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Can Perspective-Taking Reduce Crime? Examining a Pathway Through Empathic-Concern and Guilt-Proneness

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Abstract

We describe and test a theoretical model in which individual differences in perspective-taking eventuate in crime reduction. Specifically, it is hypothesized that perspective-taking propensities influence the tendency to feel empathic-concern, thereby heightening proneness for guilt, which then ultimately inhibits criminal behavior (perspective-taking → empathic-concern → guilt-proneness → crime desistance). Data from two sources were analyzed: (1) a cross-sectional college sample and (2) a longitudinal sample of jail inmates. Overall, results lend credence to this model. Perspective-taking propensities ultimately “put the brakes” on criminal behavior via an affective pathway of empathic-concern and guilt-proneness. Discussion focuses on the nature of perspective-taking, its generative role in moral emotions, as well as potential applications for crime prevention.

Keywords

perspective-taking; empathic-concern; guilt-proneness; crime reduction

Crime exacts pernicious social and economic costs: in the United States in 2007 over 23 million criminal offenses were committed, causing \$15 billion in monetary losses to victims with \$179 billion spent on police, courts, and corrections (U.S. Department of Justice statistics, cited in McCollister, French, & Fang, 2010). When considering the psychological and emotional aftermath of being the victim of crime, the costs may be incalculable. Although crime is multiply determined, one under-examined factor in its genesis may be perspective-taking. Because this social cognitive process has been shown to be malleable (Shih, Wang, Bucher, & Stotzer, 2009), understanding its properties and consequences may have important implications for crime prevention. Moreover, perspective-taking may play a crucial role in inhibiting antisocial and norm-violating actions more broadly.

Perspective-taking is the cognitive process whereby people make sense of, and contend with, a world of others' intentions, desires, feelings, and beliefs. These contents of others' minds can only be known indirectly, though inference, but are otherwise invisible. Scholars have explored this question of how people come to know "other minds" from social psychological, philosophic, neuroscientific, and theological/ethical vantage points (Davis, 1983b; Farley, 2002; Heider, 1958; Jolliffe & Farrington, 2006; Nussbaum, 1996; Regan & Totten, 1975; Shih et al., 2009; Smith, 1759/2002; Stellar & Keltner, in press; Wagner, Kelley, & Heatherton, 2011; Waytz, Zaki, & Mitchell, 2012). The current investigation contributes to this work by examining the criminological consequences of perspective-taking in two studies. We make a further contribution by using a longitudinal design to assess the implications of perspective-taking in a high-risk sample of jail inmates.

An Empathic Triad: Perspective-taking, Empathic-concern, and Guilt-proneness

Perspective-taking—the social cognitive component of empathy—has implications for affective processes as prior research has found a robust link between perspective-taking and feeling empathic-concern (e.g., Joireman, Parrot, & Hammersla, 2002). Recent research highlights the important conceptual distinction between the cognitive component of empathy (perspective-taking) and these emotional aspects (Gilin, Maddux, Carpenter, & Galinsky, 2013). We reason that the propensity to imagine situations from another person's point of view may facilitate these empathic emotions (namely, caring and compassionate feelings) toward another person by allowing a perceiver to "get inside their head" (see Carman, 2009). In other words, the act of trying to understand another's perspective (an "imaginative dwelling," Farley, 2002, p. 62) may directly foster felt concern for another's interior thoughts and feelings. Because a wealth of research has demonstrated how thinking has direct effects on emotion (see Weiner, 2006 for a synthesis and review), our model posits perspective-taking propensity as an antecedent social cognitive process to feelings of empathic-concern.

We further theorize that empathic-concern feeds into other emotional capacities that similarly implicate concern for others' welfare. Specifically, we hypothesize that empathic-concern motivates guilt-proneness, a cognate affective process encompassing how one would feel if the self should be *the source* of injury to another. Prior work has shown how guilt can have a variety of prosocial consequences. Guilt-proneness prompts reparatory action when a person commits a moral transgression (Tangney, Stuewig, & Mashek, 2007b). Moreover, guilt-proneness is inversely linked to harmful social behavior in that it negatively predicts unethical business decisions and lying for monetary gain (Cohen, Panter, & Turan, 2012). Theoretically, guilt-prone people are inclined to experience guilt not only as consequence of harmful behavior but in *anticipation* of the potential future transgression (Tangney, Stuewig, & Mashek, 2007a). We propose that a motivator for guilt-proneness is the basic concern for the feelings and experience of others (empathic-concern), itself afforded by perspective-taking. We specifically test this empathic triad (perspective-taking → empathic-concern → guilt-proneness) across two studies in both an undergraduate and a jail inmate sample.

