through exposure to anti-free-will conditions considerably diminished the harshness of the penalty given to the perpetrator of the hypothetical crime scenario. In Studies 3 and 4, anti-free-will conditions were created through exposure to two scientific articles from popular science magazines that showed neuroscientific data concerning unintentional sources of motor action, and by enrollment in an introductory cognitive neuroscience course for one semester. Both anti-free-will conditions did not have any

[29] ibid

[30] J. Carey and D. Paulhus 'Worldview implications of believing in free-will and/or determinism: Politics, morality, and punitiveness' (2013) 81 Journal of Personality 130

[31] D. Paulhus and J. Carey 'The FAD–Plus: Measuring lay beliefs regarding free will and related constructs' (2011) 93 Journal of Personality Assessment 96

[32] Altemeyer, 1973 as cited in Paulhus and Carey (n 31)

[33] Zakrisson, 2005 as cited in Paulhus and Carey (n 31)

[34] Lerner, 1980 as cited in Paulhus and Carey (n. 31).

[35] A. F. Shariff, J. D. Greene, J. C. Karremans, J. B. Luguri, C. J. Clark, J. W. Schooler, R. F. Baumeister and K. D. Vohs 'Free will and punishment: a mechanistic view of human nature reduces retribution' (2014) 25 Psychological Science 1563.

[36] Paulhus and Carey (n 31).

direct reference to the debate on free-will. The participants' attitudes toward punishment were tested via the same hypothetical crime scenario used in Study 2, with some changes. Both studies showed that obtaining scientific knowledge on the mechanistic sources of human behavior led to a decrease in retributivism, which also translated into the administration of shorter penalties.

This literature led us to formulate our first hypothesis (see below) concerning the correlation between the level of BFW of the punisher and the magnitude of the penalty. Methodologically, it directed us also to choose the FAD Plus as the mean to measure the level of BFW of our participants.

B. Belief in Free Will with Respect to Lay Intuitions of Compatibilism

The question of whether folk intuitions are compatibilist or incompatibilist, that is, whether lay people tend to claim moral responsibility for their wrongdoing, even in a deterministic universe, has been a topic of much interest in the field of experimental philosophy. Note that the large body of research on folk intuitions of free-will and moral responsibility is not directly related to the supposed correlation between the degree of BFW and the magnitude of punishment. These studies' methodologies were designed with the aim of establishing the moral responsibility of the perpetrator, arguably the first phase for determining punishment, but they did not involve any punishing task. Nevertheless, there are two specific points through which indirect links between folk (in)compatibilism and punishment rationale and magnitude could be established.

The first point concerns the punishment rationale. In their oft-cited article, Greene and Cohen argued that advances in neuroscience would undermine popular BFW, as they promote a deterministic view of human decision-making.[37] Consequently, they suggested that criminal justice policies would have to abandon the logic of retributivism for punishment and adopt a purely consequentialist logic. Feltz and Cova[38] and Cova and Kitano[39] found this supposition tenable only if folk intuitions are incompatibilist, that is, if once determinism is proven valid, public opinion starts to reject moral responsibility based on free-will. As we argue in the discussion section, we do not think that a switch in the punishment rationale from retributivism to consequentialism is possible only under the condition that lay intuitions are incompatibilist. Above all, one must acknowledge that establishing whether folk intuitions about free-will are compatibilist or incompatibilist through experimental philosophy research is a highly difficult task. Several studies conducted with this aim have used complex methodologies and reached contradictory results. This has even led to questioning the appropriateness of the use of experimental philosophy methods in the research on free-will.[40]

There were attempts to solve the inconsistencies in the findings. One explanation put forward by Clark et al. was that exposure to immoral acts committed by others would create in people a desire to hold perpetrators morally responsible, thus punishable for their deviant actions.[41] This desire would strengthen people's BFW and lead them to take compatibilist positions if the immoral act was committed in a deterministic framework. Another explanation was the *affective performance error model* proposed by Nichols and Knobe and supported, as the authors claim, by a vast body of psychology literature.[42] In this model, the affective impact of concrete cases was the reason why people did not apply their incompatibilist intuitions

[37] J. Greene and J. Cohen 'For the law, neuroscience changes nothing and everything' (2004) 359 Philos Trans R Soc Lond B Biol Sci 1775.

[38] A. Feltz and F. Cova 'Moral responsibility and free will: A meta-analysis' (2014) 30 Consciousness and Cognition 234

[39] F. Cova and Y. Kitano 'Experimental philosophy and the compatibility of free will and determinism: A survey' (2014) 22 Annals of the Japan Association for Philosophy of Science 17.

[40] T. Sommers 'Experimental philosophy and free will' (2010) 5 Philosophy Compass 199.

[41] C. J. Clark, B. Winegard, R. F. Baumeister 'Forget the Folk: Moral Responsibility Preservation Motives and Other Conditions for Compatibilism' (2019) 10 Frontiers in Psychology

[42] S. Nichols and J. Knobe 'Moral responsibility and determinism: The cognitive science of folk intuition' (2007) 41 Noûs 663.

when blaming offenders who committed a transgression in conditions that could not be altered by an act of will. In other words, according to this model, people are natural incompatibilists and do not put moral blame on norm-breakers in a determinist universe, whereas when they are presented with concrete cases that trigger affective reactions, they cease to adhere to incompatibilism and become compatibilists, asserting the moral responsibility of actors in deterministic conditions. To test this hypothesis, Nichols and Knobe added a second phase to their study, which consisted of presenting the participants with only concrete cases divided into high-affect (such as rape scenarios) and low-affect (such as tax cheating) conditions. This second phase revealed that in high-affect scenarios, people were more inclined to give compatibilist answers, whereas they remained incompatibilist in low-affect cases, a result which, according to Nichols and Knobe, supported the affective performance error model.

Lastly, it must be noted that in a meta-analysis that covered 30 published and unpublished works, Feltz and Cova attempted to estimate the extent to which emotional reactions influenced lay people's judgments on free-will and moral responsibility.[43] They found that "the abstract/concrete asymmetry" was supported by findings from other studies, although it was not as considerable as that reported by Nichols and Knobe.[44] Feltz and Cova also noted that unlike "the abstract/concrete asymmetry", none of the published studies had managed to replicate the "high/low-affect asymmetry".[45] They pointed out that there are psychological factors, other than emotional reactions to the infraction in question, that influence judgments on free-will and moral responsibility.

This body of literature led us to develop our second hypothesis (see below) concerning the influence of the affective arousal of the punisher on the magnitude of the punishment. It also provided a further methodological argument in favor of the FAD Plus scale, as this scale with its four subscales permit to measure compatibilist tendencies of the participants. In the following chapters, we summarize the literature concerning the impact of some variables regarding cognitive tendencies and/or demographic features on BFW and punishment decisions. This body of literature has been valuable in formulating our remaining hypotheses.

