



The impact of choice on retributive reactions: How observers' autonomy concerns shape responses to criminal offenders

Jan-Willem van Prooijen^{1,2*} and Emiel F. P. Kerpershoek³

¹Department of Social and Organizational Psychology, VU University Amsterdam, The Netherlands

²Netherlands Institute for the Study of Crime and Law Enforcement, Amsterdam, The Netherlands

³Delft University of Technology, Delft, The Netherlands

The present research examined the psychological origins of retributive reactions, which are defined as independent observers' anger-based emotions, demonized perceptions, and punishment intentions in response to criminal offenders. Based on the idea that society's justice system has an autonomy-protective function, we reason that chronic autonomy interacts with situational autonomy cues (i.e., opportunities to make choices) to predict retributive reactions to criminal offenders. More specifically, we hypothesized that choice opportunities in an unrelated decision-making context would prompt people to display stronger retributive reactions to offenders than no-choice opportunities, and that these effects of choice would be particularly pronounced among people who chronically experience deprivation of autonomy needs. Results from two experiments supported this hypothesis. It is concluded that retributive reactions to criminal offenders originate from a desire to regulate basic autonomy needs.

Human behaviour is governed by a justice system in which norms, rules, and laws dictate what types of actions are considered to be acceptable or unacceptable by contemporary society. Inevitably, sometimes we are as independent observers confronted with criminal offenders who violate this justice system by intentionally harming innocent individuals, stealing other people's property, and posing a threat to the welfare of others. Even though observers – who often learn about offenders through media such as newspapers, TV, and internet – are not necessarily harmed themselves, they typically display a variety of morality-based emotions, perceptions, and behavioural intentions in response to these offenders. Emotionally, criminal offenders tend to elicit feelings of retributive affect,

*Correspondence should be addressed to Jan-Willem van Prooijen, Department of Social and Organizational Psychology, VU University Amsterdam, van der Boechorststraat 1, 1081 BT Amsterdam, The Netherlands (e-mail: j.w.van.prooijen@vu.nl).

which is characterized by a sense of anger and resentment towards the offender¹ (Van Prooijen, 2006; cf. Batson, Chao, & Givens, 2009; Carlsmith, Darley, & Robinson, 2002; Darley, Carlsmith, & Robinson, 2000; Goldberg, Lerner, & Tetlock, 1999). Perceptually, it has been noted that observers have a tendency to demonize criminal offenders, that is, to perceive them as personifications of pure evilness, with a history of immoral or illegal behaviour (Baumeister, 1997; Berkowitz, 1999; Ellard, Miller, Baumle, & Olson, 2002; Van Prooijen & Van de Veer, 2010). Behaviourally, people tend to desire that the offender is accorded appropriate punishment (Carlsmith & Darley, 2008; Darley, 2002; Darley & Pittman, 2003; Fehr & Gächter, 2002; Miller & Vidmar, 1981; Van Prooijen, Gallucci, & Toeset, 2008; Van Prooijen & Lam, 2007). In the present article, these interrelated destructive responses towards criminal offenders are referred to as people's *retributive reactions* (Van Prooijen, 2006).

Although it is well established that criminal offenders may elicit such retributive reactions, relatively little is known about the psychological origins of these reactions. In particular, why do observers experience such strong retributive emotions, demonized perceptions, and punitive intentions towards the offender, even in cases where the victim is an unknown and unrelated stranger? The present contribution was designed to address this question by suggesting that independent observers' retributive responses are associated with concerns surrounding their basic psychological need for autonomy (autonomy is broadly defined here as the extent to which people feel free to make their own choices and experience a sense of volition in their actions; Deci & Ryan, 1985). In the following, we more elaborately introduce the psychology of human autonomy needs, and explain how these autonomy needs are likely to be associated with retributive reactions to criminal offenders among independent observers.

Autonomy and retributive reactions

Autonomy is a central construct in self-determination theory (Deci & Ryan, 1985). This theory provides a core explanation of human motivation, and has proposed that autonomy is one of the three most basic psychological needs that people have (the other two needs being relatedness and competence). These needs, which are assumed to be innate instead of acquired through socialization, are regarded as psychological necessities that must be satisfied to ensure ongoing mental health, psychological growth, and optimal functioning. People experience autonomy when they feel they are the origins of their own behaviour and are able to choose their own actions. Such experience of autonomy, according to self-determination theory, leads people to engage in intrinsically motivated behaviours and to feel that they can actively shape their own environment when pursuing goals. Furthermore, autonomy can be undermined by various sorts of externally imposed controlling factors. For instance, it has been noted that extrinsic rewards (e.g., money for a good performance) undermines intrinsic motivation by creating the impression that one's behaviour is driven by external forces instead of one's own autonomous motivations. Likewise, it has been noted that the denial of choice poses a threat to autonomy by externally pressuring an individual into a specific action or outcome (for an overview of these arguments, see Deci & Ryan, 2000).

