

Altruism Behind Bars: Sharing, Justice, Perspective Taking and Empathy Among Inmates

Michaela Gummerum · Yaniv Hanoch

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Abstract Anecdotal stories suggest that inmates engage in altruistic acts to partially compensate for past criminal behaviour. Little research has investigated this phenomenon. In this study, we used the dictator game—a measure developed in experimental economics—to assess inmates’ and non-inmates’ altruistic behaviour. Furthermore, we examined whether personal belief in a just world (BJW), perspective taking and empathy predicted altruistic behaviour. Our sample was comprised of 50 male inmates and 50 age-matched non-inmates. Results showed that inmates displayed more altruistic behaviour and higher empathy compared to non-inmates. In addition, in inmates altruistic behaviour was positively predicted by BJW and perspective taking, whereas in non-inmates altruistic behaviour was positively predicted by empathy. Theoretical and practical implications are further discussed.

Keywords Altruism · Belief in a just world · Empathy · Perspective taking · Inmates

At one point [inmate Teddy] Green’s eyes filled with tears. “I’ve done a lot of bad things,” he said, “evil things. My only wish is that some time I might do a good thing. Like giving my eyes so that a blind child might see...isn’t there some way I could do something good?” (Sloop, 1996, p. 31).

M. Gummerum (✉) · Y. Hanoch
School of Psychology, University of Plymouth, Drake Circus,
Plymouth PL4 8AA, UK
e-mail: michaela.gummerum@plymouth.ac.uk

Y. Hanoch
e-mail: yaniv.hanoch@plymouth.ac.uk

Introduction

Reports in popular media indicate that during the fiscal year 1955, 48,182 pints of blood were donated by inmates¹ in the United States (Fuller, 1956). Inmates at the Ohio State Penitentiary volunteered for a medical experiment that included an injection of a live cancer strain designed to study the body's ability to fight cancer; although 25 volunteers were sought for this study, over 130 inmates came forth. Indeed, during the 1950s and 1960s media reports about inmates' "altruistic" behaviour abounded, such as participating in experimental drug testing (Brecher & Brecher, 1958), providing fellow inmates with large sums of money (\$10,000) to help them start a new life, and initiating programs to help disadvantaged children learn useful skills. Inmates often explained their behaviour as a desire to do a good thing, as a way to compensate for their past criminal behaviour. Aside from being the subject of anecdotal stories, the idea of the "altruistic" inmate has received little scientific scrutiny. This might be because inmates are often regarded as "bad", hardened and non-altruistic by society, a stereotype that has been maintained across decades and in many (western) countries (Fuller, 1956; Kjelsberg, Skoglund, & Rustad, 2007; Melvin, Glamling, & Gardner, 1985; Ortet-Fabregat, Perez, & Lewis, 1993). Yet, few studies have systematically investigated whether inmates and non-inmates differ in altruism and what factors might underlie their altruistic behaviour. The first goal of this study was thus to compare inmates' and non-inmates' altruistic behaviour in a simple resource distribution task. Secondly, we aimed to examine factors which might influence altruistic behaviour in those two samples.

Altruistic Behaviour

Altruism, that is, behaviour that benefits others at a cost to oneself, has attracted interest in disciplines as diverse as philosophy, psychology, economics and the biological sciences and has been studied in a number of ways (see Batson, 1991; Hinde & Groebel, 1991, for overviews). In this study, we employed a game-theoretical approach commonly used in experimental economics to assess altruistic behaviour in both inmates and non-inmates. Traditionally, game theory investigates interactive decisions in which two or more decision makers are involved. A game is regarded as an idealized abstraction of a social situation with clearly defined basic elements (players, strategies, payoffs) and connecting rules. To be scientifically relevant, a game has to include all the central properties of the social situation and model the interaction accurately (see Camerer, 2003; Colman, 1995; Kagel & Roth, 1995).

One of the most commonly used games to assess people's altruistic behaviour is the dictator game (Kahneman, Knetsch, & Thaler, 1986). In the simplest case, participants anonymously play as pairs for real money or other financial resources. One of the players, the proposer (dictator), can make an offer on how to share (or not) a given sum of money with the second player. The second player (responder)

¹ By using the term "inmate", we do not want to suggest that incarcerated people are one specific "type" of person or label them in a negative way.

must accept the offer of the proposer. Thus, the proposer unilaterally determines the allocation of the money between the two players. If, for example, the proposer offers 3 of a total of 10 coins to the responder, then he or she keeps 7 coins for him- or herself. The economically “rational” choice for the proposer would be to offer nothing to the responder and to keep the whole sum. However, adult proposers in dictator games often do not follow this solution: Forsythe, Horowitz, Savin, and Sefton (1994) and Hoffman, McCabe, Shachat, and Smith (1994) showed that proposers on average offered 20 or 30% of the original sum, with the most frequent offers being either zero or half. Thus, it seems that some people behave predominantly selfishly whereas others prefer equality and act in a manner consistent with distributive justice norms.