C. System Justification

System Justification Theory (SJT) states that individuals are ready to accept the status quo so that the current social, economic, and political order is perceived as legitimate.[46] There are several theories explaining the motives behind people's acceptance of the status quo as legitimate. One of them is *just world belief*, which is based on the idea that people get what they deserve.[47] According to the just world belief theory, in order to find an explanation for their legitimacy system, people have to believe that the world they live in is just.[48] Belief in a just world also appears to be a predictor of BFW.[49] The positive correlation between belief in a just world and BFW was also found in a study by Carey and Paulhus.[50] Another finding

[43] Cf. Feltz and Cova (n 38).

[44] Cf. Nichols and Knobe (n 42)

[45] Cf. Feltz and Cova (n 38).

[46] J. T. Jost, M. R. Banaji and B. A. Nosek 'A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo' (2004) 25 Political Psychology 881.

[47] J. T. Jost and D. Burgess 'Attitudinal ambivalence and the conflict between group and system justification motives in low status groups' (2000) 26 Personality and Social Psychology Bulletin 293.

[48] Lerner, 1980 as cited in J. T. Jost and O. Hunyady 'Antecedents and consequences of system-justifying ideologies' (2005), 14 Current Directions in Psychological Science 260.

[49] O. Yılmaz, H. G. Bahçekapılı and M. Harma 'Different types of religiosity and lay intuitions about free will/determinism in Turkey' (2018) 28 The International Journal for the Psychology of Religion 89.

[50] Cf. Carey and Paulhus (n 30).

from that same study was that the BFW was correlated with the punishment magnitude and rationale. Our current research addresses the problem of the worldview implications of BFW via the system justification theory.

D. Social Conservatism

The difference in opinions between conservatives and liberals on social issues is a well-documented fact. As mentioned above, Carey and Paulhus found that religiosity and belief in a just world, two components of conservatism, were positively correlated with BFW.[51] In a more recent study, the researchers tested the hypothesis that the correlation between political orientation and BFW could be explained by motivated social cognition.[52] The results of previous studies confirmed that BFW was motivated by a desire to punish.[53] Everett et al. suggested that the reasons why conservatives adhere more strongly to BFW were their desire to recognize a wide spectrum of transgressions and to blame the authors of such acts.[54] The results they obtained in the 14 studies were consistent with this hypothesis.

On the other hand, a study conducted with a Turkish sample found no correlation between religiosity and BFW.[55] The discrepancy between this finding and the results obtained by Carey and Paulhus[56] can be explained by cultural differences.

E. Extraversion

Extraversion is a dimension of the Five-Factor Model of Personality (FFM) and characterizes a person who is talkative, energetic, and assertive.[57] The connection of extraversion with BFW and punitiveness has been questioned in a few studies. Paulhus and Carey found that the free-will subscale of FAD-Plus was positively correlated with extraversion.[58] They interpreted this finding as an indication that people who are more socially confident have a stronger belief in their autonomy. In a study focusing on the role of third-party moral judgment in cases involving not only intentional harm but also moral dilemmas, i.e., when harm was caused unintentionally, Schwartz et al. found that extraversion had a significant effect on the judgment of blame and punishment.[59] In another study, Roberts et al. used a methodology that involved economic games (more specifically, the public goods game) to test the contribution of personality traits to helping and punishment behaviors.[60] The results indicated a correlation between punitive sentiment and personality traits. In this respect, a negative correlation was found between the extraversion scores and the desire to punish (higher the extraversion score, lower the desire to punish). Nevertheless, this desire to punish did not result in concrete punishment behavior.

[51] ibid.

[52] J. A. C. Everett, C. J. Clark, P. Meindl, J. B. Luguri, B. D. Earp, J. Graham, P. H. Ditto and A. F. Shariff 'Political differences in free will belief are associated with differences in moralization' (2021) 120 Journal of Personality and Social Psychology 461.

[53] Cf. Clark et al. Free to punish (n 9)

[54] Cf. Everett et al. (n 52)

[55] Cf. Yılmaz et al. (n 49)

[56] Cf. Carey and Paulhus (n 30).

[57] O. P. John and S. Srivastava 'The Big Five Trait taxonomy: History, measurement, and theoretical perspectives' in L. A. Pervin and O. P. John (eds.), *Handbook of personality: Theory and research* (Guilford Press 1999).

[58] Cf. Paulhus and Carey (n 31)

[59] F. Schwartz, H. Djeriouat and B. Trémolière 'The association between personality traits and third-party moral judgment: A preregistered study' (2021) 219 Acta Psychologica.

[60] S. C. Roberts, A. Vakirtzis, L. Kristjánsdóttir and J. Havlíček 'Who punishes? Personality traits predict individual variation in punitive sentiment' (2013) 11 Evolutionary Psychology 186.

On the other hand, in their meta-analysis on moral responsibility and BFW, Feltz and Cova indicated that in deterministic scenarios, extraverts were more likely to take compatibilist positions than introverts.[61] The authors pointed to the higher likelihood of extraverts being influenced by the affective content of the hypothetical crime scenarios used in the experiments as a possible explanation for this phenomenon.

F. Rational and Experiential Thinking Styles

The distinction between experiential and rational thinking styles is based on the *cognitive-experiential self-theory* (CEST). According to CEST, humans possess a dual system for information processing, i.e., a rational and an experiential system, which are parallel and interactive.[62] In this framework, the experiential system is described as an automatic learning system, while the rational one is associated with a conscious reasoning system that solves problems by logical principle and in light of the assessment of the evidence. The experiential system is holistic, affective, and allows one to perceive reality through concrete images and metaphors, and it is experienced passively and preconsciously. Conversely, the rational system is analytic, logical, reality-oriented, and is experienced actively and consciously.

No research has directly questioned the link between punitiveness and the two thinking styles mentioned above. Nevertheless, the results from the two studies allow us to develop a hypothesis on the topic. In the first study, published recently, Liang et al. observed that experiential people were more likely to make altruistic moral decisions than rational people.[63] Thus, as we describe in our hypothesis, one may expect experiential people to be more inclined to punitiveness than rational people. A second, earlier study provided several different findings that may support this suggestion: the researchers found that rationality was negatively correlated with conservative ideology and punitive attitude toward criminals, whereas extraversion and experientiality were positively correlated.[64]

G. Demographic Variables with Respect to Belief in Free Will and Third-Party Punishment

The correlation between demographic variables and BFW and punishment has been investigated in many studies. Here we present some results pertaining to gender, age, and education.