¹ There is currently debate in the literature whether the anger that is felt towards offenders is moral outrage (e.g., Carlsmith et al., 2002) or a combination of personal and empathic anger (Batson et al., 2009). Given that this debate holds no implications for the present research purposes and findings, we use the broader term 'retributive affect' (Van Prooijen, 2006).

Empirical research indeed corroborates self-determination theory's prediction that people tend to function better when their autonomy needs are satisfied. For instance, empirical research confirms that autonomy is positively associated with intrinsic motivation (Deci, Koestner, & Ryan, 1999; Zuckerman, Porac, Lathin, Smith, & Deci, 1978), persistence in goal pursuit (Moller, Deci, & Ryan, 2006), goal attainment (Sheldon & Elliot, 1998), and subjective well-being (Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Sheldon, Ryan, Deci, & Kasser, 2004). Satisfaction of autonomy needs tends to depend on both chronic individual-difference factors (e.g., certain individuals chronically experience more volition in their actions than others) and contextual factors (e.g., the direct social environment can either support or thwart autonomy needs by providing versus denying choice opportunities). Hence, individual well-being may be influenced substantially by how chronic and contextual factors interact to address autonomy needs.

Given that other people can potentially threaten basic autonomy needs, it stands to reason that people value a social structure that provides a buffer against extreme autonomy threats by others who have malevolent intentions. For instance, criminal offences frequently imply a major violation of autonomy by forcefully imposing various detrimental outcomes (e.g., physical harm, fear, lost property) on a victim. It has been noted that the enforcement of norms, rules, and laws constitutes a justice system that is designed to protect citizens from such major autonomy threats (Folger, 2001; Rozin, Lowery, Imada, & Haidt, 1999; Van Prooijen, 2009). Such an autonomy-protective function of this justice system provides for a classic paradox: Norms, rules, and laws prescribe obligations of appropriate conduct in order to respect other people's autonomy and well-being, which, in turn, limit the repertoire of acceptable behavioural options that are available to the individual. This paradox already has been observed by philosophers such as Jean-Jacques Rousseau (1762) and Cesare Beccaria (1764), who noted that people desire a social contract to safeguard their core individual freedoms. In this social contract, individuals agree to give up some of their own individual freedoms by tacitly adhering to a coherent set of normative standards for behaviour, which serves as a code of conduct. This coherent set of normative standards prescribes what behaviours towards others are considered unacceptable, in order to ensure overall security and happiness. People thus accept a relatively minor restriction to their own autonomy in order to uphold a justice system that is designed to protect society from major autonomy threats.

The current research

Building on the idea that people utilize society's justice system as a tool that is designed for autonomy protection, in the present research we propose that both chronic and contextual autonomy determine people's retributive reactions to criminal offenders. Our line of reasoning is rooted in the proposition that chronic individual differences in autonomy determine people's susceptibility to subtle autonomy cues in their direct social environment. Various authors noted that autonomy deprivation makes people relatively more attentive towards the opportunity to make choices, because these autonomy-related cues may provide opportunities to compensate for autonomy deficiencies. This idea corresponds to reactance theory, which argues that people display reactance when they are deprived of autonomy: People try to regain a sense of freedom when their freedom has been threatened (Brehm & Brehm, 1981). Related to this, Sheldon and Gunz (2009) found evidence for the 'needs-as-motives' hypothesis, which stipulates that deprivation of a need stimulates people's motivation to acquire satisfaction of that need. As such, people continuously seek to maintain their autonomy above a minimum

level, and actively look for opportunities in their social environment to compensate for autonomy deprivation (see also Deci & Ryan, 2000; Van Prooijen, 2009). The extent to which a specific situation provides a person with choice is therefore likely to be particularly salient among individuals who do not feel very autonomous in their everyday life.

Such increased susceptibility to choice opportunities holds implications for how individuals who are chronically deprived of autonomy evaluate criminal offenders. More specifically, situational cues that support people's autonomy (e.g., the provision of choice) are likely to empower these individuals by re-establishing a sense of control over their direct social environment. As a consequence, choice (as opposed to no-choice) may prime people who are chronically low on autonomy with a sense of agency, leading to an increased rejection of criminal offenders who they mentally associate with autonomy threats. Granting versus denying choice may thus activate a desire to enforce society's justice system among individuals who are chronically deprived of autonomy. Individuals who are chronically high on autonomy, however, are expected to be much less attentive to such subtle autonomy cues in their direct social environment given that their basic autonomy needs are already satisfied. Hence, when they are confronted with criminal offenders, they are likely to make a judgment based on the features of the crime, independent from the extent to which they have encountered opportunities to make choices in the particular situation that they are in.