Economists have interpreted dictators’ positive offers as a sign of individuals’ altruistic or fairness preferences. For example, Bolton and Ockenfels (2000) asserted that players in games like the dictator game dislike being treated unfairly (i.e. getting less than average), but they will also sacrifice money to help others if their own balances are above the average. Consequently this “dislike for being ahead” will lead players to refrain from taking too much. Similarly, Fehr and Schmidt (1999) proposed that some players are averse to unequal outcomes, leading them to pursue equality in outcomes for both themselves and others.

Similar to economics, research in psychology has suggested that altruistic behaviour is influenced by a variety of variables, including personality dispositions (e.g. Eisenberg et al., 1999), perspective taking (Underwood & Moore, 1982), empathy, guilt and other emotions (e.g. Batson, 1991; Eisenberg, 2000), or social norms concerning justice (Lerner & Simmons, 1966; Simmons, & Lerner, 1968). In the current study, we focussed on whether and how three of these variables—perspective taking, empathy and justice expectations—predict inmates’ and non-inmates’ altruistic decisions in the dictator game.

Belief in a Just World and Altruism

Lerner (1965) introduced the concept *belief in a just world* (BJW), or the belief that people get what they deserve and deserve what they get, a concept which has already been studied by Piaget (1932/1965). BJW reflects how people react to just and unjust events in the world and, more importantly, how they conceptualize the idea of deservingness (Lerner & Simmons, 1966; for a review see Hafer & Bègue, 2005). In an early experimental study, Lerner and Simmons (1966) reported that participants derogated *and* helped victims to preserve their belief that the world is fair: participants exposed to an innocent victim whose fate they could not alter (i.e. continued suffering) derogated the victim’s character, whereas participants presented with an innocent victim they *could* effectively compensate did not devalue or reject the innocent victim. According to Lerner (1980), most people hold a BJW; however, individuals differ in the strength of their belief (for reviews of the individual difference literature, see, e.g. Furnham, 1995, 2003).

BJW has largely been studied with respect to negative experiences (for reviews, see Furnham, 2003; Furnham & Proctor, 1989; Hafer & Bègue, 2005) such as being

ill (e.g. Correia, Vala, & Aguiar, 2001), blaming victims of sexual assault (e.g. Drout & Gaetner, 1994) and losing one's job (e.g. Skarlicki, Ellard, & Kelln, 1998). In contrast, far fewer studies have explored the relationship between BJW and positive behaviour, such as helping (e.g. Bierhoff, Klein, & Kramp, 1991; Lerner & Simmons, 1966). Regan (1971), for instance, showed that BJW was associated with greater helping and altruistic behaviour. Zuckerman (1975), likewise, found that people with strong (vs. weak) BJWs were more likely to exhibit altruistic behaviour, such as greater willingness to participate in experiments and serve as readers for blind people. Similarly, Bendapudi, Singh, and Bendapudi (1996) identified BJW as a key factor in people's willingness to donate to charities (but see Furnham, 1995). Thus, BJW has been shown to relate to prosocial and altruistic behaviour.

Dalbert and Umlauft (2009) explored the relationship between BJW and altruistic behaviour in the dictator game. In line with their prediction, strong BJW was associated with more fair and equal allocations in situations where real or hypothetical money was at stake. In their study, Dalbert and Umlauft (2009) conceptualized BJW as personal BJW, which assesses the extent to which people suppose that they themselves are treated fairly and that, overall, events in their life are just. Personal BJW can be differentiated from general BJW, people's conviction that the world generally is a just place, and general belief in an unjust world, people's reactions to events in the world independent of justice norms (Dalbert, 1999). According to Dalbert (1999), a personal BJW can be seen as a personal contract that urges individuals to strive for justice in their own behaviour. Dalbert (1999) has shown that personal BJW predicted positive mental health and self-esteem better than general BJW. Furthermore, as discussed above, personal BJW predicted equal allocations in the dictator game (Dalbert & Umlauft, 2009). Therefore, in this study we employed personal BJW as an operationalization of BJW.

One population that has only started to receive attention with regard to BJW is inmates. Dalbert and colleagues (Dalbert & Filke, 2007; Otto & Dalbert, 2005) have shown the feasibility of studying BJW among inmate populations. Examining young inmates, Otto and Dalbert (2005) found that those with strong BJWs exhibited fewer disciplinary problems while imprisoned, perceived their legal proceeding as more just, and reported more feelings of guilt over their previous criminal actions. In a related investigation, Dalbert and Filke (2007) reported that inmates with strong BJWs evaluated events related to their imprisonment—for example, legal proceedings and correct judicial decisions—as more just. In addition, those with strong BJWs reported better well-being status, fewer anger outbursts, and a sense of being treated more fairly by the prison guards. In the present study, we extended examinations of BJW and altruism in the context of the dictator game among this unique population.