1. Gender

In a study that investigated the correlation between gender and TPP, Rodriguez-Ruiz et al. found that male participants were more inclined to punish defectors than female participants.[65] In the study, participants played the prisoner's dilemma game, after which they were offered the possibility to punish third players who had defected (i.e., betrayed their partner). The authors stated that their results agreed with those of previous studies. In a study that compared East and West German public opinion on punitiveness in the aftermath of the reunification, Kury and Ferdinand also found that men were more punitive than women in both East and West Germany.[66] On the other hand, Everett et al. (2021) found a positive correlation between being female and having stronger blame tendencies. However, as blaming does not necessarily mean engaging in punishment, these different findings are not strictly contradictory. Taken together, they may be

[61] Cf. Feltz and Cova (n 38)

[62] S. Epstein, R. Pacini, V. Denes-Raj and H. Heier 'Individual differences in intuitive–experiential and analytical–rational thinking styles' (1996) 71 Journal of Personality and Social Psychology 390.

[63] F. Liang, Q. Tan, Y. Zhan, X. Wu and J. Li 'Selfish or altruistic? The influence of thinking styles and stereotypes on moral decision-making' (2020) Personality and Individual Differences, 110465.

[64] R. Pacini and S. Epstein 'The relation of rational and experiential information processing styles to personality, basic beliefs, and the ratio-bias phenomenon' (1999) 76 Journal of personality and social psychology 972.

[65] C. Rodriguez-Ruiz, J. A. Muñoz-Reyes, M. Iglesias-Julios, S. Sánchez-Pagés and E. Turiegano 'Sex affects the relationship between third party punishment and cooperation' (2019) 9 Scientific Report 4288.

[66] H. Kury and T. Ferdinand 'Public opinion and punitivity' (1999) 22 International journal of law and psychiatry 373.

interpreted conciliatory: women blame more but take less action to punish blameworthy acts. Everett et al. also indicated that women scored higher than men in BFW.[67]

2. Age

According to Everett et al., there is a positive correlation between youth and high BFW scores, whereas old age and stronger blame tendencies are correlated.[68] Lee and Warneken found that TPP may occur in children as young as 5 to 9 years old.[69] The authors indicated that with age, the TPP behavior becomes more systematic. Conversely, in a comparative study, Kury and Ferdinand found no consistent relationship between age and punitiveness.[70] Additionally, in a study involving Australian samples, Spiranovic et al. found that age, together with gender, were poor predictors of punitiveness.[71]

3. Education

Empirical findings from different studies have shown that BFW has a positive effect on real-life academic performance.[72] Nevertheless, this finding does not imply that all those who perform well in academic life have a high level of BFW. Researchers also investigated the correlation between education and punitiveness. Spiranovic et al. found that education was the most important demographic indicator to predict punitiveness.[73] Their findings, obtained from Australian samples, indicated that as the level of education increased, punitiveness decreased. This finding is partly consistent with the findings of another study conducted with German samples. The authors compared East and West German samples after the reunification and found a negative correlation between education and punitiveness in West Germany, whereas no clear relationship between these two variables was found for East Germany.[74]

H. Research Framework and Hypotheses

Our basic assumption is that the BFW and punishment magnitude are positively correlated. In line with the results of former behavioral[75] and neuroscientific[76] research, we expect that participants with higher BFW will punish offenders more harshly across both low- and high-affect scenarios, compared to participants with lower BFW. Furthermore, we hypothesize that the expected positive correlation between BFW and punishment magnitude will be more manifest in low-affect scenarios than in high-affect ones. We expect that the emotional effect of high-affect scenarios would lead participants with low BFW to be compatibilist and thus to attribute higher penalties than for low-affect scenarios. We also expect to detect a positive correlation between BFW/punishment magnitude and system justification, social conservatism, extraversion, and intuitive thinking style, whereas a negative correlation is expected between BFW and rational thinking style. As for the correlation between demographic data and BFW/punishment magnitude, previous studies did not show a clear direction, except for the negative correlation between the level of

[67] Cf. Everett et al. (n 52)

[68] ibid

[69] Y. Lee and F. Warneken 'The influence of age and experience of (un)fairness on third-party punishment in children' (2022) 31 Social Development 1176.

[70] Kury and Ferdinand (n 66).

[71] C. A. Spiranovic, L. D. Roberts and D. Indermaur 'What predicts punitiveness? An examination of predictors of punitive attitudes towards offenders in Australia' (2012) 19 Psychiatry, Psychology and Law 249.

[72] Hong et al., 1999; Yeager and Dweck, 2012; both cited in G. Feldman, S. B. Chandrashekar and K. F. K. Wong 'The freedom to excel: Belief in free will predicts better academic performance' (2016) 90 Personality, and Individual Differences 377.

[73] Spiranovic et al. (n 71).

[74] Kury and Ferdinand (n 66).

[75] Cf. Carey and Paulhus (n 30); Shariff et al. (n 35).

[76] F. Krueger, M. Hoffman, H. Walter, and J. Grafman 'An fMRI investigation of the effects of belief in free will on third-party punishment' (2014) 9 Social Cognitive and Affective Neuroscience 1143.

education and punishment magnitude. In that respect, we do not have hypotheses and we will content ourselves to indicate which of the previous findings are supported by our own results.

The hypotheses for this study, as identified above on the effect of belief in free will on the intensity of third-party punishment, articulated the anticipated positive correlation between the belief in free will (BFW) and the magnitude of punishment within third-party punishment (TPP) tasks. Additionally, it explored the moderating effects of affective arousal and the mediating roles of political attitudes and cognitive tendencies on this relationship.

- *Hypothesis 1.* It is hypothesized that an individual's belief in the concept of free will, defined as the conviction that human beings are fundamentally in control of their actions and decisions, is positively associated with the magnitude of punitive measures they endorse in scenarios of third-party punishment. This hypothesis is grounded in the premise that a stronger belief in free will underpins a greater propensity to hold individuals accountable for their transgressions, thereby necessitating more stringent punitive responses to uphold moral and social order.
- *Hypothesis 2.* Our second hypothesis posits that the relationship between the belief in free will and the severity of punishment is modulated by the level of affective arousal elicited by the punitive scenario. Specifically, it is anticipated that scenarios that evoke lower affective arousal will manifest a more pronounced positive correlation between belief in free will and punitive severity, in contrast to scenarios that induce higher affective arousal. This modulation reflects the psychological mechanism where affective states influence moral judgment and decision-making processes related to punitive actions.
- *Hypothesis 3.* It is further hypothesized that the aforementioned relationship between belief in free will and punishment severity is mediated by individuals' political attitudes and cognitive tendencies. This mediation hypothesis suggests that individuals with certain political ideologies (e.g., system justification, social conservatism) or cognitive styles (e.g., intuitive versus rational thinking) are more likely to exhibit a stronger positive correlation between belief in free will and punitive severity. This hypothesis is predicated on the notion that political attitudes and cognitive tendencies shape individuals' perceptions of moral responsibility, justice, and the appropriateness of punitive measures.
- *Hypothesis 4.* While not explicitly described as a central hypothesis, the study also considers the potential influence of demographic factors (such as age, gender, and educational background) on the primary relationships of interest. It is anticipated that such demographic variables may interact with individuals' beliefs in free will and their consequent punitive attitudes, thereby providing a nuanced understanding of the determinants of punitive behavior in third-party punishment contexts.