Based on this line of reasoning, we hypothesized that variations in the opportunity to make choices would influence retributive reactions particularly among individuals who chronically experience deprivation of autonomy needs, such that they respond more negatively to offenders when they recently have been granted as opposed to denied choice in an unrelated decision-making situation. Such variations in the opportunity to make choices are not expected to influence retributive reactions of individuals who chronically experience satisfaction of autonomy needs. To test this hypothesis, we conducted two laboratory experiments. In both experiments, we first measured the extent to which participants chronically feel free to make their own choices in their lives as an individual-difference variable (Deci & Ryan, 2000). Furthermore, participants were provided with a situational autonomy cue by granting versus denying them a choice opportunity in a decision-making context (Moller *et al.*, 2006; Van Prooijen, 2009; Zuckerman *et al.*, 1978). After this, participants were confronted with a description of a criminal offence, which was presented as an unrelated study. The dependent variables were the various retributive reactions that perceivers are prone to display following an offence, notably retributive affect (Experiment 1), as well as demonizing and punishment intentions (Experiment 2). We now introduce our two experiments in more detail.

EXPERIMENT 1

In the first experiment to be described here, participants were informed that they would conduct two unrelated studies. Choice was then manipulated by either giving or denying participants the opportunity to choose what second study they would conduct. The subsequent 'Study 2' comprised of a description of how a male student is robbed from his wallet at knifepoint. The dependent variables constituted of the retributive affect that participants reported in response to the offender's behaviour (Van Prooijen, 2006). It was expected that participants would report more retributive affect if they were allowed

(as opposed to denied) choice about what second study they wanted to conduct, but particularly so among participants who structurally feel deprived of autonomy in their life.

Method

Participants and design

The hypothesis was tested in a design in which autonomy was measured as a continuous independent variable, and participants were assigned randomly to one of the choice conditions (choice vs. no choice). The experiment lasted approximately 10 min. A total of 50 participants (16 men and 34 women; $M_{age} = 20.92$, $SD = 3.75$) were recruited at the campus of VU University Amsterdam and were paid 2 euros for their participation.

Procedure

Upon entry in the laboratory, participants were seated behind computer equipment that was used to present the stimulus information and to register the data. The experiment was presented as two unrelated studies. In 'Study 1', we assessed (as part of a larger questionnaire) individual differences in autonomy by means of the autonomy scale, which is a validated subscale of the basic psychological needs questionnaire (Deci & Ryan, 2000). This autonomy scale, which consists of seven items ($\alpha = .82$), reflects the extent to which participants structurally experience deprivation or satisfaction of autonomy in their everyday life (see also Gagné, 2003). An example item is 'I feel like I can decide for myself how to live my life' (1 = *not at all true*, 7 = *definitely true*).

After this, we induced the choice manipulation. Participants were informed that Study 1 would soon end, and that they subsequently would do an unrelated second study. For this second study, participants were told that there were two possible studies available, but that due to time constraints they could participate in only one of them. These two studies were presented as a study on 'individual decision-making processes' (Study A) and a study on 'perception of social interaction' (Study B). Participants in the choice condition were then allowed to choose what second study they would participate in. Participants in the no-choice condition were informed that they would be assigned to the study on 'perception of social interaction'. In reality, the subsequent Study 2 was identical for all participants.²

After the choice manipulation, all participants were first asked to complete the PANAS scales before continuing with Study 2 (Watson, Clark, & Tellegen, 1988). These scales served as a filler task to further conceal the relation between Study 1 and Study 2, and to check whether the choice manipulation influenced participants' mood. The PANAS consists of a 10-item Positive Affect (PA) subscale ($\alpha = .83$) and a 10-item Negative Affect (NA) subscale ($\alpha = .91$). After this task, participants were informed that Study 1 had ended and that they would continue with Study 2.

In Study 2, all participants were asked to read a scenario of a criminal offence, which described how a student who was robbed of his wallet at knifepoint on a Saturday night

²The descriptions of the studies on 'individual decision-making processes' and on 'perception of social interaction' were brief and ambiguous. This ensured that the contingencies of the actual study were consistent with both options, enabling all participants in the choice condition to recognize their choice in the nature of the study (cf. Van Prooijen, 2009).

in Amsterdam. We then measured retributive affect by asking participants to indicate to what extent the behaviour of the perpetrator provoked the following feelings and emotions (1 = *not at all*, 7 = *very strongly*): Anger, despise, disappointment, outrage, and furiousness. These five items were averaged into a reliable retributive affect scale ($\alpha = .79$). To check the choice manipulation, participants were asked the following four questions: 'How much freedom did you get to choose the second study yourself?' (1 = *very little freedom*, 7 = *a lot of freedom*); 'How much control did you have when determining the second study you would participate in?' (1 = *very little control*, 7 = *a lot of control*); 'Did you get a voice in determining the second study you would participate in?' (1 = *not at all*, 7 = *very much*); and 'Did you influence the decision in what second study you would participate?' (1 = *not at all*, 7 = *very much*). These four items were averaged into a reliable manipulation check scale ($\alpha = .95$). After this, participants were debriefed, thanked, and paid for participation.