Empathy, Perspective Taking and Altruism

People's justice expectations are not the only factor that might influence their altruistic behaviour. Feelings, such as sympathy or empathy, might additionally be

critical for altruistic actions, and idea which was already discussed in the eighteenth century by philosophers such as Hume (1748/1975) and Smith (1759/1982). According to this view, “moral sentiments” are the prime motivator for evaluating others’ and one’s own moral characteristics and behaviour. Similarly, in psychology, there has been a long research tradition which studied the relationship between empathy and altruistic behaviour (see Eisenberg, 2000; Eisenberg & Miller, 1987).

Most psychological theories presume that empathy comprises both cognitive and affective aspects. For example, according to Eisenberg (2000), empathy is an “affective response that stems from the apprehension...of another’s emotional state or condition and is similar to what the other person is feeling or would be expected to feel” (p. 671). The cognitive aspect of empathy is typically referred to as perspective taking. Perspective taking denotes the ability to take another’s perspective or mental state in a specific situation. The affective aspect of empathy is related to vicariously experiencing an affective state similar to another person’s (Eisenberg, 2000).

Numerous studies have documented a positive relationship between empathy or sympathy and altruistic behaviours, such as helping and sharing (Batson, 1991; Batson & Oleson, 1991; Eisenberg & Miller, 1987; Hoffman, 2000), and a negative association of empathy/sympathy with aggression and other negative behaviours (Batson, 1991; Eisenberg, 2000). Of particular relevance to the present study, researchers have investigated whether people’s proclivity to feel empathy with others influences their allocations in the dictator game. Malti, Gummerum, Keller, and Buchmann (2009) found that empathy (as rated by mothers and teachers and via self-report) did not predict allocations in the dictator game in 6-year-old children. Conversely, Edele, Dziobel, and Keller (2010) showed that affective empathy strongly and positively predicted dictator-game giving in adults. Thus, there is evidence to suggest that empathy, in particular, is related to allocation behaviour.

Investigating the relationship between empathy, perspective-taking and altruistic behaviour in inmates is interesting, because a lack of or low empathy has been considered as a cause for delinquent, and especially violent behaviour, whereas high empathy has been seen as a protective factor. Indeed, a number of studies (e.g. Beven, O’Brien-Malone, & Hall, 2004; Bush, Mullis, & Mullis, 2000; Ireland, 1999; Jolliffe & Farrington, 2004; Lauterbach & Hosser, 2007) have found differences in empathy between non-offenders and offenders of different ages, genders and offence types. In a systematic meta-analysis of the literature, Jolliffe and Farrington (2004) concluded that particularly low perspective taking was moderately to strongly related to offending, even when controlling for intelligence and socioeconomic status (SES). Similarly, affective empathy was negatively related to offending, but this relationship was not as strong as the negative association between perspective taking and offending and disappeared when controlling for SES and intelligence. Furthermore, in a study with young and adult male offenders, Lauterbach and Hosser (2007) found that only perspective taking, but not empathy, predicted re-offending. Thus, it seems that among offenders, perspective taking is more predictive of both negative behaviours (e.g. offending and recidivism; Jolliffe & Farrington, 2004; Lauterbach & Hosser, 2007) and positive behaviours (e.g. positive attitudes towards victims of bullying; Ireland,

1999) than empathy. Therefore, building on this previous research, in the present study, we examined the relationship of both perspective taking and empathy to altruistic behaviour in inmates and non-inmates.

Questions and Hypotheses

This study had two primary aims: (i) to investigate inmates' altruistic behaviour and (ii) to examine psychological factors—such as BJW, perspective taking and empathy—that could affect inmates' altruistic behaviour. More specifically, we predicted that a personal BJW would predict allocations in the dictator game in both inmates and non-inmates. That is people with a stronger personal BJW would allocate more in dictator game. Since previous research (e.g. Dalbert & Filke, 2007; Otto & Dalbert, 2005) has not investigated whether there are difference between inmates' and non-inmates' BJW, we explored this question in this study.

Previous research (e.g. Edele et al., 2010; Jolliffe & Farrington, 2004) indicates that altruistic behaviour among inmates is predicted by perspective-taking abilities, whereas among non-inmates it is predicted by affective empathy. Consequently, we expected that affective empathy would predict dictator game allocations among non-inmates, but that perspective taking would predict dictator game allocations among inmates. Finally, if the anecdotal accounts about “altruistic inmates” are correct, we expected inmates to make equally high or higher offers in the dictator game than non-inmates.

Method

Participants

The first sample consisted of 50 sentenced adult males from a low-security prison (category D)² in the United Kingdom, between 22 and 62 years of age ($M_{\text{age}} = 38.24$ years, $SD = 9.90$). Length of sentence ranged from 12 months to life ($M_{\text{sentence}} = 261.22$ months, $SD = 439.94$), and participants had between 0 and 36 prior convictions ($M_{\text{convictions}} = 9.12$, $SD = 10.23$). Inmates were sentenced for a wide range of offences: 22% for a drug offence, 22% for robbery or burglary, 10% for murder or manslaughter, 10% for fraud or perjury, 8% for violence, 8% for arson, 6% for the possession of weapons, 4% for sexual assault and 2% for breach of suspended sentence. The comparison sample of non-inmates consisted of 50 males from the United Kingdom, ranging in age between 20 and 61 years ($M_{\text{age}} = 35.22$ years, $SD = 11.49$). An independent sample t test indicated that there was no significant age difference between the inmate and non-inmate samples, $t(98) = -1.41$, $p = .17$.

