Free to blame? Belief in free will is related to victim blaming

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Abstract

The more people believe in free will, the harsher their punishment of criminal offenders. A reason for this finding is that belief in free will leads individuals to perceive others as responsible for their behavior. While research supporting this notion has mainly focused on criminal offenders, the perspective of the victims has been neglected so far. We filled this gap and hypothesized that individuals' belief in free will is positively correlated with victim blaming—the tendency to make victims responsible for their bad luck. In three studies, we found that the more individuals believe in free will, the more they blame victims. Study 3 revealed that belief in free will is correlated with victim blaming even when controlling for just world beliefs, religious worldviews, and political ideology. The results contribute to a more differentiated view of the role of free will beliefs and attributed intentions.

Keywords: Free will belief; Intention attribution; Responsibility; Victim blaming; Belief in a Just World; Religiosity; Political Ideology

The concept of free will is central for moral and legal decision making and thereby a cornerstone of our society (Baumeister et al., 2009; Nahmias et al., 2005). It is, thus, not surprising that irrespective of age (Nichols, 2004) and culture (Sarkissian et al., 2010), most people believe in free will (Baumeister et al., 2009; Nahmias et al., 2005). In the last couple of decades, psychologists have investigated the cognitive and behavioral consequences of believing in free will. Such research has shown that people's belief in free will correlates with performance in self-control tasks (Rigoni et al., 2012), but also in work (Stillman et al., 2010) and academic settings (Feldman et al., 2016). Moreover, people with a strong belief in free will have higher life (Bergner & Ramon, 2013) and job satisfaction (Feldman et al., 2018). When experimentally weakening participants' belief in free will, researchers found an increase in conformity (Alquist et al., 2013) as well as a rise in aggressiveness towards others (Baumeister et al., 2009). Furthermore, attenuating free will belief has been found to decrease pro-social behavior (Baumeister et al., 2009), cooperation (Protzko et al., 2016) and learning (Stillman & Baumeister, 2010).

Recent research indicates that people's belief in free will is related to their intention to punish others for their wrongdoings (Clark et al., 2014; Genschow et al., 2017; Martin et al., 2017; Shariff et al., 2014). For example, Shariff and colleagues (2014) investigated the relationship between free will belief and retributive punishment for criminal offenders. They found that weakening participants' belief in free will reduces recommended sentences for a variety of crimes. A potential reason for these findings is that belief in free will is linked to the perception that others' behavior is intentionally driven (Genschow, Rigoni, & Brass, 2017, 2019) and the belief that individuals are responsible for their own behavior (Nahmias et al., 2005).

It is important to note that some of the above-mentioned findings are based on research designs involving experimental manipulations to reduce participants' belief in free will. Recent research suggests that replicating some of these findings is more difficult than

previously assumed (Crone & Levy, 2019; Genschow, Hawickhorst, et al., 2020; Giner-Sorolla et al., 2016; Monroe et al., 2017; Open Science Collaboration, 2015; Schooler et al., 2014; Shariff & Vohs, 2014; Zwaan, 2014). For example, Monroe et al. (2017) could not find an effect of diminishing participants' belief in free will on moral behavior, judgments of blame, or punishment decisions. More recently, Genschow and colleagues (2020) could not replicate the effect of manipulated belief in free will on punishment within a sample of professional judges. Other research found little evidence for the proposed link between manipulated free will beliefs and cheating (e.g., Crone & Levy, 2019; Giner-Sorolla et al., 2016; Zwaan, 2014). While the link between experimental free will manipulations and downstream consequences has been challenged, correlational studies seem to show more consistent and robust effects (Martin et al., 2017).

In sum, people with a higher endorsement of free will belief hold wrongdoers more responsible for their actions and, as a consequence, would punish them more strongly. While past research on belief in free will has mainly focused on how belief in free will affects the perception of *offenders*, it remains open how belief in free will influences the perception of the *victims*. To shed light on this open question, in the present research, we investigated the relation between belief in free will and perceived responsibility of victims.

Victims suffer not only from the direct psychological and physical consequences of the victimizing event, but also from derogatory responses from others (e.g., Janoff-Bulman & Frieze, 1983; Lerner, 1970; Ryan, 1976). Indeed, research on the phenomenon of victim blaming suggests that people tend to make victims responsible for their bad luck, even when severe events are not self-inflicted by the affected persons (Lerner, 1980; Lerner & Miller, 1978). Although in the last decades the concern about victim rights and dignity has increased, the literature shows that victims still commonly fear and expect stigmatization (Quinn & Chaudoir, 2009) as many victims report feelings of contamination and taint as well as self-blame (Badour et al., 2013; Fairbrother et al., 2005).

To understand why victims are blamed for their bad luck, one needs to study the motives behind victim blaming. Research investigating such motives found that individuals tend to blame victims more strongly when they hold a fundamentalistic religious worldview (Sheldon & Parent, 2002), or a conservative attitude (Lambert & Raichle, 2000; Williams, 1984). Extending this line of research, Niemi and Young (2016) have shown that increased endorsement of so-called binding moral values such as loyalty, obedience to authority, and purity is associated with victim blaming. Yet other research suggests that a strong belief in a just world is also linked to victim blaming (e.g., Strömwall et al., 2013; Van den Bos & Maas, 2009). Such a view postulates that people “believe that they live in a world where people generally get what they deserve” (Lerner & Miller, 1978, p. 1030). A person who is victimized through no fault of their own is therefore contrary to the belief of a just world and should cause cognitive dissonance (Festinger, 1957). One way to resolve this dissonance, is to attribute the responsibility to the innocent victim. Indeed, research has shown that if a person befalls bad luck through no fault of their own, observers tend to put blame on the victim to maintain their belief in a just world (Furnham, 2003).