These hypotheses aim to elucidate the complex interplay between individual beliefs, affective states, cognitive and political orientations, and demographic characteristics in shaping punitive attitudes and behaviors. The investigation of these hypotheses contributes to the broader psychological and legal discourse on moral responsibility, free will, and the justice system, offering insights into the foundational principles that govern punitive decisions in society.

III. Method

A. Participants

In total, 726 participants (363 males, 342 females, 13 who did not specify, and seven who specified their gender in an open-ended field) participated in this experiment (M_{age} = 37.58, *SD* = 12.51, Range = 16–86). Two individuals had an elementary school degree (0.3%), 47 had a high-school degree (6.5%), 24 had an associate degree (3.3%), 434 had an undergraduate degree (59.8%), 145 had a master's degree (20.0%), 72 had

a doctoral degree (9.9%), one participant had no degree, and one participant's data was missing. Ninety-six individuals were self-employed (13.2%), 118 were working in the public sector (16.3%), 215 were working in the private sector (29.6%), 37 were unemployed (5.1%), 121 were students (16.7%); the working status of the remaining 133 individuals did not fall into the predefined categories (18.3%), and they specified their working status separately in an open-ended field. The participants were all based in Türkiye and all participants had an advanced knowledge of the Turkish language, sufficient to understand the scenarios and answer the questionnaires. Participants were recruited through announcements on social media.

B. Data collection/experiment design

The study consisted of two phases aimed at collecting behavioral and survey-based data. First, an informed consent form was given to the participants, after which the online survey started. At the crime scenario stage, 49 fictional crime scenarios were shown to participants who, following the screening of the scenarios, were tasked to select a punishment between two options. The scenarios were categorized by the authors as either high or low affect. The penalty options were mostly prison terms but for a few that consisted of fines. One penalty was considerably higher than the other (alternative) one. After the vignettes, the participants filled out the scales of the experiment, which are the following: FAD-Plus scale consisting of 27 items[77], Extraversion scale consisting of ten items[78], System Justification Scale consisting of eight items[79], Rational-Experiential Inventory consisting of 24 items[80], social conservatism scale consisting of ten items[81], and a demographic data section consisting of four items. Finally, a debrief was read to each participant and the experiment was completed.

The 49 criminal vignettes used in the experiment were prepared in line with vignettes used in previous studies[82]. Nevertheless, since the penal laws in force in the USA and Türkiye are not identical, the content of the vignettes was written in accordance with the latter legal framework. We also aimed for the vignettes to contain as different types of offenses as possible. Hypothetical cases for the vignettes were drawn from a textbook[83], from the existing case law of the Turkish Court of Appeal, and sometimes they were drafted by our team. All criminal vignettes were classified by the authors as high-affect or low-affect according to the following criteria: (1) Legally protected interest (physical integrity, sexual inviolability, and property) as the objective criterion, and (2) Potential social reactions to this hypothetical offense as the subjective criterion. To determine the subjective criterion, the manner in which the offense was committed, the characteristics of the victims (whether they belonged to a vulnerable group such as children, a minority, etc.), and the public reactions to previous similar cases were taken into account. To maintain the objectivity and impartiality of this study, the Self-Assessment Manikin technique (SAM) was not used.

[77] S. Alper ve N. Sümer 'Özgür irade ve belirlenimcilik ölçeğinin Türkçe'ye uyarlaması ve psikometrik özellikleri' (2017) 20 Türk Psikoloji Yazıları 26; Paulhus & Carey (n 31).

[78] L. R. Goldberg 'The development of markers for the Big-Five factor structure' (1992) 4 Psychological Assessment 26; A. Tatar 'Büyük Beş-50 Kişilik Testinin Türkçeye çevirisi ve Beş Faktör Kişilik Envanteri Kısa Formu ile karşılaştırılması' 18 Anadolu Psikiyatri Dergisi 51.

[79] A. C. Kay and J. T. Jost 'Complementary justice: effects of "poor but happy" and "poor but honest" stereotype exemplars on system justification and implicit activation of the justice motive' (2003) 85 Journal of Personality and Social Psychology 823; G. Atabey *Siyasal katılım ile siyasal yeterlik, toplumsal cinsiyet, sistemi meşrulaştırma ve dini yönelim değişkenlerinin ilişkisi*. Yayınlanmamış Yüksek Lisans Tezi, Ankara Üniversitesi Sosyal Bilimler Enstitüsü (2017).

[80] B. Çal 'Müşteri Değeri Yaratmak: Düşünme Tarzlarının Müşteri Deneyimi ile Etkileşimi' (2018) 10 İşletme Araştırmaları Dergisi 115; Epstein et al. (n 62).

[81] Henningham, J. P. 'A 12-item scale of social conservatism' (1996) 20 Personality and Individual Differences 517; Yılmaz O and Sarıbay S. A. 'An Attempt to Clarify the Link between Cognitive Style and Political Ideology: A Non-Western Replication and Extension', (2016) 11 Judgment and Decision Making 287.

[82] J. W. Buckholtz, C. L. Asplund, P. E. Dux, D. H. Zald, J. C. Gore, O. D. Jones and R. Marois 'The Neural Correlates of Third-Party Punishment' (2008) 60 Neuron 930; Krueger et al. (n 79).

[83] D. Tezcan, M. R. Erdem, R. M. Önok *Teorik ve Pratik Ceza Özel Hukuku* (22. Baskı, Seçkin Yayıncılık 2024)

IV. Materials

A. Rational and Experiential Inventory

Epstein et al. (1996) developed a 31-item Rational & Experiential Inventory (REI) to assess thinking styles.[84] Items (e.g., "I don't reason well under pressure" for the analytical-rational thinking style, or "I trust my initial feelings about people" for the intuitive-experiential thinking style) were rated on a 5-point Likert scale (1 = Completely false, 5 = Completely true). The Turkish version of REI developed by Çal reached adequate composite reliability (CR = .985 for the analytical-rational thinking style, CR = .833 for the intuitive-experiential thinking style).[85]

B. Big-Five Personality Traits

Goldberg developed the *Big-Five Personality Traits* for measuring openness to new experiences, conscientiousness, extraversion, agreeableness, and neuroticism.[86] The Big-Five Personality Traits include 50 items, with each subscale containing 10 items. Items (e.g., "I get stressed easily" for neuroticism; "I am quiet around strangers" for extraversion; "I feel little concern for others" for agreeableness; "I am always prepared" for conscientiousness; "I use difficult words" for openness to new experiences) were scored on a 5-point Likert scale (1 = Very inaccurate, 5 = Very accurate). Tatar translated the Big-Five Personality Traits into Turkish.[87] The Cronbach's alpha value of each subscale except openness to new experiences reached adequate levels (α = .760 for neuroticism; α = .757 for extraversion; α = .731 for agreeableness; α = .794 for conscientiousness; α = .678 for openness to new experiences).