² Category D prison refers to ones where inmates are deemed to pose relatively little risk of harm to the public and are less likely to escape. As can be seen from our sample, however, the range of offences and prison sentence can vary considerably.

Materials

Dictator Game

The dictator game is an altruistic sharing situation in which one player, the proposer, can allocate money to another, anonymous player, the responder. The responder can only accept an offer from the proposer, meaning that the proposer decides unilaterally. All participants played the dictator game as a proposer. Participants could allocate 20 coins, worth £2 overall, between themselves and an anonymous responder. Each coin was worth 10p. Allocations could be made in steps of 1 coin. The smallest allocation could be £0 (0 coins), the largest £2 (20 coins).

Personal Belief in a Just World

The Personal Belief in a Just World Questionnaire (Dalbert, 1999, 2000) assesses participants' belief that they personally are treated fairly and that they themselves get what they deserve. The scale consists of seven items (e.g. "I am usually treated fairly", "I believe that I usually get what I deserve"), which are rated on a 6-point Likert-type scale ranging from (1) *strongly disagree* to (6) *strongly agree*. Level of internal reliability was good with Cronbach's $\alpha = .83$.

Perspective-Taking and Empathic Concern

These constructs were assessed by using the perspective-taking and empathic concern subscales of the Interpersonal Reactivity Index (IRI; Davis, 1983), which has been widely utilized to measure empathy in both inmate and non-inmate populations (see Lauterbach & Hosser, 2007). Each subscale consisted of seven items (e.g. perspective taking: "When I'm upset at someone, I usually try to put myself in his shoes for a while"; empathic concern: "I am often quite touched by things that I see happen"), which are rated on a 5-point Likert-type scale ranging from (1) *does not describe me well* to (5) *describes me very well*. Cronbach's α for the perspective-taking and empathic concern subscales was .74 and .81, respectively.

Procedure

The research protocol was approved by both the prison and the authors' university institutional review boards. Non-inmates were recruited from a paid participants' pool at the authors' institution. Fifty-five inmates (about 15% of the prison population at the time) were randomly picked from the inmates' list and asked to attend an appointment in the psychology department at the prison. Out of the 55 inmates approached, 50 agreed to participate in the study. They were told that participation was voluntary and anonymous and that they would incur no negative consequences as a result of participating (or not). Furthermore, they were told that the data would be used for research purposes only. All participants (inmates and

non-inmates) were tested individually in a designated room either in the prison's psychology department or psychology lab spaces of the authors' university.

All participants were briefed about the purpose of the study and were asked for their consent to participate. They were then presented both oral and written instructions about the dictator game and example slides explaining the structure of the game. The dictator game was introduced to participants as a task, in which the proposer can decide how to divide money between himself and an anonymous responder. After participants made their decision privately, they were provided with a questionnaire booklet containing the personal BJW scale as well as the perspective-taking and empathic concern subscales in counter-balanced order. After that, participants were debriefed and thanked for their participation.

Non-inmates received their £3 participation fee plus the sum they had allocated to themselves in the dictator game. Inmates received a £1 participation fee plus their dictator game allocations to themselves through the prison's bonus payment system, through which inmates were getting paid for work, buy items available in prison, and save. This system handles any payments for all inmates. Differences in the amount of participation fees paid to inmates and non-inmates were due to different institutional remuneration policies. The university rate for participating in research was £6 per hour (or £3 per half hour as in the current study), which was higher than the UK hourly minimum wage for adults at that time (£5.73). Inmates' monthly income was about £20. Based on the recommendations of the prison authorities and institutional review board, a £1 participation fee was deemed appropriate for inmates.

Results

Table 1 displays the means and standard deviations of background variables for non-inmates and inmates as well as their correlations with dictator game allocations, personal BJW, perspective taking and empathic concern. Only 1 of the 42 correlations was statistically significant: In non-inmates, personal BJW significantly decreased with age. Otherwise, personal BJW, perspective taking and empathic concern were, overall, independent of background variables.

Table 2 shows the mean scores and standard deviations of the study variables for non-inmates and inmates. Inmates gave significantly more money than non-inmates in the dictator game, $t(98) = -2.28, p = .03$. As indicated in Fig. 1, the majority of both inmates and non-inmates offered either exactly half of the original sum or nothing. However, inmates, more than non-inmates, tended to give half. Conversely, they tended to give zero less often than non-inmates. A minority of inmates (12%) gave the whole sum to the anonymous receiver, whereas such an offer occurred only once for the non-inmates.