Taken together, past research found that belief in free will is linked to perceiving responsibilities in others’ actions (Genschow et al., 2017, 2019; Nahmias et al., 2005). As victim blaming is due to attributing responsibilities to the victims for their bad luck (Lerner, 1980; Lerner & Miller, 1978), we hypothesized that the more individuals believe in free will, the more they blame victims. To test this hypothesis, we conducted three studies. In Study 1, we investigated whether experimentally reducing participants’ belief in free will decreases the degree to which people blame victims. In Study 2, we applied a correlational design to reproduce the main finding obtained in Study 1. That is, we tested whether belief in free will is positively correlated with victim blaming. In Study 3, we directly replicated Study 2 and additionally tested whether belief in free will correlates with victim blaming even when

controlling for other motives that had been found to relate to victim blaming (i.e., just world beliefs, religiosity, and political ideology).

Open Science Statement

All studies were preregistered. Data, analyses scripts, as well as stimulus material are accessible at the Open Science Framework (OSF; tiny.cc/BFW_VB). Data analysis for each study started after data collection of the respective study was completed. We report all conducted studies as well as all assessed variables, measures, and data exclusions.

Study 1

Study 1 tested whether experimentally reducing individuals' belief in free will decreases victim blaming. The experiment was preregistered at AsPredicted (<https://aspredicted.org/3zu6q.pdf>).

Method

Participants. We recruited participants via Amazon's Mechanical Turk. Based on previous research (Genschow et al., 2017) we expected a small to medium sized effect. That is, we aimed to detect an effect size of at least $d = .2$. With an alpha error probability of $\alpha = .05$ and a power of $1 - \beta = .80$, the needed sample size was $N = 620$. To compensate for possible preregistered dropouts, we aimed to assess 800 participants. In the end, 809 participants took part in the experiment. In line with our preregistration, we excluded participants who answered the attention question wrong ($N_{\text{anti-free will condition}} = 91$; $N_{\text{pro-free will condition}} = 233$)¹. Although the exclusion of 329 participants is relatively high, it is similarly high when compared to research implementing comparable exclusion criteria (cf. Genschow et al., 2017). In contrast to the preregistration, we did not exclude participants who did not list at least one meaningful argument after watching the manipulation video, because in hindsight this criterion was difficult to define as reliability between the two principal investigators was

¹ A potential reason for the higher participant exclusion in the pro-free will condition could be that the attention question in the pro-free will condition was more difficult to understand than the attention question in the anti-free will condition.

very low². After exclusion of participants, a sample of $N = 480$ (241 female; 239 male) remained for analysis. Ages ranged from 18 to 83 ($M = 39.26$, $SD = 13.48$).

Procedure. To weaken participants' belief in free will, we used a novel experimental approach. First, all participants watched a four minute video by Fried et al. (2011). In the video, the researchers explain their experiment, which replicates the findings of Libet et al. (1983) on the neural activity of the readiness-potential. At the end of the video, the authors conclude that their results suggest that people do not have free will. After watching the video, participants were randomly assigned to one of two experimental conditions. Participants in the anti-free will condition were told that the experiment has been replicated many times and that researchers agree that free will does not exist. Participants in the pro-free will condition were told that there are many failed attempts in replicating the findings of the experiment and that researchers agree that free will actually exists. Then, the participants were asked to summarize the experiment briefly and to indicate reasons as to why the experiment was either good (anti-free will) or bad (pro-free will). The exact wording was:

“Within the years after the publication of the study, there were a couple of attempts to replicate the study. All attempts were successful [failed]. These days, most researchers agree that the study was [not] a good study and that the conclusion that free will does not exist is [not] justified. Now, your task is it to write a short summary of the video and to look for arguments why the study was [not] a good study and why the authors' conclusion is [not] justified. Take at least one minute for this task.”

Afterwards, the participants read four different vignettes that were adapted from Laurin et al. (2011) and Halabi et al. (2015). Each vignette described a situation in which a person was victimized (i.e., knocked out by a burglar, involved in a car accident, caught HIV,

² Future research may aim at analyzing the arguments with text processing software to explore the relation between task commitment and effectiveness of the manipulation.

had a skiing accident). All vignettes were written from the first person-perspective of the victim and all vignettes described negative events in which the victim's behavior may have contributed to his/her misfortune, thus providing latitude for blaming. While three vignettes involved self-generated mishaps (i.e., car accident, skiing accident) or injury due to another's negligence (i.e., catching HIV), one vignette involved an intentional victimizer (i.e., burglar). The exact wording of all the vignettes can be accessed online at the Open Science Framework (OSF; tiny.cc/BFW_VB). To measure participants' degree of victim blaming, we used, for each vignette, the Victim Blaming Scale (van Prooijen & van den Bos, 2009). That is, on seven point rating scales (1 = *strongly disagree*; 7 = *strongly agree*), participants rated their agreement to the following four statements: "I believe that what happened to the person was caused by her own behavior", "I believe that the person is responsible for what happened to her", "I think the person deserved what happened to her", "I think the person has been very careless". To compute an overall score for victim blaming, we averaged the scores of all items across all vignettes.