C. Social Conservatism Scale

Henningham developed the 15-item Social Conservatism Scale to measure the conservatism-liberalism orientation of individuals within a given social context.[88] Items (e.g., "Premarital sex") were scored on an 11-point Likert scale (-5 = Strongly disagree, +5 = Strongly agree). The scale was translated into Turkish by Yılmaz and Sarıbay.[89]

D. System Justification Scale

Kay and Jost developed an 8-item System Justification Scale to measure the likelihood that an individual would legitimize the status quo.[90] Items (e.g., "Everyone has a fair shot at wealth and happiness") were scored on a 7-point Likert scale (1 = Strongly disagree, 7 = Strongly agree). The scale was translated into Turkish by Yıldırım and Akgün.[91]

[84] Epstein et al. (n 62)

[85] Çal (n 80).

[86] Goldberg (n 81).

[87] Tatar (n 81).

[88] Henningham (n 81).

[89] Yılmaz and Sarıbay (n 81).

[90] Kay and Jost (n 79)

[91] N. Yıldırım ve S. Akgün 'Sivil Toplum Kuruluşu Gönüllülerinin Sosyal Sistemin Meşruiyetine İlişkin Algıları, Adil Dünya İnançları ve Sosyal Baskınlık Yönelimleri' (2013) 24 Toplum Ve Sosyal Hizmet 115.

E. Free Will and Determinism Scale

Paulhus and Carey developed a 27-item Free-Will and Determinism Scale to measure the likelihood that individuals would attribute their actions to their own agency.[92] Items (e.g., "My future has already been determined by fate") were scored on a 5-point Likert scale (1 = Strongly disagree, 5 = Strongly agree). The scale was translated into Turkish by Yılmaz et al.[93]

V. Results

A. Internal consistency analyses

A series of internal consistency analyses were conducted to assess whether the psychological scales had adequate levels of reliability. All factors of the FAD+ subscales except scientific determinism reached adequate levels of reliability (i.e., α = .736 for free-will; α = .738 for unpredictability; α = .798 for fatalistic determinism; α = .541 for scientific determinism). Rational thinking style (RTS) and intuitive thinking style (ITS) from REI had a good level of internal consistency (α = .876 for ITS; α = .876 for RTS). Extraversion on the Big-Five Inventory and the Social Conservatism Scale showed a good level of internal consistency (α = .889 and α = .794, respectively), while the System Justification Scale showed inadequate reliability (α = .628).

B. Demographic Analyses

1. Age and Punishment

The Spearman's rank correlation coefficient was calculated to investigate the relationship between the age and punishment variables. The results indicated that total high punishment and age were negatively correlated (r(722) = -.099, p = .007), high punishment in high-affect scenarios and age were negatively correlated (r(722) = -.097, p = .009), and high punishment in low-affect scenarios and age were negatively correlated (r(722) = -.078, p = .037).

2. Gender and Punishment

An independent-samples t-test was conducted to determine whether gender had an effect on total high punishment $t(703) = -2.971$, p =.003, which revealed that females (M = 24.69, SD = 7.91) punished more harshly than males (M = 22.95, SD = 7.66). Another independent-samples t-test was conducted to determine whether gender had an effect on high punishment in high-affect scenarios ($t(703) = -3.679$, p =.003), which revealed that females (M = 15.47, SD = 4.28) punished more harshly than males (M = 14.27, SD = 4.37). As for the low-affect scenarios, we did not find a significant correlation between gender and punishment magnitude.

3. Education and Punishment

To understand the link between education and punishment, we conducted three one-way analyses of variance (ANOVA) with three different punishment variables. A one-way ANOVA was conducted to determine whether the level of education affected the total high punishment ($F(4, 750) = 3.955$, p = .003). The results indicated that individuals with an undergraduate degree (M = 24.53, SD = 7.93) punished more harshly than individuals with a Ph.D. degree (M = 21.28, SD = 8.07). A one-way ANOVA was conducted to determine whether the level of education affected low-affect high punishment ($F(4, 750) = 3.707$, p = .005). The results indicated that individuals with a high-school degree (M = 10.15, SD = 4.09) punished more harshly than individuals with a Ph.D. degree (M = 7.71, SD = 4.29). A one-way ANOVA was conducted to determine whether the level of education affected high-affect high punishment ($F(4, 750) = 2.981$, p = .019). The results indicated that

[92] Paulhus and Carey (n 31).

[93] Yılmaz et al. (n 49)

individuals with an undergraduate degree (*M* = 15.23, *SD* = 4.41) more harshly than individuals with a Ph.D. degree (*M* = 13.57, *SD* = 4.75).

A two-tailed Spearman's rank order correlation was calculated to determine the relationship between the level of education, the number of high punishments given for high-affect scenarios, and the number of high punishments given for low-affect scenarios. The correlation between these factors is presented in Table 1 below.

Table 1

Correlation between the Level of Education and Punishment

	1	2	3
1. Educational Level[a]	-		
2. HPHAS[b]	-.075*	-	
3. HPLAS[c]	-.136**	.556**	-

Note: [a]Educational level is an ordinal variable; the levels are: (1) no education, (2) elementary school degree, (3) high-school degree, (4) associate degree, (5) undergraduate degree, (6) master's degree, (7) doctoral degree.

[b]HPHAS stands for the number of high punishments given for high-affect scenarios.

[c]HPLAS stands for the number of high punishments given for low-affect scenarios.

These results show that there is a consistent, although not strong (low correlation coefficient) negative correlation between the level of education and the magnitude of punishment. In other words, as the level of education increases, the punishment magnitude in both low- and high-affect scenarios decreases.

C. Principal Analyses

A series of independent-samples t-tests were conducted to determine whether individuals with low and high levels of BFW differed in terms of system justification, social conservatism, extraversion, intuitive thinking style, and rational thinking style; the results are presented in Table 2. In order to transform the continuous average data of BFW into a categorical variable, the median split method was used. A total of 338 individuals fell into the low BFW level category while 388 individuals fell into the high BFW level category.