As displayed in Table 2, inmates showed significantly higher empathic concern, $t(98) = -3.36, p = .001$, and marginally significantly higher perspective taking, $t(98) = -1.98, p = .06$, than non-inmates. Inmates and non-inmates did not differ in their personal BJW. Table 2 also displays the intercorrelations between the study

Table 1 Descriptive statistics and correlations of background variables with dictator game allocations, personal belief in a just world, perspective taking and empathic concern, in non-inmates ($n = 50$) and inmates ($n = 50$)

Variable	<i>M</i>	<i>SD</i>	Dictator game allocations	Personal belief in a just world	Perspective taking	Empathic Concern
Non-inmates						
Age (years)	35.22	11.49	-.06	-.29*	-.21	-.14
Inmates						
Age (years)	38.24	9.91	.04	.02	.23	.24
Offence type ^a			-.03	-.06	-.01	-.12
Length of sentence (months)	261.22	439.94	.04	.18	.20	-.02
Number of prior offences	9.12	10.23	-.12	-.11	-.22	-.18
Risk of re-offending ^a			-.04	-.13	-.04	-.21

Note. Offence type coded as 0 = not against person, 1 = against person. Risk of re-offending coded as 1 = low, 2 = medium, 3 = high

^a Spearman correlations

* $p < .05$

Table 2 Mean scores and standard deviations of the study variables for non-inmates and inmates

Variable	<i>M</i>	<i>SD</i>	Personal belief in a just world	Perspective taking	Empathic Concern
Non-inmates					
Dictator game allocations	0.64	0.51	-.11	.17	.30*
Personal belief in a just world	29.44	4.52		-.03	.08
Perspective taking	19.22	3.67			.56**
Empathic Concern	23.16	5.20			
Inmates					
Dictator game allocations	0.89	0.61	.27*	.42**	.19
Personal belief in a just world	30.14	5.21		.06	.10
Perspective taking	20.68	3.73			.60**
Empathic Concern	26.32	4.14			

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

variables separately for non-inmates and inmates. In the sample of non-inmates, offers in the dictator game were significantly positively correlated with empathic concern. Empathic concern was significantly positively associated with perspective taking. In the sample of inmates, offers in the dictator game correlated positively and significantly with perspective taking and personal BJW. Moreover, perspective taking was positively associated with empathic concern.

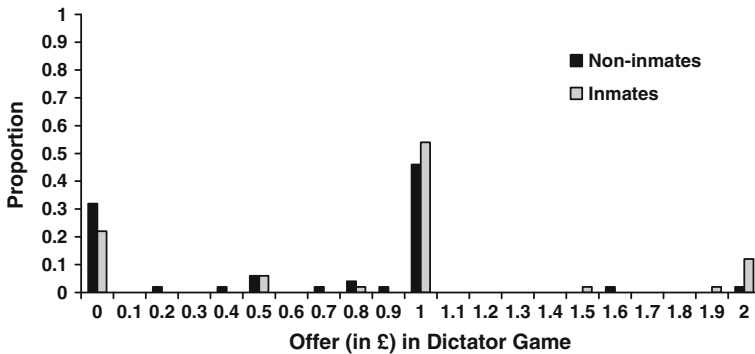


Fig. 1 Distribution of offers in the dictator game (in British pounds)

Table 3 Results of hierarchical linear regression analysis predicting dictator game offers

Variable	β	ΔR^2
Step 1		.15**
Personal BJW	.10	
Perspective taking	.25*	
Empathic concern	.09	
Subsample	.14	
Step 2		.08*
Personal BJW	-.13	
Perspective taking	-.01	
Empathic Concern	.27 [†]	
Subsample	.15	
Personal BJW \times Subsample	.29*	
Perspective taking \times Subsample	.37*	
Empathic Concern \times Subsample	-.26 [†]	

BJW belief in a just world

[†] $p < .10$, * $p < .05$,

** $p < .01$

We used hierarchical linear regression analysis to analyse the role of personal BJW, perspective taking and empathic concern for participants' offers in the dictator game. We entered the independent variables of personal BJW, perspective taking, empathic concern and subsample (inmates, non-inmates) at Step 1, and the interaction terms of Personal BJW \times Subsample, Perspective Taking \times Subsample, and Empathic Concern \times Subsample in Step 2. Interaction terms were created by calculating the product of the mean-centred main effects (see Aiken & West, 1991). Subsamples (inmates, non-inmates) were coded as 0.5 and -0.5 , respectively.

The regression model showed that the independent variables significantly predicted dictator game offers, $R^2 = .23$, $F(7, 100) = 3.91$, $p = .001$. As displayed in Table 3, perspective taking significantly and positively predicted dictator game offers. However, once the interaction terms were entered at Step 2, perspective taking did not significantly predict dictator game offers.