Then, participants filled in the Free Will Inventory (FWI; Nadelhoffer et al., 2014) as part of the manipulation check of the free will manipulation. The FWI consists of three subscales (i.e., free will, determinism, and dualism) each measured with five items. On 7-point rating scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) participants indicated their agreement to five statements for each subscale.

At the end, we administered an attention question³ to test whether participants actually attended the video at the beginning of the experiment. That is, participants indicated on a multiple choice question which of the following statements is correct with respect to the implications of the video, which they had seen at the beginning of the experiment: "From the video it becomes clear that women have more free will than men," "Thanks to multiple

³ In the preregistration, we mistakenly labeled the attention question as a manipulation check.

replications of the study reported in the video we now know that free will exists,” “In the video it is reported how free will enfolds within childhood,” “From the video it becomes clear that also animals have free will,” “Thanks to multiple replications of the study reported in the video we now know that free will does NOT exist”. While for participants in the anti-free will condition, the correct answer was the fifth answer, it was the second answer for participants in the pro-free will condition.

At the end of the study, participants indicated basic demographic data (i.e., age and gender).

Results

Manipulation check. In a first series of analyses, we tested whether our experimental manipulation successfully reduced participants’ belief in free will. A *t*-test for independent samples indicated that participants reported lower belief in free will in the anti-free will condition ($M = 4.63$, $SD = 1.21$, $N = 311$) than participants in the pro-free will condition ($M = 5.13$, $SD = 1.10$, $N = 169$), $t(478) = 4.47$, $p < .001$, $d = 0.43$, 95% CI [.28, .72]. Similar results emerged for belief in dualism ($M_{\text{pro-free will}} = 5.03$, $SD = 1.32$, $N = 169$ vs. $M_{\text{anti-free will}} = 4.58$, $SD = 1.48$, $N = 311$), $t(478) = 3.32$, $p = .001$, $d = 0.32$, 95% CI [.18, .72]. The manipulation did not have a significant effect on the belief in determinism, $t(478) = 1.11$, $p = .268^4$.

Victim blaming. To test our main prediction, we investigated the influence of the free will belief manipulation on victim blaming with a *t*-test for independent samples. Although in the assumed direction ($M_{\text{anti-free will}} = 4.34$, $SD = 0.89$, $N = 311$; $M_{\text{pro-free will}} = 4.47$, $SD = 0.83$, $N = 169$), the effect did not become significant, $t(478) = 1.56$, $p = .120^5$.

⁴ When we did not apply the preregistered exclusion criteria, the results remained the same for the free will subscale, $t(807) = 3.59$, $p < .001$, $d = .25$, 95% CI [.14, .47]. There was no significant difference between conditions on the dualism subscale, $t(807) = 1.11$, $p = .268$. However, we found a significant difference between conditions for the determinism subscale, $t(807) = 3.19$, $p = .001$, $d = .22$, 95% CI [.12, .52] with higher values in the anti-free will condition ($M = 3.55$, $SD = 1.37$, $N = 402$), as compared to the pro-free will condition ($M = 3.23$, $SD = 1.48$, $N = 407$).

⁵ When we did not apply the preregistered exclusion criteria the results remained the same, $t(807) = 0.49$, $p = .627$. Also, when adding gender and age as covariates into the design, the results remained non-significant, $F(1, 479) = 2.21$, $p = .138$.

Non-preregistered explorative post-hoc analyses. To test whether belief in free will is correlated with victim blaming, we ran additional correlational analyses between all the FWI subscales and victim blaming. Overall, the results support our predictions (see Table 1). That is, the free will subscale positively correlated with victim blaming ($r = .232, p < .001$, 95% CI [.14, .32]). Similar patterns were observed for the dualism subscale ($r = .157, p = .001$, 95% CI [.07, .25]), and the determinism subscale ($r = .085, p = .064$)⁶.

In further post-hoc analyses we investigated the relation of demographic variables on victim blaming and the belief in free will subscale. These analyses indicated that participants' age correlated positively with victim blaming, $r = .122, p = .007$, 95% CI [.03, .21], but not with belief in free will, $r = .037, p = .421$. There was a gender difference in free will belief with female participants ($M = 4.92, SD = 1.19, N = 241$) believing more strongly in free will than male participants ($M = 4.68, SD = 1.19, N = 239$), $t(478) = 2.23, p < .026, d = .20$, 95% CI [.03, .45]. Gender did not have an influence on victim blaming, $t(478) = 1.06, p = .290$.

Next, we sought to determine whether belief in free will is correlated with victim blaming when controlling for demographics and other beliefs related to free will (i.e., dualism and determinism). First, we z-standardized all continuous variables. Then, we conducted a stepwise multiple regression with victim blaming as the dependent variable. In a first model, we entered gender (1 = male; 0 = female) and age as predictors into the regression (i.e., Model 1). In a second step, we added belief in free will, dualism, and determinism to the regression (i.e., Model 2). The results are depicted in Table 2. Most importantly, we found that belief in free will predicted victim blaming even when controlling for the other variables, $\beta = .20, t = 4.34, p < .001$, 95% CI [.07, .25]

Discussion

⁶ When we did not exclude any participant from the analyses, the main results remained the same. That is, victim blaming correlated significantly with the free will subscale, $r = .326, p < .001$, 95% CI [.26, .39], the dualism subscale, $r = .213, p < .001$, 95% CI [.15, .28], and the determinism subscale, $r = .167, p < .001$, 95% CI [.10, .24]. Preregistered analyses involving the overall belief in free will score are reported in the supplement material.