The Empathic Triad and Crime

At its most fundamental level, crime can be considered a violation of the rights and integrity of others. To the extent that our hypothesized triad activates concern for others' welfare, it may function as a crime reducer. We specifically test whether this empathic triad will in effect "put the brakes" on criminal transgression. However, most prior research has not assessed criminal behavior in the community. The current project aims to bridge that gap. We examine our model (perspective-taking → empathic-concern → guilt-proneness → crime desistance) in both an undergraduate (Study 1) and a jail inmate sample (Study 2) to test for convergence across different populations and replication of the model. Importantly, whereas Study 1 is cross-sectional, Study 2 employs a prospective, longitudinal design. This is important because there is a dearth of longitudinal research in this domain, although cross-sectional linkages have been found between empathy and crime (see Jolliffe & Farrington, 2004). Finally, our model incorporates perspective-taking, moral emotions, and criminal behavior, thereby providing an explanatory account of how perspective-taking could eventuate in crime-reduction. As such, we advance theory as well as provide insights for interventionists who seek to influence malleable psychological levers that may diminish crime in the community.

Study 1

The first study tests the basic model in which perspective-taking propensities lead to the tendency to experience empathic-concern, which in turn influences guilt-proneness, and thereby ultimately diminishes crime. We assess these constructs in a cross-sectional undergraduate sample as an initial test of this model's tenability. Across studies, based on anticipated effect sizes in the small to medium range for the relations between psychological variables and crime, sample sizes of $N > 500$ were analyzed, samples considered large in the context of structural equation modeling (Kline, 2005).

Method

Participants—Participants were 560 undergraduate students (72% female) from a large, public Mid-Atlantic University. They were on average 20.5 years old ($SD = 4$, $range = 18$ to 58) and racially diverse: 11% African-American/Black, 60% Caucasian/White (10% of the total were ethnically Hispanic/Latino), 20% Asian, and 9 % stating other ethnicities. Students were eligible to participate if they had access to the university's research participation website to fulfill course requirements and if they were at least 18 years of age. Participants acknowledged informed consent before starting the survey. Of the 595 individuals who initially consented, 28 were removed due to skipping or answering a 5 or lower on the following validity question: "On a scale of 1–10 how well did you understand the questions in this survey, with 1 being not at all to 10 being completely understood." Seven individuals were dropped from the final sample because they finished the survey more than a week after starting it online. These *a priori* exclusions resulted in a final sample of 560.

Procedure—Participants were recruited from a psychology department subject pool and completed an online survey.

Measures

Perspective-taking—Participants completed the 7-item perspective-taking subscale of the Interpersonal Reactivity Index (IRI; Davis, 1983a), a well-validated measure that assesses multiple dimensions of empathy. This subscale assesses individual differences in the cognitive tendency to perceive, consider, and understand interpersonal life from another person's vantage point. Sample items included “*When I'm upset at someone, I usually try to 'put myself in his shoes' for a while.*” Ratings were made on a scale anchored at 1 (*strongly disagree*) and 4 (*strongly agree*).

Empathic-concern—Participants completed the 7-item empathic-concern subscale of the IRI (Davis, 1983a). This measure assesses individual differences in the tendency to experience the feeling states of compassion and concern for other people. Sample items included “*I often have tender, concerned feelings for people less fortunate than me.*” Ratings were made on a scale anchored at 1 (*strongly disagree*) and 4 (*strongly agree*).

Guilt-proneness—Participants completed the Test of Self-Conscious Affect-Version 4 (TOSCA-4, Tangney et al., 2008) to assess guilt-proneness (see Tangney & Dearing, 2002 for a discussions of the TOSCA family of measures). The TOSCA-4 is similar to its forerunners, but separates the affective from the motivational elements of guilt and shame. In this measure, participants read a series of scenarios that involved moral and interpersonal transgressions and were asked to rate how they would respond using scales anchored at 1 (*not likely*) and 5 (*very likely*). For example, participants read “*Imagine that you make a mistake at work and find out a new employee is blamed for the error.*” For guilt they would rate “*How likely is it that you would feel sorry and wonder if you should speak up?*” whereas for shame they would rate “*How likely is it that you would feel like a complete failure?*” We isolated guilt from shame by regressing feelings of guilt (15 items) on feelings of shame (15 items) and saving their residuals as the index of guilt-proneness.