The regression analysis also revealed two significant interactions of Personal BJW \times Subsample and Perspective Taking \times Subsample and a marginally significant interaction of Empathic Concern \times Subsample. For all three interactions, we calculated the slopes and plotted the interaction. Figure 2a shows how personal BJW predicts dictator game offers for the two subsamples. The slopes for inmates and non-inmates were $\beta = 0.27$ ($p = .05$) and $\beta = -.11$ ($p = .44$), respectively. For inmates, dictator game offers increased with increasing level of personal BJW, whereas non-inmates' dictator game offers did not depend on personal BJW. Figure 2b displays how perspective taking predicts dictator game offers for the two subsamples. The slopes for inmates and non-inmates were $\beta = .42$ ($p = .003$) and $\beta = .17$ ($p = .24$), respectively. For the inmate sample, dictator game offers increased with increasing level of perspective taking, but there was no relationship between perspective taking and dictator game offers for non-inmates. Finally, Fig. 2c depicts how empathic concern predicts dictator game offers for the two subsamples. The slopes for inmates and non-inmates were $\beta = .19$ ($p = .19$) and $\beta = .30$ ($p = .03$), respectively. For non-inmates, but not for inmates, dictator game offers increased with increasing level of empathic concern.

Discussion

Popular opinion often labels inmates as bad, violent and non-altruistic criminals (Fuller, 1956; Kjelsberg et al., 2007; Melvin et al., 1985; Ortet-Fabregat et al., 1993). Despite this stereotype, reports in the popular media, both past and present, indicate that inmates do engage in altruistic behaviour, often at great personal, financial and physical costs (Brecher & Brecher, 1958; <http://www.cbn.com/cbnnews/us/2010/March/Neb-Inmates-Donate-Est-2000-to-Haiti-Relief/>). The altruistic behaviour of inmates has so far received little scientific interest. This study was designed to fill this gap by (i) comparing inmates' and non-inmates' altruistic behaviour; and (ii) examining the psychological mechanisms that could help to explain inmates' and non-inmates' altruistic behaviour.

Inmates' and Non-inmates' Behaviour in the Dictator Game

As previous studies have established that non-inmates show altruistic behaviour in the dictator game, our first objective was to evaluate whether inmates would exhibit similar or different tendencies. Our results clearly indicate that both samples exhibited altruistic behaviour. Mirroring earlier findings (Forsythe et al., 1994; Hoffman et al., 1994), non-inmate and inmate proposers allocated on average 32 and 45% of the original sum, respectively, with the most frequent offer being either zero or half. When we compared inmates' and non-inmates' sharing behaviour, our data revealed that inmates gave close to half of their share (£0.89 out of the allocated £2) while non-inmates gave slightly less than a third of their share (£0.64 out of the allocated £2). In fact, our inmate population shared significantly more with the anonymous other than our non-inmate sample.

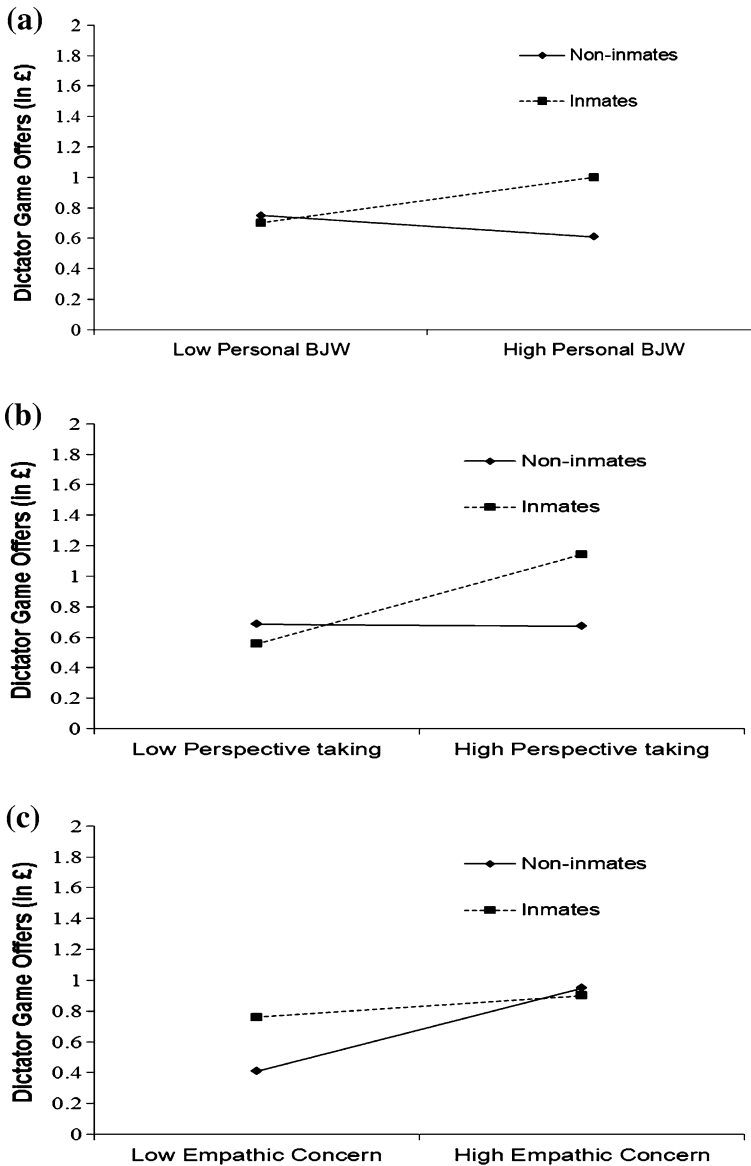


Fig. 2 Interaction of **a** personal belief in a just world (BJW) with subsample; **b** perspective taking with subsample; and **c** empathic concern with subsample: Predictions of dictator game offers (in British pounds)