In Study 1, we tested whether experimentally manipulating participants' belief in free will affects victim blaming. The results indicate that although the free will belief manipulation influenced participants' belief in free will, the manipulation did not affect victim blaming. This finding is in line with recent research suggesting that manipulating individuals' belief in free will is more difficult than previously assumed and that a manipulated belief in free will may not as strongly contribute to downstream consequences as has been previously assumed (Crone & Levy, 2019; Genschow, Hawickhorst, et al., 2020; Giner-Sorolla et al., 2016; Monroe et al., 2017; Open Science Collaboration, 2015; Schooler et al., 2014; Shariff & Vohs, 2014; Zwaan, 2014). Reasons for the difficulty in finding downstream consequences of belief in free will manipulations are manifold. First, free will belief manipulations are rather unspecific and do not only affect belief in free will, but also other beliefs (e.g., belief in dualism). This is problematic, because different factors influenced by the manipulation could counteract the influence of free will beliefs on the dependent variable. Second, free will belief manipulations including the one we used in this article produce rather small effects. Given that any effect of free will belief manipulations on dependent variables is smaller than their effect on the belief in free will, this makes finding evidence for downstream consequences particularly challenging.

Nevertheless, it is important to note that in Study 1, correlational analyses revealed initial support for our main prediction that belief in free will is related to victim blaming. To further investigate this relation, we conducted Study 2.

Study 2

In Study 2—a high-powered and preregistered correlational study—we sought to reproduce the main finding obtained in Study 1. That is, we tested the hypothesis that the more participants believe in free will, the more strongly they engage in victim blaming. The study was preregistered at AsPredicted (<https://aspredicted.org/2p8n4.pdf>).

Method

Participants. Based on the recommendation to obtain stable correlations put forward by Schönbrodt and Perugini (2013), we planned to test at least 250 participants. We invited German participants via mailing lists to take part in an online study. As compensation, participants could take part in a lottery to win one of ten Amazon vouchers with a value of 25 EURO each. In total, 312 participants (223 female; 87 male, 2 not reported) with ages ranging from 18 to 66 ($M = 29.79$, $SD = 8.85$) took part in our study.

Procedure. First, participants ran through the same victim blaming vignettes as in Study 1; each followed by the Victim Blaming Scale.

Afterwards, participants completed the German translation (Genschow et al., 2019 <https://osf.io/q6bt2/>)⁷ of the Free Will Inventory (FWI; Nadelhoffer et al., 2014).

At the end, participants indicated basic demographics (i.e., age and gender).

Results

The results are in line with the findings obtained in Study 1 (for an overview, see Table 1). Victim blaming significantly correlated with the free will subscale ($r = .20$, $p < .001$, 95% CI [.09, .31]). The correlation between victim blaming and the dualism went in the same direction ($r = .104$, $p = .067$). The determinism subscale did not significantly correlate with victim blaming ($r = .050$, $p = .381$).

Explorative analyses. In additional explorative analyses we investigated the relation of demographics on victim blaming and belief in free will. These analyses indicate that participants' age positively correlated with victim blaming, $r = .161$, $p = .004$, 95% CI [.05, .27], but not but not with belief in free will, $r = -.039$, $p = .497$. There was neither a gender difference in terms of belief in free will, nor in terms of victim blaming, $ts(308) < 1.36$, $ps > .175$. In a next step, we tested whether belief in free will was a predictor of victim blaming when controlling for demographics and other beliefs related to free will (i.e., dualism and

⁷ The first author of this paper translated the original items of the FWI into German. This translation was then double-checked and proofread by two further German native speakers.

determinism). In line with Study 1, we firstly z-standardized all continuous variables and then conducted a stepwise multiple regression with the victim blaming as dependent variable. In a first step, we entered gender (1 = male; 0 = female) and age as predictors into the regression (i.e., Model 1). In a second step, we added belief in free will, dualism, and determinism to the regression (i.e., Model 2). The results are depicted in Table 3. Most importantly, the results indicate that belief in free will predicted victim blaming even when controlling for the other variables, $\beta = .19$, $t = 3.33$, $p = .001$, 95% CI [.08, .30].

Discussion

Study 2 replicated the main finding obtained in Study 1 indicating that individuals' belief in free will is positively related to victim blaming. Regression analyses found that belief in free will predicts victim blaming even when statistically controlling for demographic variables (i.e., gender and age) and beliefs related to free will (i.e., dualism and determinism).

Study 3

The aim of Study 3 was to replicate the main finding obtained in Studies 1 and 2 in an even larger sample. Moreover, another goal of Study 3 was to test to what degree belief in free will correlates with victim blaming when controlling for other factors that are known to contribute to victim blaming.