Results and Discussion

Analytical procedure

We used hierarchical regression analyses to analyse the data from both experiments reported in this paper. Following Cohen, Cohen, West, and Aiken (2003), we centered participants' responses to the continuous autonomy measure, and effect-coded the two choice conditions (1 for choice and -1 for no choice). The interaction term was based on the product of the centered autonomy measure and the effect-coded choice manipulation. In the analyses, the two main effects were entered in Step 1 and the interaction term was entered in Step 2. In both experiments, including gender in Step 1 had no significant effects on any of the variables analysed, and hence, we dropped gender from the analyses.

Manipulation check

The analysis on the manipulation check scale revealed that only Step 1 accounted for a significant portion of the total variance ($R^2 = .72$), $F(2, 47) = 61.73$, $p < .001$. As expected, only the choice manipulation had a significant effect on the manipulation check scale ($\beta = .85$, $p < .001$). Participants in the choice condition experienced more choice in determining the second study ($M = 5.60$, $SD = 1.18$) than participants in the no-choice condition ($M = 1.76$, $SD = 1.26$). This finding suggests that participants perceived the choice manipulation as intended.

PANAS

To investigate whether the choice manipulation influenced participants' mood, both the PA scale (overall: $M = 4.59$, $SD = .83$) and the NA scale (overall: $M = 2.24$, $SD = 1.12$) were analysed. On the PA scale, no significant main effects or interactions were found ($ps > .26$). On the NA scale, however, Step 1 turned out to be significant ($R^2 = .13$), $F(2, 47) = 3.62$, $p < .04$. This effect was attributable to a significant relation between the continuous autonomy measure and the NA scale, such that more satisfaction of autonomy needs was associated with less NA ($\beta = -.31$, $p < .03$). Importantly, both the main effect of the choice manipulation and the interaction term were non-significant in this analysis, which shows that the choice manipulation did not exert

unintended effects on participants' moods. In this respect, it should be noted that although our main dependent variable was retributive affect, no interaction was to be expected on the PANAS scales given that we assessed these scales *before* participants encountered an autonomy threat in the form of a criminal offence. Furthermore, it can be noted that when the NA and PA scales were included as independent variables in Step 1 of the analysis on retributive affect, the predicted interaction remained significant ($\beta = -.45, p < .01$). It can thus be concluded that the findings presented here cannot be attributed to variations in mood that occurred before reading about the criminal offence.

Choices of participants

In the choice condition, eight participants chose the study on individual decision-making processes and 17 participants chose the study on perception of social interaction. This distribution showed a trend that marginally differed from the expected 50% distribution, $\chi^2(1) = 3.24, p > .07$. Given that this statistical test approached significance, we conducted an additional brief pilot study to examine whether this possible preference would replicate. At the VU University campus, 27 random participants (sex and age not recorded) in a brief paper-and-pencil task were asked to indicate how interesting they would find a study on individual decision-making processes (Study A) and a study on perception of social interaction (Study B) (1 = *not at all interesting*, 10 = *very interesting*), and to indicate their preference for one of these studies. A paired *t*-test revealed that participants regarded Study A ($M = 6.85, SD = 1.51$) and Study B ($M = 7.07, SD = 1.49$) as equally interesting, $t(26) = -0.70, p = .49$. Furthermore, 13 participants preferred Study A and 14 participants preferred Study B, a distribution that did not deviate from the expected 50% distribution, $\chi^2(1) = 0.04, p > .84$. The results of this pilot study thus reveals that the observed trend does not replicate, leading us to conclude that both choice options are perceived as equally desirable.

Retributive affect

The results of the hierarchical regression analyses on retributive affect are displayed in Table 1. Step 1 was non-significant, $F < 1$. More important was the finding that Step 2 was significant ($\Delta R^2 = .11$), $F(1, 46) = 5.70, p < .03$. The interaction is displayed graphically in Figure 1. To further examine this interaction, we conducted simple slopes analyses. As predicted, the choice manipulation exerted a significant effect among participants

Table 1. Results from hierarchical regression analyses – Experiment I

	Retributive affect	
Step 1	β	$t(47)$
Chronic autonomy	-.12	-0.44
Choice manipulation	.17	1.23
Step 2		$t(46)$
Chronic autonomy \times Choice manipulation	-.33	-2.39*

Note. * $p < .05$.