We do not believe that inmates' more generous allocations in dictator game are due to differences in payment between the two samples. On the contrary, Forsythe et al. (1994) have shown that dictators allocate a smaller proportion of the original stake to the responder when these original stakes are higher (\$10) than lower (\$5). Given that inmates' monthly income is about £20 and that the £2 to be distributed in

dictator game thus constitute a larger proportion of monthly earning for inmates than for non-inmates, based on Forsythe et al.'s (1994) study we should have expected lower distributions in inmates than non-inmates. In contrast, inmates who gave £1 or £2 were actually willing to share about 5–10% of their monthly income, a rather altruistic behaviour indeed.

How can we account for these results? Given the numerous media reports about inmates' altruistic behaviour, our findings might not be without precedent: inmates' readiness to participate in extremely risky medical experiments (such as injecting live cancer cells), donate close to half of their monthly salary to victims of earthquakes, or serve longer prison terms to help family members can serve as some indication that our results represent a trend rather than an aberration. It should also be noted that as life in prison provides a more limited opportunity to engage in altruistic behaviour (such as volunteering in the community), inmates might try to maximize or capitalize on each and every chance (in this case, our experiment) to do so. In the words of one inmate "Since we cannot participate in any of these activities for the betterment of mankind, we become doubly touched by any sort of program permitting us the opportunity to participate" (Fuller, 1956, p. 52). As pointed out by Fuller (1956), engaging in altruistic behaviour might give inmates the chance to contradict the negative stereotypes held about them by society and might generate a response of acceptance by the public. Finally, and most importantly, our results are perfectly aligned with earlier studies showing that a person who has caused harm is more likely to act altruistically (Berscheid & Walster, 1967; Brock & Becker, 1966; Rawlings, 1968), such as signing a petition, donating blood, or volunteering to take part in additional experiments. Taken together, our findings fit nicely with both earlier research and inmates' claims that their altruistic behaviour is motivated by a wish to amend for their crimes.

Although the dictator game situation is anonymous concerning the identity of the other player, it is possible that inmates believed or assumed that the other player was a fellow inmate. As such, it is possible that an ingroup bias affected our results. A number of previous studies in social psychology and experimental economics have revealed ingroup favouritism (e.g. Bornstein, 2003; Tajfel, Flament, Billig, & Bundy, 1971; Yamagishi, Jin, & Kiyonari, 1999). Gummerum, Takezawa, and Keller (2009) found that some dictators gave more to ingroup receivers than they kept for themselves (i.e. gave more than half to the responder), a phenomenon that could have been more prevalent among the inmate (vs. non-inmate) population. In contrast, since our non-inmate participants were unknown to one another, it is unlikely that they formed similar ingroup bias. One way to test this assumption would be to clearly identify the responder in dictator game as a member of either an ingroup or an outgroup. For example, inmates could be asked to distribute money in dictator game with either a responder who is also in prison (ingroup member) or a non-inmate (outgroup), and vice versa for non-inmates. Following previous research (e.g. Gummerum et al., 2009; Yamagishi et al., 1999), we would expect that both inmates and non-inmates allocate more money to an ingroup than an outgroup responder.

We cannot exclude, however, the possibility that inmates' action were motivated by fear rather than altruism. Although we guaranteed their anonymity, inmates

might have assumed, nonetheless, that their behaviour was monitored. As such, their altruistic behaviour could reflect their concern over the prison authorities' evaluation of their behaviour or a desire to win points with the authorities, rather than reflecting their own inclination. While we cannot disprove this idea, the numerous reports about inmates donating money to earthquake survivors cast some doubt on this possibility. For example, many of the donations from the inmates were anonymous, such that the prison authorities were unable to trace who gave what and how much.

Altruism, Belief in a Just World, Perspective Taking and Empathy

Previous research with adult samples in both experimental economics and psychology has suggested that people's fairness and justice concerns can explain positive and especially equal allocations in the dictator game. Indeed, studies in the BJW paradigm, which measures whether people believe that everyone gets what he deserves and deserves what he gets, have shown that high BJW is associated with more altruistic and charitable behaviour (Bendapudi et al., 1996; Zuckerman, 1975). In the only study that connected dictator game giving and BJW so far, Dalbert and Umlauft (2009) observed that people with a high personal BJW make more fair and equal allocations in the dictator game. Similarly, in the present study, inmates with a stronger personal BJW made higher offers in the dictator game. However, our prediction that personal BJW would be positively related to dictator game giving was not supported for the sample of non-inmates.