Carey and Paulhus (2013) demonstrated in a seminal study that belief in free will is related to belief in a just world, religiosity, and a conservative world view. Interestingly, these factors are related to victim blaming as well. That is, previous research found that individuals tend to blame victims more strongly when they believe in a just world (e.g., Strömwall et al., 2013; Van den Bos & Maas, 2009), hold a fundamentalistic religious worldview (Sheldon & Parent, 2002), and a conservative attitude (Lambert & Raichle, 2000; Williams, 1984). In Study 3, in addition to victim blaming and belief in free will, we also assessed other related beliefs (i.e., dualism and determinism), belief in a just world, religious worldviews, and political ideology (i.e., conservatism vs. liberalism). In line with previous research, we

hypothesized that victim blaming correlates with just world beliefs, religious worldviews and conservatism. In explorative analyses, we tested whether belief in free will correlates with victim blaming even when controlling for just world beliefs, religious worldviews and conservatism. The study was preregistered at AsPredicted (<https://aspredicted.org/blind.php?x=jf9uk4>).

Method

Participants. The sample size was determined by multiplying the preregistered sample size of Study 2 (i.e., $N = 250$) by 2.5 (for a similar recommendation, see Simonsohn, 2015), which amounted to 625 participants. We invited 625 participants to take part in our study via Amazon's Mechanical Turk. In the end, 628 participants (211 female; 417 male) with ages ranging from 18 to 76 ($M = 36.67$, $SD = 11.15$) took part in our study.

Procedure. The first part of the study was similar to Study 2. That is, participants first ran through the same victim blaming vignettes; each followed by the Victim Blaming Scale and then completed the Free Will Inventory (FWI; Nadelhoffer et al., 2014).

Afterwards, we measured belief in a just world with the General and Personal Belief in a Just World Scale (Dalbert, 1999). While a general belief in a just world refers to the belief that the world in general is a just place, personal belief in a just world refers to the belief that one's own personal fate is just. Participants indicated their agreement to 13 statements on 6-point rating scales (1 = *strongly disagree*; 6 = *strongly agree*). Seven of these statements measured personal belief in a just world and 6 items measured general belief in a just world.

Then, participants filled in the Religious Worldviews Scale (RWS; Goplen & Plant, 2015) as a measure of religiosity. Within the Religious Worldviews Scale, participants indicate their agreement to 19 statements on 9-point rating scales (1 = *strongly disagree*; 5 = *neutral*; 9 = *strongly agree*). To compute an overall score of religiosity, we averaged all items.

Finally, we assessed participants' general political ideology in line with previous research (e.g., Clark et al., 2017; Jost, 2006) on a 7-point scale ranging from 1 (*very liberal*) to 7 (*very conservative*).

At the end participants indicated demographics (i.e., age and gender).

Results

The correlational results replicate the findings obtained Studies 1 and 2 (for an overview, see Table 1). That is, victim blaming significantly correlated with the free will subscale ($r = .515, p < .001, 95\% \text{ CI } [.45, .58]$). The correlation between victim blaming and the dualism subscale ($r = .471, p < .001, 95\% \text{ CI } [.40, .54]$) as well as the determinism subscale was also significant ($r = .598, p < .001, 95\% \text{ CI } [.54, .66]$).

In additional correlational analyses (for a complete overview, see Table 4), we found that victim blaming correlated significantly with personal belief in a just world ($r = .513, p < .001, 95\% \text{ CI } [.45, .58]$), general belief in a just world ($r = .548, p < .001, 95\% \text{ CI } [.48, .61]$), religious world views ($r = .363, p < .001, 95\% \text{ CI } [.29, .44]$), and conservatism ($r = .360, p < .001, 95\% \text{ CI } [.29, .43]$).

Explorative analyses. In explorative analyses we investigated the relation of demographics on victim blaming and belief in free will. These analyses indicate that participants' age neither correlated with victim blaming, nor with belief in free will, $r_s < .067, p > .099$. Additionally, there was neither a gender difference in terms of belief in free will, nor in terms of victim blaming, $ts(626) < 1.31, ps > .193$.

To test to what degree belief in free will correlates with victim blaming when controlling for gender and age, belief in a just world, religious world views, conservatism, as well as other beliefs (i.e. dualism and determinism) we computed a multiple regression analysis. First, we z-standardized all continuous variables. The dependent variable was the overall score of victim blaming. In a first step, we entered gender (1 = male; 0 = female) and age as predictors into the regression (i.e., Model 1). In a second step, we entered personal

belief in a just world, general belief in a just world, religious world views, and conservatism into the equation (i.e., Model 2). Finally, in a third step, we added belief in free will, dualism, and determinism to the regression. The results (for an overview, see Table 5) indicate that belief in free will predicted victim blaming even when controlling for all the other variables, $\beta = .15$, $t = 3.30$, $p = .001$, 95% CI [.06, .24].

Discussion

In Study 3 we tested whether belief in free will is correlated with victim blaming when controlling for other related variables. The results replicate our previous finding that belief in free will is positively related to victim blaming. Moreover, even when statistically controlling for demographic variables (i.e., gender and age), related beliefs (i.e., dualism and determinism), and other factors that are known to contribute to victim blaming (i.e., beliefs in a just world, religious world views, and political ideology), belief in free will remained a significant predictor.

General Discussion

In three studies we tested the prediction that belief in free will is related to victim blaming. Study 1 manipulated belief in free will. Although belief in free will could be successfully manipulated, the manipulation did not affect victim blaming. However, it is important to note that on a correlational level we found evidence for our predictions that higher endorsement of free will belief is interrelated with victim blaming. This link could be reproduced in Study 2 and further replicated in Study 3. In all studies the correlation between belief in free will and victim blaming remained significant even when statistically controlling for demographics as well as other beliefs (i.e., dualism and determinism). Moreover, Study 3 revealed that belief in free will correlates with victim blaming when controlling for just world beliefs, religious worldviews and political ideology. Taken together, across all three studies we found evidence for the prediction that higher endorsement of belief in free will is positively related to victim blaming (for a mini meta-analysis, see the supplement material).