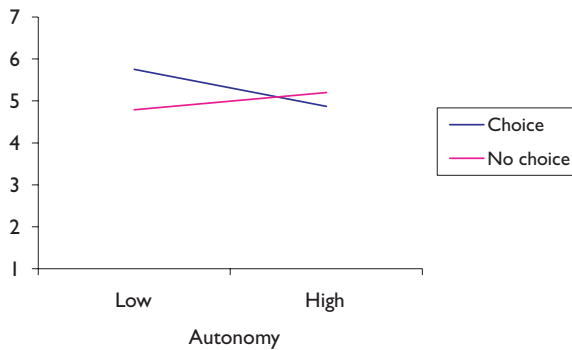


Figure 1. Retributive affect (seven-point scale, displayed on the Y-axis) as a function of autonomy and choice – Experiment 1.

who scored low on the autonomy scale ($-1\ SD$), such that participants experienced more retributive affect in the choice condition than in the no-choice condition ($\beta = .50, p < .02$). Among participants who scored high on the autonomy scale ($+1\ SD$), the effect of the choice manipulation was non-significant ($\beta = -.17, p = .40$). These findings provide preliminary support for the prediction that being granted choice leads to more retributive affect in response to a criminal offence than being denied choice, particularly among people who chronically experience deprivation of autonomy.

EXPERIMENT 2

Experiment 2 was designed to extend Experiment 1 in three ways. First, in Experiment 1 the choice manipulation may have led to differences between conditions in participants' expectations of the task they subsequently conducted. In Experiment 2, we manipulated choice in a more straightforward way. Participants were informed that a lottery would take place, and that each participant therefore would have their own unique lottery number. Participants could then either choose their lottery number (choice condition), or they were assigned to a lottery number (no-choice condition). Second, in Experiment 2 we investigated whether the processes described here may generalize to a different, less violent type of criminal offence: Participants responded to a scenario that described how a fellow student found out that his laptop was stolen. Third, we investigated whether we could find evidence for our hypothesis on other types of retributive reactions. Whereas Experiment 1 focused on the affective component of the retributive process, in Experiment 2 we investigated whether the hypothesis could be corroborated on both the perceptual component of the retributive process (i.e., demonizing; Baumeister, 1997; Ellard *et al.*, 2002; Van Prooijen & Van de Veer, 2010) as well as on the behavioural intentions that are associated with the retributive process (i.e., punishment recommendations; Carlsmith, 2006; Feather, 1998; Fehr & Gächter, 2002; Kerr, Hymes, Anderson, & Weathers, 1995; Van Prooijen, 2006; Van Prooijen & Lam, 2007).

Method

Participants and design

The design was the same as Experiment 1. A total of 50 participants (12 male, 38 female; $M_{age} = 21.18$, $SD = 7.29$) were recruited at VU University's campus. The experiment lasted approximately 10 min, and participants were paid 2 euros for participation.

Procedure

The experiment was run in the same laboratory as Experiment 1. Again, the experiment was presented as two separate and unrelated studies. Study 1 started with a questionnaire that included the measurement of autonomy need satisfaction, which comprised of the same autonomy scale as Experiment 1 ($\alpha = .75$). After this, we induced the choice manipulation. Participants were informed that, as an extra reward for participation, a lottery among all participants would take place, with a prize of 20 euros. In the choice condition, participants could choose their own three-digit lottery number for participating in this lottery. In the no-choice condition, participants were assigned to a three-digit lottery number for participating in this lottery (lottery number 318). After this choice manipulation, and in correspondence with Experiment 1, participants completed the PANAS scales (Watson *et al.*, 1988; PA $\alpha = .86$; NA $\alpha = .91$). Participants were then informed that Study 1 had ended and that they would continue with Study 2.

In Study 2, participants read a scenario of an offence, which described the theft of a student's laptop during lunch in VU University Amsterdam's student cafeteria. In the scenario, participants read how the offender was eventually caught and the laptop retrieved. To assess the extent to which participants demonized the perpetrator, we assessed various features of demonized perceptions, such as perceived evilness (Van Prooijen & Van de Veer, 2010), greed, and the extent to which the offender is perceived to have a history of immoral behaviour (Berkowitz, 1999). Participants responded to the following eight questions (1 = *not at all*, 7 = *very much*): 'Do you think that the offender is an evil person?'; 'Do you expect that greed motivated the offender's behaviour?'; 'To what extent do you condemn the offender's behaviour?'; 'Do you believe that the offender committed theft before?'; 'Do you believe that, on previous occasions, the offender committed different crimes besides theft?'; 'Do you believe that the offender was looking for valuable equipment in VU University's cafeteria?'; 'Do you believe that the offender has a selfish character?'; and 'Do you believe that the offender will steal again in the future?'. These items were averaged into a reliable demonizing scale ($\alpha = .72$). To measure participants' punitive intentions, we asked them to recommend a prison sentence. Participants were informed that the legal maximum punishment for this type of offence is 10 months, and participants were then asked to make a recommendation that varied from 0 to 10 months of imprisonment.