Table 2

Behavioral Characteristics of Free-Will Believers

	High BFW		Low BFW		
	M	***SD***	***M***	***SD***	***t*-test**
System Justification	2.20	1.00	2.09	.94	−1.619
Social Conservatism	2.78	1.72	2.46	1.42	−2.705**
Extraversion	3.33	.83	3.24	.78	−1.489
Rational Thinking Style	3.74	.60	3.65	.50	−2.186*
Intuitive Thinking Style	3.47	.66	3.36	.63	−2.275*

Note: The data of 16 individuals for the social conservatism variable were lacking.

A two-way mixed ANOVA (2 [Low BFW vs. High BFW] x 2 [Low-Affect Scenarios vs. High-Affect Scenarios]) was conducted to determine whether the difference in punishment magnitude between individuals with low and high BFW depended on the affect level of the scenarios. There was a main effect of BFW ($F(1, 724) = 20.932$, $p < .001$). Individuals with a higher level of BFW (*M* =12.55, *SE* = .20) punished more harshly than individuals with a lower level of BFW (*M* = 11.24, *SE* = .20). The results also revealed a marginally significant two-way interaction effect ($F(1, 724) = 3.824$, $p = .051$). Participants with high BFW punished more harshly in the low-affect scenarios (*M* = 9.69, *SD* = 4.64) than those with low BFW (*M* = 8.09, *SD* = 4.01). Participants with high BFW

punished more harshly in the high-affect scenarios as well (*M* = 15.31, *SD* = 4.37) compared to participants with low BFW (*M* = 14.29, *SD* = 4.33). The difference in punishment magnitude was more pronounced in the low-affect than in the high-affect scenarios.

Table 3

Correlation Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Social Conservatism	-										
2. Extraversion	−0.052	-									
3. Rational Thinking Style	-.118**	.262**	-								
4. Intuitive Thinking Style	−0.023	.249**	.179**	-							
5. Free-will	.129**	0.066	.089*	0.061	-						
6. Scientific Determinism	−0.028	−0.071	−0.009	.157**	.090*	-					
7. Fatalistic Determinism	.361**	−0.04	-.191**	.102**	−0.061	.104**	-				
8. Unpredictability	−0.001	-.173**	-.152**	0.041	0.048	.180**	.208**	-			
9. HPHAS[a]	−0.027	0.032	.102**	.080*	.125**	0.059	-.073*	−0.022	-		
10. HPLAS[b]	.177**	0.012	0.055	.140**	.183**	.132**	0.062	0.061	.573**	-	
11. HPT[c]	.085*	0.025	.088*	.124**	.174**	.108**	−0.006	0.022	.885**	.888**	-

Note: [a]HPHAS stands for the number of high punishments given for high-affect scenarios.

[b]HPLAS stands for the number of high punishments given for low-affect scenarios.

[c]HPT stands for the number of high punishments given for all scenarios.

*p < .05, **p < .01

D. Exploratory Analyses

A series of exploratory mediation and moderation analyses were conducted with system justification, social conservatism, extraversion, intuitive thinking style, and rational thinking style as potential moderators and mediators to investigate the relationship between BFW levels and three different punishment conditions (i.e., high-magnitude punishment administered in high-affect scenarios, high-magnitude punishment administered in low-affect scenarios, and high-magnitude punishment administered in all types of scenarios).

A mediation analysis was performed to determine the indirect effect of a rational thinking style on the relationship between the BFW level and the magnitude of punishment administered in high-affect scenarios. The results of the analysis tackling the first assumption appeared to be statistically significant ($F(1, 720) = 5.769$, $p = .016$, $R^2 = .007$) and revealed that BFW reliably predicted rational thinking ($\beta = .075$, $SE = .031$, $p = .016$, 95% CI [.013, .137]). The results of the analysis tackling the second assumption appeared to be statistically significant ($F(1, 720) = 11.40$, $p = .008$, R2 = .015), revealing that BFW reliably predicted punishment attitudes ($\beta = .83$, $SE = .24$, $p = .0008$, 95% CI [.35, 1.32]). In the last stage, mediators were added to the equation, and the model remained statistically significant ($F(2, 719) = 8.71$, $p < .002$, $R2 = .023$). Therefore, BFW is a statistically significant predictor of punishment magnitude ($\beta = .78$, SE = .30, $p = 00.1$, 95% CI [.29, 1.28]). These results contradict our hypothesis. Although we expected that the level of BFW would be a predictor of punishment magnitude, we expected the opposite for the rational thinking style. In line with the existing literature, we expected the rational thinking style and BFW, thus punishment magnitude, to be negatively correlated.

A mediation analysis was performed to determine the indirect effect of system justification on the relationship between BFW and the amount of high punishment administered in high-affect scenarios. The results of the analysis tackling the first assumption appeared to be statistically significant ($F(1, 720) = 4.29$,

p = .03, R^2 = .006) and revealed that BFW significantly predicted system justification (β = .11, SE = .05, p = .03, 95% CI [.006, .223]). The results of the analysis tackling the second assumption appeared to be statistically significant (F(1, 720) = 11.40, p = .008, $R2$ = .015) and revealed that BFW significantly predicted punishment levels (β = .83, SE = .24, p = .0008, 95% CI [.35, 1.32]). In the last stage, mediators were added to the equation and the model remained statistically significant (F(2, 719) = 11.20, p < .001, $R2$ = .030). BFW is therefore a significant predictor of punishment levels (β = .89, SE = .24, p = 001, 95% CI [-.87, -.22]). There were no significant results for the low-affect scenarios.

A mediation analysis was performed to determine the indirect effect of social conservatism on the relationship between BFW and the magnitude of punishment administered in low-affect scenarios. The results of the analysis tackling the first assumption appeared to be statistically significant (F(1, 04) = 11.87, p < .001, R^2 = .016), revealing that BFW significantly predicted social conservatism (β = .31, SE = .09, p = .03, 95% CI [.006, .223]). The results of the analysis tackling the second assumption appeared to be statistically significant (F(1, 704) = 23.07, p < .001, $R2$ = .03), revealing that BFW significantly predicted punishment levels (β = 1.20, SE = .25, p < .001, 95% CI [.71, 1.69]). In the last stage, mediators were added to the equation and the model remained significant (F(2, 703) = 20.47, p < .001, $R2$ = .550). BFW is therefore a significant predictor of punishment levels (β = 1.06, SE = .25, p < .01, 95% CI [.57, 1.55]). There were no significant results for the high-affect scenarios.

A moderation analysis was conducted to determine whether system justification moderated the relationship between BFW and high punishment in all scenarios. The interaction term between BFW and system justification was added to the model, which accounted for a significant proportion of the variance in punishment levels (F(1, 718) = 4.50, p = 0.034, b = .94).