Theoretical implications

Past research found that belief in free will increases the tendency to punish anti-social behavior (Clark et al., 2014; Genschow et al., 2017; Martin et al., 2017; Shariff et al., 2014), but also to reward pro-social behaviors (Genschow et al., 2017). These findings can be explained by recent research showing that belief in free will is associated with an increase in perceived intentions in others' behavior (Genschow et al., 2017, 2019) and the tendency to attribute responsibility to others for their behavior (Nahmias et al., 2005). As past research on belief in free will has neglected the view on the victims of criminal acts, in the present research we filled this gap by demonstrating that belief in free will is not only associated with the tendency to punish criminal offenders, but also with the tendency to blame victims for their bad luck.

In the last couple of decades, claims that free will is nothing more than an illusion have become prevalent in the popular press (e.g., Chivers 2010; Griffin, 2016; Wolfe, 1997). Based on such claims, scholars across disciplines started debating potential societal consequences for the case that people would start disbelieving in free will. For example, some philosophers argued that disbelief in free will would have catastrophic consequences, because people would no longer try to control their behavior and start acting immorally (e.g., Smilansky, 2000, 2002). Likewise, psychological research has mainly focused on the downsides of disbelief in free will. For example, weakening free will belief led participants to behave less morally and responsibly (Baumeister et al., 2009; Protzko et al., 2016; Vohs & Schooler, 2008). In contrast to these results, our findings illustrate a more positive side of disbelief in free will, as higher levels of disbelief in free will would reduce victim blaming.

Past research on studying psychological motives behind victim blaming indicated that fundamentalistic religious worldviews (Sheldon & Parent, 2002), a conservatism attitude (Lambert & Raichle, 2000; Williams, 1984), and just world beliefs (e.g., Strömwall et al., 2013; Van den Bos & Maas, 2009) contribute to victim blaming. In Study 3, we replicated

these findings—a fact noteworthy in light of the current debate on the crises of confidence in psychological science (e.g., Genschow, Westfal, et al., 2020; Open Science Collaboration, 2015). Moreover, our research extends past findings by demonstrating that belief in free will explains variance in predicting victim blaming in addition to other relevant predictors such as religiosity, political attitudes and just world beliefs. This allows getting a more complete understanding of the motives behind victim blaming.

Research on just world beliefs (Carey & Paulhus, 2013) suggests that when an innocent person experiences misfortune, the belief that the world is inherently just is threatened. To restore belief in a just world, responsibility is attributed to the victim (Furnham, 2003). It might well be that belief in free will is a means to re-establish the belief in a just world. As people have control over their decisions and acts, they are fully responsible for the consequences that happen to them. Therefore, negative life events can be attributed to the affected people themselves. This reasoning is in line with research showing that a stronger belief in free will increases the acceptance of economic inequality (Mercier et al., 2020), the endorsement of punishment for wrongdoers (Clark et al., 2014; Genschow et al., 2017; Martin et al., 2017; Shariff et al., 2014) and support of an authoritarian worldview (e.g., Nadelhoffer & Tocchetto, 2013). Future research may aim at applying experimental manipulations to directly test whether belief in free will is a means to re-establish just world beliefs.

Finally, our results from Study 1 extend recent research suggesting that established free will belief manipulations may have no, or rather weak, influences on downstream consequences (Crone & Levy, 2019; Genschow, Hawickhorst, et al., 2020; Giner-Sorolla et al., 2016; Monroe et al., 2017; Open Science Collaboration, 2015; Schooler et al., 2014; Shariff & Vohs, 2014; Zwaan, 2014). For example, different researchers were unsuccessful in trying to replicate a classic study of Vohs and Schooler (2008) on cheating behavior following an experimental free will belief manipulation (e.g., Giner-Sorolla et al., 2016; Open Science Collaboration, 2015; Zwaan et al., 2014). Lately, Crone and Levy (2019) scrutinized the

positive effect of free will belief on pro-social behavior. While these results call into question the effects of free will belief manipulations, it is important to note that they do not criticize correlational studies. Indeed, in line with other research (e.g., Martin et al., 2017), the present findings suggest that correlations involving belief in free will measures might be more stable and replicable than studies involving experimental free will belief manipulations. That is, by finding significant correlations with belief in free will on the one side and just world beliefs, religious worldviews, and political ideology on the other side, our research successfully replicated previous correlational findings in the free will belief literature (Carey & Paulhus, 2013).

Limitations and future directions

Previous research demonstrated that belief in free will increases perceived intentions of others' behavior, which may account for punishment of anti-social behavior and rewarding pro-social behavior (Genschow et al., 2017, 2019). It is reasonable to assume that perceiving intentions in others may also account for the link between belief in free will and victim blaming. That is, the more individuals believe in free will, the more they believe that other individuals are responsible for their own behavior (Nahmias et al., 2005), which, in turn, should increase their willingness to blame victims. Although, previous data support this reasoning, so far, this link has not yet been directly tested. Future research could, thus, assess attributed responsibility as a potential mediator on the relation between belief in free will and victim blaming more directly. Moreover, future research may investigate the link between belief in free will, perceived intentions, and helping as past research has shown that believing in free will increases helping behavior (Baumeister et al., 2009; Harms et al., 2017). It might well be that perceiving intentionality in others accounts for this link as well.