To check the choice manipulation, participants responded to the following four questions (1 = *not at all*, 7 = *very much*): 'How much freedom of choice did you get when deciding on your lottery number?'; 'Did you have control over your lottery number?'; 'Did you voice your opinion when deciding on your lottery number?'; and 'Did you influence your lottery number?'. These four items were averaged into a reliable manipulation check scale ($\alpha = .98$). After this, participants were debriefed, thanked, and paid.

Results and Discussion

Manipulation check

The hierarchical regression analysis on the manipulation check scale revealed that only Step 1 accounted for a significant portion of the total variance ($R^2 = .89$), $F(2, 47) = 192.00$, $p < .001$. Only the choice manipulation exerted a significant effect on the manipulation check scale ($\beta = .94$, $p < .001$). Participants in the choice condition experienced more freedom to choose their own lottery number ($M = 6.39$, $SD = 0.87$) than participants in the no-choice condition ($M = 1.24$, $SD = 0.97$). These results suggest that participants perceived the choice manipulation as intended.

PANAS

We again analysed whether or not the choice manipulation influenced participants' mood as indicated by the PA scale (overall: $M = 4.54$, $SD = 1.03$) and the NA scale (overall: $M = 2.07$, $SD = 1.02$). The analysis on the PA scale revealed that Step 1 was significant ($R^2 = .13$), $F(2, 47) = 3.53$, $p < .04$. It turned out that the autonomy scale positively predicted participants' positive mood ($\beta = .32$, $p < .05$). Both the main effect of the choice manipulation and the interaction were non-significant. The analysis on the NA scale also revealed that Step 1 was significant. Again, autonomy need satisfaction had a negative relation with participant's negative mood ($\beta = -.49$, $p < .001$), but the main effect of the choice manipulation and the interaction were again non-significant. These findings suggest that participants whose autonomy needs are relatively more satisfied experience more positive mood and less negative mood. More important for the present purposes is the finding that the choice manipulation did not influence participants' mood. Furthermore, when the PA and NA scales were included as independent variables in Step 1 of the analyses of the main dependent variables, the predicted interactions remained significant (for demonizing: $\beta = -.29$, $p < .05$; for punishment: $\beta = -.34$, $p < .04$). Hence, the findings presented here cannot be attributed to variations in mood.

Dependent variables

The results of the regression analyses are displayed in Table 2. Results revealed that Step 1 accounted for a significant portion of the variance for demonizing ($R^2 = .16$), $F(2, 47) = 4.54$, $p < .02$, but not for punishment intentions, $F < 1$. The choice manipulation exerted a significant effect on demonizing ($\beta = .32$, $p < .02$): Participants in the choice condition demonized the perpetrator more ($M = 5.24$, $SD = 0.72$) than participants in the no-choice condition ($M = 4.72$, $SD = 0.74$). More important was the finding that

Table 2. Results from hierarchical regression analyses – Experiment 2

	Demonizing		Punishment intentions	
Step 1	β	$t(47)$	β	$t(47)$
Chronic autonomy	-.10	-0.69	.17	1.10
Choice manipulation	.32	2.45*	.15	1.04
Step 2		$t(46)$		$t(46)$
Chronic autonomy \times Choice manipulation	-.30	-2.17*	-.34	-2.27*

Note. * $p < .05$.

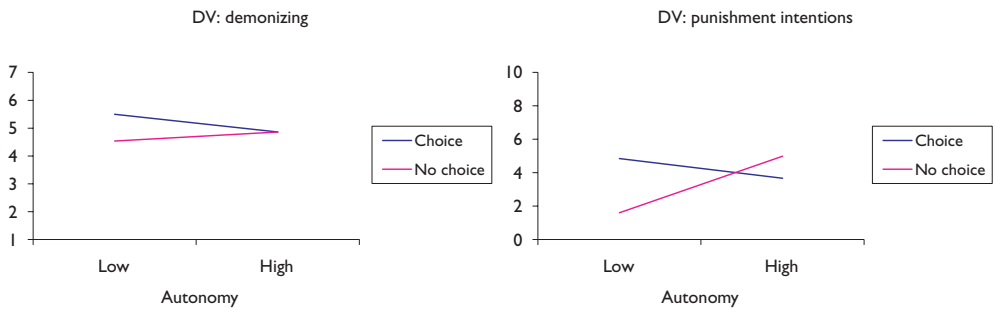


Figure 2. The Y-axes display demonizing (seven-point scale) and punishment intentions (in recommended months of imprisonment) as a function of autonomy and choice – Experiment 2.