Why did BJW not predict dictator game allocations in the non-inmate sample when previous research has repeatedly identified, and found, the importance of fairness and justice concerns for fair and altruistic behaviour? It is possible that the non-inmate sample in the current study was older and less educated than the usual student samples in psychological and economic research. Using data from a large and representative German sample, Maes and Schmitt (2004) showed that BJW correlates with different psychological constructs in different age groups. Whereas in younger participants (14- to 25-year olds) BJW was positively related to idealistic and progressive world views, in older participants (age 26 and older), BJW was more strongly related to conservatism, economic liberalism and Machiavellianism. Thus, their data suggest that there is a change in the differential meaning of BJW in different age groups. Consequently, BJW might be related to altruistic behaviour in younger student samples only, and not in middle-aged or older participants. Finally, it is possible that BJW might be more salient for inmates (over non-inmates) as they are constantly reminded of their unjust (criminal) actions and thus their behaviour reflects their stronger sense of BJW. This line of reasoning is not without foundation, as earlier studies have shown that manipulating participants' BJW promotes more altruistic behaviour and attitudes.

Another goal of this study was to investigate the relationship between dictator game offers, perspective taking and empathy. A long research tradition in psychology has shown that affective empathy is positively associated with altruistic behaviour in student and adult samples (e.g. Batson & Oleson, 1991; Eisenberg &

Miller, 1987). A study by Edele et al. (2010) indicated that affective empathy also strongly predicts sharing in the dictator game in a student sample. Whereas affective, rather than cognitive, empathy seems to be associated with altruistic behaviour in non-inmate samples, research among inmates (e.g. Ireland, 1999; Jolliffe & Farrington, 2004; Lauterbach & Hosser, 2007) suggested that in this population, perspective taking, rather than affective empathy, positively predicts positive behaviour and is negatively associated with violence, offending and recidivism. Based on this research, we expected that affective empathy would predict dictator game giving among non-inmates and that perspective taking would predict dictator game allocations among inmates. Overall, both hypotheses were supported: Inmates with higher perspective taking, but not empathy, made higher offers in the dictator game, while among non-inmates, empathy, but not perspective taking, predicted offers.

Among the non-inmate sample, correlations of empathic concern, as measured with the IRI, with dictator game offers were comparable to those found in an earlier study by Edele et al. (2010). However, in their study, Edele and colleagues additionally assessed affective empathy with the Multifaceted Empathy Test (MET-CORE, Dziobek et al., 2008), which measures people's explicit and implicit proclivity to feel another person's emotion with naturalistic, empathy-provoking stimuli. The authors found that only affective empathy measured by the MET-CORE significantly predicted dictator game giving. Thus, Edele and colleagues' study and ours seem to indicate that among non-inmates, people's level of affective empathy influences their allocation behaviour in the dictator game, but that the way affective empathy is measured matters. We might have found a stronger effect of affective empathy on dictator game allocations if we had used a more powerful test of empathy, such as the MET-CORE, rather than the IRI questionnaire.

Our analyses found that inmates had significantly higher empathy scores and tended to have higher perspective-taking skills than non-inmates. These results are surprising, since they contradict the common stereotype of inmates as being lower in empathy than the general population, and previous results have linked low empathy to delinquency (e.g. Beven et al., 2004; Bush et al., 2000). It could be that once in prison, many inmates participate in programs that try to change their criminal attitudes and behaviour with the aim of reducing reconvictions. In the United Kingdom, enhanced thinking skills programs address inmates' impulsive tendencies, moral reasoning and empathic behaviour (McDougal, Clarbour, Perry, Bowels, & Worthy, 2009). Hence, the higher empathic and perspective-taking tendencies of inmates could have been influenced by empathy training sessions. One way to assess this hypothesis would be to compare inmates who participated in such programs and convicts who did not (e.g. people on probation).

Are inmates altruistic? The answer is yes and no. Needless to say, inmates are behind bars because they have committed a crime, and they may or may not care about their fellow inmates or victims. On the other hand, long-standing media reports support the idea that inmates can behave altruistically. Assuming that inmates lack altruistic tendencies or lose them once they are imprisoned might be, therefore, mistaken. That is, being an inmate does not mean that one is stripped of all human attributes. Few studies, however, have been set to examine this

possibility. To our knowledge, ours is the first experiment to employ game theory to investigate whether inmates exhibit altruism, as well as its underlying mechanism.

Our results have a number of potential implications. First, they highlight the feasibility of using a game-theoretical approach among inmates. As we have only used the dictator game, future studies could include other game theory measures (e.g. prisoner's dilemma, ultimatum game, etc.). Second, from a theoretical perspective, this study indicates that the ability to engage in altruistic behaviour that benefits others at a cost to oneself might be a basic human need. People are motivated to increase others' social welfare (e.g. Charness & Rabin, 2002) and this motivation is the basis for forming relationships, cooperating with others and gaining a sense of security in social interactions. Consequently, our work may have practical applications for inmates' psychological well-being and rehabilitation. Prisons could be encouraged to find ways for inmates to engage in altruistic behaviour (e.g. through volunteering) more often. Such opportunities might allow inmates to fulfil some of their psychological needs, possibly contributing to their rehabilitation process.

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