Previous research found that belief in free will increases the tendency to punish criminal offenders (Clark et al., 2014; Genschow et al., 2017; Martin et al., 2017; Shariff et al., 2014). By focusing on the victims, in the present research, we did not assess participants'

willingness to punish the perpetrator. Future research might, thus, explore the role of belief in free will in punishment and victim blaming simultaneously.

It is important to note that our evidence for the relation between belief in free will and victim blaming is correlational only. A disadvantage of correlational designs is that they do not allow causal inferences. Thus, future research may aim to reproduce our findings by implementing experimental designs. Moreover, such designs could also counterbalance the order of the assessed scales and dependent variables to better control for potential demand and order effects.

Summary

In three studies we found that individuals' belief in free will is correlated with victim blaming. This correlation holds even when controlling for demographic variables, other beliefs related to free will (i.e., dualism and determinism), and other motives known to contribute to victim blaming (e.g., religiosity, political attitudes, and just world beliefs).

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Table 1

Descriptive Statistics and Zero-order Correlations of Victim Blaming and Free Will Beliefs in Studies 1 to 3

	<i>M (SD)</i>	1	2	3	4	5	6	7	8
Study 1									
VB overall (1)	4.39 (0.87)	0.84							
VB burglar (2)	2.72 (1.35)	0.593 ***	0.82						
VB car accident (3)	4.94 (1.18)	0.738 ***	0.195 ***	0.83					
VB HIV (4)	5.25 (1.10)	0.733 ***	0.136 **	0.499 ***	0.79				
VB skiing accident (5)	4.65 (1.28)	0.793 ***	0.266 ***	0.459 ***	0.539 ***	0.84			
FWI freewill (6)	4.80 (1.19)	0.232 ***	0.117 *	0.174 ***	0.180 ***	0.194 ***	0.85		
FWI dualism (7)	4.74 (1.44)	0.157 ***	0.066	0.108 *	0.150 ***	0.132 **	0.312 ***	0.87	
FWI determinism (8)	3.22 (1.30)	0.085	0.207 ***	-0.106 *	0.027	0.086	0.021	0.051	0.84
Study 2									
VB overall (1)	4.17 (0.75)	0.83							
VB burglar (2)	2.55 (1.20)	0.630 ***	0.80						
VB car accident (3)	4.96 (0.99)	0.742 ***	0.319 ***	0.81					
VB HIV (4)	4.66 (1.00)	0.715 ***	0.207 ***	0.341 ***	0.72				
VB skiing accident (5)	4.53 (1.06)	0.752 ***	0.161 **	0.482 ***	0.529 ***	0.78			
FWI freewill (6)	4.14 (1.20)	0.200 ***	0.165 **	0.108	0.141 *	0.145 *	0.79		
FWI dualism (7)	4.23 (1.33)	0.104	0.017	0.080	0.149 **	0.060	0.206 ***	0.78	
FWI determinism (8)	2.68 (1.05)	0.050	0.043	0.073	-0.023	0.047	0.107	0.072	0.69
Study 3									
VB overall (1)	5.06 (0.91)	0.85							
VB burglar (2)	4.59 (1.59)	0.741 ***	0.86						
VB car accident (3)	5.20 (1.07)	0.784 ***	0.425 ***	0.67					
VB HIV (4)	5.34 (1.08)	0.686 ***	0.192 ***	0.475 ***	0.71				
VB skiing accident (5)	5.13 (1.11)	0.802 ***	0.403 ***	0.543 ***	0.552 ***	0.71			
FWI freewill (6)	5.22 (1.04)	0.515 ***	0.412 ***	0.362 ***	0.395 ***	0.370 ***	0.83		
FWI dualism (7)	5.22 (1.11)	0.471 ***	0.428 ***	0.289 ***	0.305 ***	0.361 ***	0.605 ***	0.83	
FWI determinism (8)	4.88 (1.31)	0.598 ***	0.681 ***	0.351 ***	0.237 ***	0.419 ***	0.555 ***	0.563 ***	0.88

Note. VB (Victim blaming), FWI (Free Will Inventory); Study 1, $N = 480$; Study 2, $N = 312$; Study 3, $N = 628$; Answers for VB and FWI were provided on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach's α for VB and FWI scales are displayed on the diagonal.

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

Table 2
Regression Table in Study 1

Model		Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>	95% CI		<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>p</i>
		<i>B</i>	SE	β			Lower	Upper					
1	(Intercept)	0.041	0.064		0.645	0.519	-0.085	0.168	4.067	.130	.017	.017	.018
	Age	0.121	0.046	0.121	2.655	0.008	0.031	0.210					
	Gender	-0.085	0.091	-0.043	-0.939	0.348	-0.264	0.093					
2	(Intercept)	0.009	0.063		0.150	0.881	-0.114	0.133	8.507	.287	.083	.066	<.001
	Age	0.128	0.046	0.128	2.809	0.005	0.038	0.217					
	Gender	-0.021	0.090	-0.010	-0.228	0.819	-0.198	0.157					
	FWI freewill	0.201	0.046	0.201	4.322	<.001	0.110	0.292					
	FWI dualism	0.071	0.048	0.071	1.478	0.140	-0.023	0.164					
	FWI determinism	0.105	0.045	0.105	2.315	0.021	0.016	0.194					