Crime—Participants reported whether they had ever been arrested (including as a juvenile), had spent any time in jail or prison, had spent any time in juvenile detention, and if they were ever convicted of a crime. Participants were coded as having no (0) or any criminal justice involvement (1); 7.6% ($n = 41$) of the sample reported some involvement with the criminal justice system.

Results and Discussion

Across studies, we tested the theoretical model (perspective-taking → empathic-concern → guilt-proneness → crime desistance) by using structural equation modeling (that is, covariance-structure modeling) with Mplus 6.12 (Muthén & Muthén, 2011). We assessed model fit with indices recommended by Kline (2005). Because perspective-taking and guilt-proneness reliably covary (see Wagner, N'Diaye, Ethofer, & Vuilleumier, 2011 for neurobiological evidence for this linkage), we also specified a direct effect connecting these variables in our models. As the present model is a mixture of continuous and dichotomous variables, we employed the robust weighted least squares estimator (see Byrne, 2012).

We first tested the bivariate association of perspective-taking and crime by conducting a point-biserial correlation. The relation was statistically significant: Those with higher levels of perspective taking were less likely to have been involved with the criminal justice system ($r_{pb} = -.10, p = .028$). Next, we tested the complete structural model, which showed good fit across indices: $\chi^2(2) = 3.38, p > .15, RMSEA = .04, CFI = 1.00, WRMR = .51$. Figure 1 displays all structural models with standardized path coefficients. The present model's path coefficients were all significant with the exception of the link between guilt-proneness and crime, which was marginal ($p = .08$). The indirect effect of our hypothesized sequentially mediated path (perspective-taking $\rightarrow$ empathic-concern $\rightarrow$ guilt-proneness $\rightarrow$ crime desistance) was also marginally significant (estimate = $-.04, p = .08$).

We ruled out two alternative models by examining each alternative's fit indices. Specifically, we tested a model in which empathic-concern, rather than guilt-proneness, was the psychologically proximal variable to crime desistance (perspective-taking $\rightarrow$ guilt-proneness $\rightarrow$ empathic-concern $\rightarrow$ crime desistance). The model fit less well than the hypothesized model: $\chi^2(3) = 103.19, p < .001, RMSEA = .25, CFI = .74, WRMR = 2.62$. We also tested a model that did not prioritize guilt-proneness or empathic-concern but instead modeled them as simultaneous mediators that in turn predicted crime-desistance (perspective-taking $\rightarrow$ empathic-concern; guilt-proneness $\rightarrow$ crime desistance). This model also showed poorer fit than the hypothesized model: $\chi^2(2) = 74.95, p < .001, RMSEA = .26, CFI = .81, WRMR = 2.68$.

In sum, this study provides suggestive evidence for a model in which perspective-taking eventuates in crime reduction via empathic-concern and guilt-proneness. However, this study contained important limitations, such as a cross-sectional design and the use of college-student participants who have low crime rates, likely restricting variability and relations with other variables (Hardy, 1993). We sought to further assess the viability of this model by using a longitudinal design and participants from a jail.

Study 2

Study 2 tests the hypothesized model in the context of a longitudinal research design with a sample of jail inmates. We assessed the psychological constructs shortly upon incarceration and followed-up on engagement in criminal behavior at one-year post-release. We again tested a model in which perspective-taking—via empathic-concern and guilt-proneness—eventuates in crime reduction.

Method

Participants—Participants were 552 pre- and post-trial inmates (380 male and 172 female) held on felony charges in an 1100-bed metropolitan county jail. These data were collected as part of a larger on-going longitudinal study of moral emotions, substance use, HIV-risk behavior and recidivism (see Tangney et al., 2012 for further details about this sample). Participants were on average 32 years old ($SD = 10, range = 18$ to 69) and racially/ethnically diverse: 44% African-American, 36% Caucasian/White, 9% Hispanic/Latino, 3% Asian, 4% “Mixed,” and 4% “Other.” A total of 485 participants were eligible for the one-year post-release assessment (that is, were not still incarcerated) and we re-interviewed 332

(68.5%), a favorable retention rate for longitudinal research with jail inmates samples (see Brown, Amand & Zamble, 2009). Attrition analyses (based on data collected as of 9/27/12) revealed minimal baseline differences on 34 variables comparing eligible individuals who were re-interviewed versus those who were not (not found, refused, and withdrew). Participants did not differ on demographics (e.g. sex, education), mental health (e.g. schizophrenia, borderline), psychological characteristics (e.g. shame, self-control), criminality (e.g. criminal history, psychopathy), and substance dependence (e.g. alcohol, opiates). Those individuals who were missed tended to be somewhat younger and Hispanic/Latino.