A moderation analysis was conducted to determine whether system justification moderated the relationship between BFW and high-affect–high punishment conditions. The interaction term between BFW and system justification was added to the model, which accounted for a significant proportion of the variance in punishment levels (F(1, 718) = 3.92, p = .048, b = .49).

VI. Discussion

In this study, we primarily examined the relationship between the level of BFW and the magnitude of punishment in TPP tasks, which were presented to participants in the form of hypothetical crime scenarios divided into low- and high-affect categories. Second, we examined the presumable relationships between the level of BFW, thus punishment magnitude, and a series of psychological factors, namely system justification, social conservatism, extraversion, and rational and intuitive thinking styles. In addition, we tried to establish, without formulating a concrete hypothesis, whether there was a link between the level of BFW, thus punishment magnitude, and some demographic factors, namely age, gender, and education.

Our expectations were as follows: participants with a high level of BFW would attribute higher penalties in both high- and low-affect scenarios, whereas the difference in punishment magnitude between the two groups would be smaller in high-affect conditions. Participants with a high level of BFW would have higher scores of social conservatism, experiential thinking style, system justification, and extraversion than participants with a low level of BFW, who would score better in rational thinking style. These assumptions, as explained in the literature review section, are supported by previous research.

The principal finding of our study is that the level of BFW is positively correlated with the level of punishment administered in hypothetical crime scenarios. Early studies that tested the correlation between

BFW and punishment magnitude found no significant relationship between these two variables.[94] Nevertheless, more recent studies have indicated a positive correlation between the level of BFW and punishment magnitude.[95] Our findings are in line with the results of these recent studies, as we found that across both high- and low-affect crime scenarios, participants with high levels of BFW administered higher penalties compared with those with low levels of BFW.

Another important result of our study is that the average punishment magnitude for participants with low-level BFW increases in high-affect crime scenarios. In other words, in high-affect crime scenario conditions, the difference in punishment magnitude between the participants with low-level BFW and high-level BFW diminishes, although it remains significant. This tendency of participants with low-level BFW to be more punitive in high-affect crime scenarios results, we suppose, from an emotional reaction created by the content of the vignette. This emotional reaction leads the punisher with a low-level BFW to behave in a compatibilist way and to attribute a higher penalty in high-affect scenarios compared to low-affect ones. A similar inclination toward compatibilism was also observed in earlier studies. To explain the change of position from incompatibilism to compatibilism by the same group of participants when faced by two different stimuli, Nichols and Knobe proposed the *affective performance error* model.[96] We consider our results to support this theory.

Clark et al. suggested that the desire to punish the authors of immoral acts would drive people to adopt compatibilist positions in determinist frameworks.[97] Everett et al. found that conservatives had higher BFW because of their desire to punish the perpetrators of various transgressions.[98] Thus, for us, it was also relevant to assess whether other psychological traits were related to BFW and punishment magnitude. Our first finding in this respect is that individuals with high BFW are more likely to be socially conservative. As a parallel construct, system justification refers to the legitimization of the pre-existing social structures, even at a cost of both self- and group-level interests. System-justifiers tend to be more conformist following BFW manipulation and are more likely to consider the world as fair.[99] Believing in the fairness of the world is accompanied by the notion of moral responsibility, which is the idea that individuals should be considered accountable for their actions. Conformity, on the other hand, can be briefly explained as thinking and acting in line with the cultural standards of a given society. BFW is more common in the world than its opposite; therefore, we expected system-justifiers to have higher BFW compared to the other group. Nevertheless, in our sample, individuals with low and high BFW did not differ in their system justification scores. Extraverts, as individuals valuing autonomy and responsibility, should have higher BFW since BFW is a significant indicator of both autonomy and responsibility.[100] Nevertheless, in our study, individuals with low and high BFW did not have different extraversion scores. We believe that the similarity in the scores in the system justification and extraversion can be explained by the way we operationalized the low and high BFW. Due to the use of a median split procedure on the FAD-Plus scale to break our sampling down into two groups as high and low BFW, we missed the opportunity to use the data as it is.

[94] Cf. Haynes et al. (n 28); Stroessner and Green (n 24); Viney et al. 'Attitudes toward punishment ...' (n 19); Viney et al. 'Beliefs in free will and determinism...' (n 21).

[95] Cf. Carey and Paulhus (n 30); Shariff et al. (n 35).

[96] Cf. Nichols and Knobe (n 42)

[97] Cf. Clark et al. Free to punish (n 9)

[98] Cf. Everett et al. (n 52)

[99] J. L. Alquist, S. E. Ainsworth and R. F. Baumeister 'Determined to conform: Disbelief in free will increase conformity' (2013) 49 Journal of Experimental Social Psychology 80; Jost et al. (n 43); Lerner (n 48).

[100] Cf. Paulhus and Carey (n 31).

Rational and intuitive thinking styles, on the other hand, reflect how an individual processes information. A rational thinking style is related to a controlled, slow, analytical and logical way of processing information, whereas an intuitive thinking style is related to an automatic, relatively fast, affective and holistic one.[101] Because BFW is widespread in the general population, it might be an indicator of the more prominent usage of automatic systems compared to controlled systems. In the current study, individuals with high BFW had higher scores than those with low BFW on both intuitive and rational thinking styles. We did expect to reach that result for the intuitive thinking style, but not for the rational thinking style. This unexpected finding regarding the rational thinking style might be due to the tendency of rational individuals to put a metacognitive effort on how rational they are, which results in a detailed awareness of how biases and heuristics lead their decision-making processes, and eventually in self-doubt. Although it may seem counterintuitive, self-reported rational thinkers might be in fact intuitive thinkers, for the reason explained above.

Another possible underlying reason might be that CEST suggests that there are two information processing systems: experiential/intuitive and rational/analytical. According to Epstein et al., intuitive and rational thinking styles operate by different rules, and individuals' thinking styles are influenced by personal differences and the system on which they rely.[102] They used the REI system, a self-report measure with subscales for assessing individual differences in analytic-rational (NFC) and intuitive-experiential (FI) processing. In the article, it has been shown that these two independent systems jointly influence behavior. For example, in their first study, individuals who respond to vignettes heuristically, which means they are supposed to use experiential/intuitive thinking, tend to do so primarily through experiential processes but are also affected by rational processing. As a result, there are two orthogonal factors associated with NFC and FI, meaning that these two types of processing are not opposites but are independent of each other. Additionally, it is also mentioned that an individual can produce heuristic responses when attempting to adopt a logical perspective, often failing to recognize that their heuristic responses are illogical. Epstein's previous research emphasizes that this kind of discrimination failure is common, and people often tend to rationalize their heuristic responses as rational. Because of the aforementioned reasons, whether individuals adopt a rational or intuitive thinking style during the decision-making process, they can arrive at the same decision outcome. This suggests that individuals may exhibit high levels of both, one, or neither thinking styles, and that these styles can coexist and interact in complex ways during decision making.