Table 3
Regression Table in Study 2

Model		Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>	95% CI		<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>p</i>
		<i>B</i>	SE	β			Lower	Upper					
1	(Intercept)	-0.019	0.107		-0.182	0.855	-0.230	0.191	4.130	.162	.026	.026	.017
	Age	0.164	0.057	0.163	2.874	0.004	0.052	0.277					
	Gender	0.036	0.126	0.016	0.282	0.778	-0.213	0.284					
2	(Intercept)	-0.037	0.106		-0.348	0.728	-0.246	0.172	4.622	.266	.071	.045	.003
	Age	0.173	0.056	0.171	3.059	0.002	0.062	0.284					
	Gender	0.057	0.127	0.026	0.450	0.653	-0.192	0.306					
	FWI freewill	0.190	0.057	0.190	3.328	< .001	0.078	0.303					
	FWI dualism	0.043	0.058	0.042	0.732	0.465	-0.072	0.158					
	FWI determinism	0.041	0.056	0.041	0.731	0.465	-0.070	0.152					

Table 4

Intercorrelation between the Mean Victim Blaming Score, Free Will Beliefs, Just World Beliefs, Religiosity, and Political Ideology in Study 3.

	<i>M (SD)</i>	1	3	4	5	6	7	8
VB overall (1)	5.06 (0.91)	0.85						
FWI free will (2)	5.22 (1.04)	0.515 ***	0.83					
FWI dualism (3)	5.22 (1.11)	0.471 ***	0.605 ***	0.83				
FWI determinism (4)	4.88 (1.31)	0.598 ***	0.555 ***	0.563 ***	0.88			
JWB personal belief (5)	5.21 (1.04)	0.513 ***	0.688 ***	0.594 ***	0.577 ***	0.88		
JWB general belief (6)	5.12 (1.17)	0.548 ***	0.650 ***	0.602 ***	0.675 ***	0.781 ***	0.88	
RWV (7)	4.42 (1.17)	0.363 ***	0.378 ***	0.573 ***	0.525 ***	0.420 ***	0.544 ***	0.94
Political ideology (8)	4.78 (1.87)	0.360 ***	0.254 ***	0.279 ***	0.391 ***	0.296 ***	0.410 ***	0.356 ***

Note. VB (Victim blaming), FWI (Free Will Inventory), JWB (Just World Belief), RMV (Religious Worldviews); Answers for VB and FWI were provided on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Answers for JWB were provided from 1 (*strongly disagree*) to 6 (*strongly agree*). RWV was indicated on 9-point rating scales (1 = *strongly disagree*; 5 = *neutral*; 9 = *strongly agree*). Political ideology was assessed on a 7-point rating scale ranging from 1 (*very liberal*) to 7 (*very conservative*). Cronbach's α are displayed on the diagonal.

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

Table 5
Regression Table in Study 3

Model		Unstandardized coefficients		Standardized coefficients	<i>t</i>	<i>p</i>	95% CI		<i>F</i>	<i>R</i>	<i>R</i> ²	ΔR^2	<i>p</i>
		<i>B</i>	SE	β			Lower	Upper					
1	(Intercept)	0.038	0.049		0.768	0.443	-0.058	0.134	2.237	.084	.007	.007	.108
	Age	0.066	0.040	0.066	1.666	0.096	-0.012	0.145					
	Gender	-0.112	0.084	-0.053	-1.325	0.186	-0.277	0.054					
2	(Intercept)	0.034	0.040		0.857	0.392	-0.044	0.112	55.184	.590	.348	.341	<.001
	Age	0.016	0.033	0.016	0.474	0.636	-0.049	0.080					
	Gender	-0.102	0.069	-0.048	-1.474	0.141	-0.237	0.034					
	JWB PB	0.228	0.052	0.228	4.368	<.001	0.125	0.330					
	JWB GB	0.271	0.058	0.271	4.700	<.001	0.158	0.385					
	RWV	0.065	0.039	0.065	1.643	0.101	-0.013	0.142					
	Political ideology	0.154	0.036	0.154	4.239	<.001	0.083	0.225					
3	(Intercept)	0.033	0.037		0.903	0.367	-0.039	0.106	53.950	.663	.440	.092	<.001
	Age	0.052	0.031	0.052	1.698	0.090	-0.008	0.113					
	Gender	-0.100	0.064	-0.047	-1.548	0.122	-0.226	0.027					
	JWB PB	0.077	0.053	0.077	1.459	0.145	-0.027	0.181					
	JWB GB	0.078	0.057	0.078	1.370	0.171	-0.034	0.190					
	RWV	-0.048	0.040	-0.048	-1.191	0.234	-0.127	0.031					
	Political ideology	0.115	0.034	0.115	3.380	0.001	0.048	0.182					
	FWI freewill	0.150	0.045	0.150	3.298	0.001	0.060	0.239					
	FWI dualism	0.088	0.045	0.088	1.970	0.049	<.001	0.176					
	FWI determinism	0.350	0.044	0.350	7.893	<.001	0.263	0.437					

Note. JWB (Just World Belief), PB (Personal Belief), GB (General Belief), RMV (Religious Worldviews), FWI (Free Will Inventory)