Procedure—Shortly after incarceration, eligible inmates were presented with a description of the study and assured of the voluntary and confidential nature of the project. We emphasized that study participation would not impact their status at the jail nor their release date. Interviews were conducted in private professional visiting rooms, used by attorneys, or secure classrooms. Participants completed self-report instruments with “touch-screen” computers that read aloud each item to participants via headphones to accommodate participants with limited reading proficiency. At approximately one year following release, participants completed an interview over the phone (or face-to-face with participants who had been re-incarcerated or opted for an in-person interview).

Time 1 Measures (initial incarceration)

Perspective-taking: Participants completed the positively-worded items of the perspective-taking subscale of the IRI (Davis, 1983a) used in Study 1.

Empathic-concern: Participants completed the items of the empathic-concern subscale of the IRI (Davis, 1983a) used in Study 1.

Guilt-proneness: Participants completed the social deviant version of the Test of Self-Conscious Affect (TOSCA-SD) to assess guilt-proneness (Hanson & Tangney, 1996), a measure specifically designed for populations who have had involvement with the criminal justice system. Participants read a series of scenarios that involved moral and interpersonal transgressions and were asked to rate how they would respond using scales anchored at 1 (*not at all likely*) and 5 (*very likely*). For the current analyses, the 13-item guilt-proneness scale and the 13-item shame-proneness scale were used. Paralleling Study 1, we statistically isolated guilt from shame by regressing guilt on shame, saving their residuals as the index of guilt-proneness.

Time 2 Measures (one year post-release)

Crime: We assessed recidivism during the first year post-release with three measures: (a) self-reported arrests, (b) self-reported crimes committed but for which participants had not been caught, and (c) official reports of arrests coded from the National Crime Information Center (NCIC) reports. For the two self-report measures, individuals were asked about 16 types of crime that were then recoded to reflect the five types of crime defined by the Bureau of Justice Statistics (violent, property, drug, public order, and other). Official records were also recoded to reflect these categories. Each measure could range 0 to 5 and

represents an index of criminal versatility (that is, the number of different types of crime) rather than the frequency of arrest/offense, a measure that is confounded with type of crime. We combined these three data sources into a single parsimonious index by defining a latent variable hereafter referred to as “crime.” Standardized factor loadings of the three indicators exceeded .45 ($ps < .001$).

Results and Discussion

Paralleling the first Study, we tested the bivariate association between perspective-taking and the latent crime variable. Conceptually replicating Study 1, those higher on perspective taking at baseline had lower levels of criminal behavior one-year post-release ($\beta = -.13$, $p = .015$)¹. We then tested the complete theoretical model (perspective-taking → empathic-concern → guilt-proneness → crime desistance). As with Study 1, we specified a link between perspective-taking and guilt-proneness. Fit indices suggested good model fit: $\chi^2(8) = 13.03$, $p > .10$, $RMSEA = .03$, $CFI = .99$, $SRMR = .04$ ². Demonstrating robustness to estimation technique, a listwise approach also supported the model: $\chi^2(8) = 14.04$, $p > .08$, $RMSEA = .05$, $CFI = .99$, $SRMR = .04$. Figure 1 displays the theoretical model with standardized path coefficients. The indirect effect of the hypothesized sequentially mediated path (perspective-taking → empathic-concern → guilt-proneness → crime desistance) was significant (estimate = $-.03$, $p < .01$).

Directly paralleling Study 1, we ruled out two alternative models by assessing their fit indices. First, we tested a model in which empathic-concern, rather than guilt-proneness, was the psychologically proximal variable to crime desistance (perspective-taking → guilt-proneness → empathic-concern → crime desistance). Indices suggested poor fit: $\chi^2(9) = 93.25$, $p < .001$, $RMSEA = .13$, $CFI = .85$, $SRMR = .08$. Finally, we tested a model that did not prioritize guilt-proneness or empathic-concern but instead modeled them as simultaneous mediators that in turn predicted crime-desistance (perspective-taking → empathic-concern; guilt-proneness → crime desistance). Here too, indices suggested poor overall fit: $\chi^2(8) = 69.98$, $p < .001$, $RMSEA = .12$, $CFI = .89$, $SRMR = .06$. Overall, these analyses support the viability of the hypothesized model.