To explore whether the psychological constructs we measured (i.e., extraversion, rational-intuitive thinking style, social conservatism, and system justification) play a role in the relationship between BFW and TPP, we conducted a series of exploratory mediation and moderation analyses. Our aim was to reveal whether these psychological constructs mediate or moderate the relationship between BFW and the amount of (1) high punishment administered for all crimes, (2) high punishment administered for high-affect crime scenarios, and (3) high punishment administered for low-affect crime scenarios. We obtained significant measures in the following results: rational thinking style and system justification partially mediated the relationship between BFW and the amount of high punishment administered for high-affect crime scenarios; social conservatism partially mediated the relationship between BFW and the amount of high punishment administered for low-affect crime scenarios; and system justification moderated the relationship between BFW and high punishment for all crime scenarios, or more specifically, system justification increased the magnitude of punishment. Since system justification is a psychological construct compatible with belief in a just world, we expected it to be compatible with a high BFW, as some of Carey and Paulhus' results

[101] Cf. Epstein et al. (n 62).

[102] Cf. Epstein et al. (n 62).

showed.[103] This assumption was supported by our results, which indicated that system justification had an amplifying effect on punishment magnitude. Conversely, social conservatism, another psychological construct compatible with the belief in a just world, only had a partial mediating effect in low-affect crime scenarios, but not in high-affect ones. On the other hand, and against our expectations, the rational thinking style had an amplifying effect on the magnitude of the punishment. We expected the experiential thinking style, not the rational one, to have such an effect. Besides the explanation we offered in the previous paragraph, we believe that cultural differences may also explain this finding, but for the time being, there is no cross-cultural data that would allow us to confirm this hypothesis.

As far as demographic factors are concerned, our findings indicate that age, gender, and education are correlated with punishment magnitude. In our study, younger participants tended to punish more harshly across both high- and low-affect scenarios compared with older participants. Moreover, female participants tended to punish more harshly than male participants. As mentioned in the literature review, previous studies did not show any clear tendency regarding the correlation between punishment magnitude and demographic variables such as age and gender. Again, our results may be explained by cultural differences, but further cross-cultural studies are necessary to develop and verify any hypothesis.

A. Policy implications in criminal justice

The results of our research, which confirm our basic hypotheses developed on the basis of previous research on the relationship between BFW and punitiveness, indicate that people who score higher in BFW tend to administer harsher penalties in hypothetical crime scenarios. The level of emotional reaction created by the crime scenario (whether it is high- or low-affect) has a secondary influence on the validity of this result. In high-affect scenarios, people with a low level of BFW behave in a more compatibility way and administer significantly higher penalties than in low-affect scenarios, although in low-affect scenarios people with a high level of BFW administer harsher penalties. According to our findings, demographic factors such as gender, age, and education are also of importance when deciding on a penalty as a third-party. Results indicate that groups such as women, youngsters, and less educated people, tend to penalize more harshly than others. Thus, one may speculate that demographic groups that are socially disadvantaged, or who consider themselves as such, are more punitive under the tasks of the TPP. A further interesting aspect of these findings is that they were obtained from a sample consisting of Turkish citizens.

Since most earlier studies were conducted in Western contexts, the parts of our results that confirm the results of these earlier studies may be considered as revealing cross-cultural patterns. Policy-wise, our results may be interpreted from two different angles: first on a nation-wide criminal justice policy level and second from the perspective of legal practitioners.

From a criminal justice policy perspective, it is important that the implementation of criminal justice satisfies the quest for fairness in the public at large, especially in crimes that create public outrage. In this respect, the public opinion on the penalties administered by the courts in criminal proceedings is an important factor. More precisely, the more the sentence decided by a criminal court is considered by the public at large as being just, the more the public opinion will see criminal justice implementation as fair. Furthermore, our findings show that the level of BFW of a citizen, as well as the emotional reaction created by the crime itself, are also important to determine whether a sentence is just or unfair. In other words, as long as there are differences in the level of BFW among citizens, there will be no consensus on the fairness of criminal justice implementation in the public at large. Thus, we believe that a criminal justice policy that aims at satisfying the justice requirements of the public at large should inform large social groups that the

[103] Cf. Carey and Paulhus (n 30).

penalties described by statutes are not based solely on a retributive logic, but that other considerations play a role when it comes to deciding on the harshness of specific punishments administered in specific cases.

Second, these findings play a role in defining defense strategies by the legal representatives of the defending parties in criminal cases. Regardless of whether the criminal justice system is inquisitorial or adversarial, the legal counselors of defendants should define a defense policy that aims not only at proving the innocence of their client but also at obtaining a lenient penalty in case the defendant party is found guilty. Thus, the tendencies concerning BFW of individual judges who get to decide on sentences is important, and our findings may be of relevance for the education of current or would-be judges and legal counselors. Therefore, educational policies should also be developed and included in the curriculum to address this concern.

B. Limitations

Every experimental design has its limitations and drawbacks. The main limitation of the current study is related to the presentation of the hypothetical scenarios in which the participants were asked to decide between two options. The inclusion of further details about each scenario could have altered the participants' decision. Since the main aim of this study was to understand the tendencies of the participants based on their degree of BFW, their punishment decisions, as well as the other variables (obtained via the other scales), the main approach was designed so as to be comparable with the earlier relevant academic literature. A second limitation concerns the data collection, which was conducted by online surveys, which is itself a controversial method. However, since participation was on a voluntary basis and the data thus obtained was carefully filtered to eliminate outliers and anomaly cases, we minimized the potential influence of the data collection method.

VII. Conclusion

The current study aimed, through survey-based data collection procedures, to understand the potential impacts of BFW on TPP under high- and low-affect scenarios and to determine the moderating and mediating variables from the social psychology, cognitive psychology, and personality psychology literature. Our findings provide several different insights into the relationship between punishment magnitude and BFW, as well as some demographic variables, namely age, gender, and level of education. Specifically, this study found that women tend to impose harsher punishments than men, the magnitude of punishment decreases with higher education levels, and younger individuals tend to impose higher punishments. The results also indicate how BFW affects individuals' positions in social conservatism, system justification, extraversion, rational, and intuitive thinking styles. Additionally, some of these variables successfully mediate and moderate the relationship between BFW and TPP. This study found a positive correlation between social conservatism, rational and intuitive thinking styles, and BFW, thus with harsher punishments, but did not find a meaningful correlation between BFW and extraversion or system justification.

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