Step 2 was significant for both dependent variables: For demonizing ($\Delta R^2 = .08$), $F(1, 46) = 4.69$, $p < .04$; for punishment intentions ($\Delta R^2 = .10$), $F(1, 46) = 5.14$, $p < .03$. Both these interactions are displayed graphically in Figure 2. To further examine these interactions, we conducted simple slopes analyses. These analyses revealed that, among participants who scored low on the autonomy scale (-1 SD), the choice manipulation exerted a significant effect on both demonizing ($\beta = .63$, $p < .01$), and on punishment intentions ($\beta = .50$, $p < .03$), such that participants demonized the offender more, and recommended more severe punishment, following choice than following no choice (see Figure 2). The effect of the choice manipulation was non-significant among participants who scored high on the autonomy scale ($+1$ SD), for demonizing ($\beta = .01$, $p = .95$), and for punishment intentions ($\beta = -.20$, $p = .32$). These results are in further correspondence with the general hypothesis that choice opportunities lead to stronger retributive reactions than no-choice opportunities, particularly among people who experience deprivation of autonomy needs in their daily lives.

GENERAL DISCUSSION

The results of both experiments that are reported in this contribution support the line of reasoning that was laid out in the introduction. In Experiment 1, participants displayed more retributive affect following a choice opportunity than following the denial of choice. Moreover, this effect emerged only among participants who were most likely to suffer from chronic autonomy deprivation in their daily lives, a finding that is consistent with theoretical arguments that experiencing autonomy deprivation makes people more susceptible to autonomy-related cues in their direct social environment (Brehm & Brehm, 1981; Deci & Ryan, 2000; Van Prooijen, 2009). In Experiment 2, these results were extended by finding corroborative evidence for the hypothesis on different types of retributive reactions, that is, perceptual and behavioural aspects of the retributive process (i.e., demonizing and punishment intentions). In addition, in Experiment 2, we used a different choice manipulation and induced a different type of offence, underscoring that the processes described here represent a robust phenomenon that generalizes across methods. Taken together, it can be concluded that the retributive reactions that independent observers display in response to criminal offenders originate to some extent from concerns about basic autonomy needs.

Theoretical contribution

The present findings may inform theoretical perspectives on social justice (Carlsmith & Darley, 2008; De Cremer & Tyler, 2005; Tyler & Blader, 2003; Van den Bos & Lind, 2002) by supporting the assertion that people's retaliatory responses to the injustices that they perceive or experience are rooted in a desire for basic need satisfaction (Deci & Ryan, 1985, 2000). This assertion mirrors recent research that suggests a relation between people's need for autonomy and experiences of procedural justice or injustice (Van Prooijen, 2009). Furthermore, retributive responses to criminal offenders also have been found to be related to the basic psychological need for relatedness, as evidenced by findings that retributive reactions differ depending on whether or not the offender belongs to the ingroup or outgroup (Kerr *et al.*, 1995; Sommers & Ellsworth, 2000; Van Prooijen, 2006; Van Prooijen & Lam, 2007; Vidmar, 2002). The findings reported herein extend these previous insights by suggesting that observers' retributive reactions also stem from a desire to regulate basic autonomy needs by reinforcing the justice system that serves to protect citizens' autonomy. The present findings thus add to a growing body of research suggesting that people's concern for justice is related to the extent to which basic psychological needs are satisfied.

In addition, the present findings may have theoretical implications that are relevant for theories on human motivation (e.g., Deci & Ryan, 1985). One of these implications pertains to the finding that a manipulation of choice exerts a stronger impact among individuals who chronically experience deprivation of autonomy needs. Although chronic need measures (e.g., autonomy) and experimental manipulations of that need typically exert similar main effects (Sheldon & Gunz, 2009), our results suggest that they may interact such that people who experience chronic deprivation of a need are more susceptible to variations in the extent to which a situation is supportive of that need. In the specific context of the need for autonomy, this insight is consistent with a proposition derived from reactance theory that autonomy deprivation stimulate people to regain a sense of freedom, and hence, they are more susceptible to autonomy-related cues in their direct social environment (Brehm & Brehm, 1981; Van Prooijen, 2009). Likewise, this finding is consistent with the idea that needs may serve as motives, in that people actively seek satisfaction of autonomy needs when they experience deprivation of this need (Deci & Ryan, 2000; Sheldon & Gunz, 2009). Another issue that is relevant for research and theories on human motivation pertains to the idea that satisfaction of basic psychological needs is associated with human morality concerns. The implication of this is that research within the tradition of self-determination theory – and related theoretical frameworks on human motivation (e.g., Fiske, 2004) – may find promising extensions of the field by studying variables that are related to people's moral reasoning.