General Discussion

Two studies provide evidence for an explanatory model that shows how perspective-taking can, ultimately, reduce crime. More broadly, we also find evidence for the importance of emotions for moral action (Piff, Martinez, Keltner, 2012; Tangney, Stuewig, & Martinez, 2014; Tangney et al, 2007b; Zebel, Zimmermann, Viki, & Doosje, 2008). Specifically, we find that perspective-taking propensities relate to the tendency to experience empathic-concern, which in turn influences guilt-proneness; this tendency to experience guilt, in turn, negatively predicts criminal behavior. We found support for this model using a cross-

¹For a more rigorous test of this relation, we conducted a supplemental analysis in which we repeated this analysis while controlling for criminal history (that is, number of prior charges at baseline). This coefficient was of similar magnitude and remained significant: $\beta = -.11$, $p = .043$.

²A supplemental analysis was conducted, in which an identical model was tested, but instead employed an exogenous variable for which criminal history was residualized out of perspective-taking. Supporting robustness, all coefficients remained statistically significant and fit indices suggested good model fit: $\chi^2(8) = 12.62$, $p > .10$, $RMSEA = .03$, $CFI = .99$, $SRMR = .04$.

sectional college sample and a longitudinal sample of jail inmates (whose criminal behavior was assessed one-year post-release). Further, we employed diverse measurement strategies to assess crime, including a dichotomous indicator of criminal activity and a latent variable that tapped multiple data sources of criminal versatility. Overall, these studies support the notion that perspective-taking propensities have implications for reducing criminal behavior.

The Nature of the Empathic Triad: Perspective-taking, Empathic-Concern, and Guilt-proneness

The current research suggests that the social cognitive process of perspective-taking propensity has important downstream affective implications. First, the model supports a psychologically proximal link between perspective-taking and empathic-concern, a connection prefigured by other research with non-offender samples (Joireman et al., 2002). Insofar as one can cognitively connect to another person via perspective-taking, one can in turn become increasingly emotionally connected (the felt experience of empathic-concern). These latter feelings may give rise to the capacity to experience anticipatory distress (guilt) should one face the option to *actually* cause harm to another. Guilt's downstream inhibitory effects on crime may emerge because a felt consideration of the emotions of another (empathic-concern) has been activated. The finding that the ability to acknowledge and imagine others' mental states (perspective-taking) may beget these behaviorally consequential other-oriented emotions (empathic-concern and guilt-proneness) provides deeper insight into the origins of moral action.

Limitations and Future Directions

The current study has several limitations that future research should examine. First, the results from the sample of jail inmates represent a single facility. As it is unclear to what extent these results would generalize beyond this specific sample, we recommend that other research groups attempt to replicate this pattern of results. Also, our model is dynamic, but both studies used trait measures to assess the psychological constructs of interest. Future work should seek convergence with the current work by using in-the-moment measurement tools. Furthermore, perspective-taking is a deliberative, effortful, or system 2 capacity (Kahneman, 2003) that can be derailed by cognitive load (Davis, Conklin, Smith, & Luce, 1996). To the extent that these capacities are depleted, they may be of little avail in diminishing crime driven primarily by impulsive or "hot" emotion (Ayduk et al., 2000). Thus, we provide a measured endorsement of interventions that seek to increase perspective-taking skills in crime cessation programs.

An unanswered question is whether perspective-taking needs to be accurate to be effective (Epley & Caruso, 2009). The measure that we employed (the IRI; Davis, 1983a) has an extensive literature base behind it; however, high scores on the measure do not necessarily mean that people's perspective-taking is true to reality. Future research needs to more clearly separate exertions to perspective-take from success at this endeavor. It may very well be that even though perspective-taking cannot constitute a perfect window into another's mind, the sheer act of engaging in it (or the belief that one frequently engages in it) is sufficient to evoke other-oriented emotions (empathic-concern and guilt) with their

significant consequences for moral behavior. This is a fertile area in need of greater exploration.