Limitations and future research

A limitation of the present findings pertains to the type of measurement used. Notably, our dependent variables are all self-reported, and hence, we can draw conclusions about emotions, perceptions, and behavioural intentions, but not about actual behaviour (e.g., punishment). Related to this, one of the main independent variables is an individual-difference measure of autonomy, and hence, it is impossible to exclude the possibility that part of the variance on the dependent variables is accounted for by unmeasured constructs that are likely to be related to the autonomy measure (e.g., belongingness, self-esteem). Of course, this latter problem is to some extent unavoidable whenever

investigating the effects of individual-difference measures on a variety of people's responses to social situations. In this particular case, however, it is important to keep in mind that individual differences in autonomy need satisfaction interacted in the predicted way with a manipulation of choice. Choice is widely accepted as operationalization of the extent to which a social environment is supportive of autonomy (Deci & Ryan, 1985; 2000; Moller *et al.*, 2006; Van Prooijen, 2009; Zuckerman *et al.*, 1978), and hence, it is theoretically plausible to assume that it indeed is autonomy, instead of a related construct, that is the key individual-difference variable that predicts people's responses to being granted or denied choice.

Furthermore, the interaction between chronic autonomy and the choice manipulation strengthens confidence in the assumption that our manipulation had its effects due to the implications for participants' autonomy. Specifically, although our manipulation checks confirmed that participants perceived the choice manipulation as intended, these checks were not designed to verify that choice impacted autonomy need satisfaction. As a consequence, one cannot exclude the possibility that the opportunity to make a choice had its effects because it also implied 'voice', influencing procedural justice concerns (Tyler & Blader, 2003; Van den Bos & Lind, 2002). In this regard, it must be noted that choice and voice are related yet distinct constructs, as voicing an opinion does not always imply the ability to choose (e.g., power holders may sometimes disagree with opinions voiced by subordinates). Moreover, recent research suggests that a manipulation of voice is empirically distinct from a manipulation of choice (Van Prooijen, 2009; Study 2). Although autonomy and procedural justice are conceptually related, the fact that participants' responses on a measure of chronic autonomy predicted the extent to which they were influenced by the choice manipulation confirms previous research suggesting that choice is an autonomy-related cue (Moller *et al.*, 2006; Zuckerman *et al.*, 1978).

A challenge for future research is to more precisely determine the underlying processes that account for the findings presented here. One important issue pertains to the fact that our choice manipulations had no control condition in which no choice options were salient, which prompts the question whether the effects described here are particularly driven by granting choice, denying choice, or both. An additional issue pertains to the specific cognitive and motivational processes that may operate – independently or in concert – to explain why opportunities to make choices increase retributive reactions among people who are chronically low on autonomy. Participants in our studies received choice about relatively trivial issues (e.g., a lottery ticket number), making it likely that choice worked – among those chronically low on autonomy – as a prime that activated a concern to counteract autonomy threats (which in the present research took the form of criminal offences). Such a social-cognitive explanation suggests that the effects presented here reflect automatic evaluative processes that largely operate outside of people's conscious awareness. At the same time, it is well possible that being chronically low on autonomy consciously motivates people to protect any situational autonomy given to them, leading them to emotionally lash out against individuals who are confirmed threats to autonomy. Indeed, such conscious autonomy defence may have been exacerbated by the fact that we measured chronic autonomy shortly before the choice manipulation, which may have explicitly reminded participants of the autonomy that they possess or lack in their lives. These possible cognitive and motivational processes suggest that more research is needed to establish the exact psychological underpinnings of the effects of autonomy on retributive reactions.

Given the current focus on independent observers, a remaining question for further research is how the relation between autonomy needs and retribution plays out for

parties who are personally harmed, that is, victims. It may be speculated that the relation between autonomy needs and retributive reactions is stronger to the extent that people are more personally involved in the offence. Offenders usually violate their victims' autonomy in a very direct way, rendering it likely that such concerns play a central role in victims' negative emotional or behavioural responses. Indeed, based on the theoretical framework laid out in this article (cf. Brehm & Brehm, 1981; Sheldon & Gunz, 2009; Van Prooijen, 2009) one might expect that particularly victims are motivated to defend their autonomy, which may inspire revenge and vigilantism. Having said that, victims may have additional motives that are unique to their perspective. For instance, the direct experience of autonomy violation may inspire victims to look for alternative ways to restore the harm done to them, such as the pursuit of compensation (Darley & Pittman, 2003; Van Prooijen, 2010). Being a victim may thus elicit more complex dynamics than being an observer, and hence, empirical research needs to establish whether autonomy concerns lead victims to be more or less vindictive than observers.

To conclude, in the present research we sought to examine the psychological origins of the retributive reactions that independent observers display when being confronted with criminal offenders. The evidence that we obtained in the two studies reported here suggests that these psychological origins of retribution can, at least in part, be found in the implications that criminal offences have for basic autonomy needs. It might thus be proposed that a need-based perspective is warranted to understand why people have the tendency to respond so aversive towards offenders who broke the law, and hurt others while doing so. Indeed, one of the primary reasons why people might attach importance to a justice system is protecting the basic needs of themselves and others. Informed by the present findings, it can be concluded that a concern for autonomy is part of the reason why independent observers display retributive reactions to criminal offenders.

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