Future research should also address how the proposed processual model interfaces with other psychological processes and phenomena. For example, a crucial co-determinant of criminal conduct is morality (Wikström, 2010; Wikström & Treiber, 2007). Conceptions of the self as a socially-embedded moral agent, subject to moral constraints and obligations, may influence the extent to which perspective-taking propensities are developed and engaged. Furthermore, the psychology of dehumanization may also be fruitful in elucidating perspective-taking (Haslam & Loughnan, 2014; Martinez, 2014; Martinez, Piff, Mendoza-Denton, & Hinshaw, 2011). Whereas ascribing humanity to another may facilitate perspective-taking, denying humanity to another may suspend it. Indeed, perceiving another as human may be a prerequisite for believing that another has a perspective worth trying to understand.

Finally, perspective-taking may have unintended consequences, or side-effects, that are in need of research attention. We began this paper discussing how each person *only* has introspective access to his or her own mind; indeed, self-knowledge may be our most effective tool to understand others (Heider, 1958). However, individual differences in the perceiver may influence the effects of perspective-taking (Tarrant, Calitri, & Weston, 2012). What if the mind introspecting (in the service of understanding others) is characterized by chronic hostility or elevations in psychopathic attributes? If such a person sees life as a zero-sum conflict zone in which moral rules are dispensable, when he or she puts on “the shoes” of another might such an individual anticipate commensurate anti-social sentiments and attacks? Such potentially perverse effects of perspective-taking must be understood as interventionists conceptualize program design. That perspective-taking (potentially) might “backfire”—especially for those at risk for criminal behavior—calls for careful examination (Harris, Rice, & Cormier, 1994; Jones, 2007). We, therefore, advocate small-scale trials of interventions seeking to augment perspective-taking (to assess any unintended effects or contraindications) before scaling up for broader policy implementation (see Popper, 1957).

Conclusion

The present study underscores the potential of perspective-taking, and suggests that strengthening this tendency may reduce criminal behavior. Although crime has multiple causes, a deficit in the capacity or tendency to “put oneself in another’s shoes” may increase the perceived acceptability of harming another. Two studies provided evidence for a specific model in which the social cognitive process of perspective-taking eventuates in crime reduction. Specifically, we found support for the notion that propensities to engage in perspective-taking influence the tendency to feel empathic-concern, in turn heightening the proneness for feelings of guilt, and these latter emotions, ultimately, diminish criminal conduct. Clearly, there is much more to learn about each of these psychological processes and experimental work needs to complement the observational/correlational designs of these studies. Nevertheless, this study empirically bolsters the claim that the *interior acts* of considering others’ thoughts, feelings, and intentions (perspective-taking) can “put the brakes” on socially pernicious behaviors.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1.

Theoretical path (perspective-taking → empathic-concern → guilt-proneness → crime desistance) examined in two studies. The participants in Study 1 were college students and the participants in Study 2 were jail inmates. Study 1 uses a cross-sectional design and the ultimate outcome is a binary indicator of criminal justice system involvement (0 = no involvement, 1 = any involvement). Study 2 uses a longitudinal design and the ultimate outcome (at one-year post-release) is a continuous latent variable assessing criminal versatility. Parameter estimates are standardized.

† $p < .10$ ** $p < .01$. *** $p < .001$.

Table 1

Table of intercorrelations and descriptive statistics for Studies 1 and 2

Study 1 Variable	1	2	3	4
1. Perspective-taking	—			
2. Empathic-concern	.53***	—		
3. Guilt-proneness Residual	.36***	.51***	—	
4. Crime (dichotomous)	-.10*	-.09*	-.08 [†]	—
<i>M</i>	2.92	3.09	0.00	.08
<i>SD</i>	.45	.47	1.00	.26
<i>α</i>	.73	.75	—	—
<i>n</i>	558	558	559	543

Study 2 Variable	1	2	3	4	5	6
1. Perspective-taking (time 1)	—					
2. Empathic-concern (time 1)	.48***	—				
3. Guilt-proneness Residual (time 1)	.41***	.45***	—			
4. Official criminal records (time 2)	-.03	-.08 [†]	-.08 [†]	—		
5. Self-reported arrests (time 2)	-.14*	-.15**	-.15**	.67***	—	
6. Self-reported undetected offenses (time 2)	-.17**	-.11*	-.13*	.37***	.44***	—
<i>M</i>	3.05	3.13	.02	.68	.65	1.00
<i>SD</i>	.41	.40	.55	.97	.89	1.17
<i>α</i>	.70	.69	—	—	—	—
<i>n</i>	552	550	549	468	322	320

[†] $p < .10$ * $p < .05$ ** $p < .01$.*** $p < .001$.