Empathy and Negative Reciprocity as Predictors of Third-Party Punishment

Olivia Johansen

University at Albany, State University of New York

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Empathy and Negative Reciprocity as Predictors of Third-Party Punishment

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Olivia Johansen

Research Mentor: Dylan Campbell
Research Advisor: Brendan Gaesser, Ph.D., Assistant Professor of Psychology
Abstract

What motivates us to punish others? Individual differences dictate most of our behaviors, so our beliefs about fairness and retribution play into the type and degree of punishment we administer. Past work has highlighted the significant negative correlation between empathy and punishment, but a potentially stronger predictor of punishment behavior exists. This study pits empathic concern against negative norms about reciprocity to see which is a better predictor of punishment behavior in an economic goods game. We predicted that the negative reciprocity would be a better predictor of punishment than empathy, but ultimately found that empathy prevailed as the stronger predictor. The findings in this study raise questions about the implications of using individual difference measures to predict punishment behavior in other scenarios like jury settings.
Acknowledgements

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I’d also like to thank Dr. Feldman and Julia Hormes for helping me establish the skills I needed to create a cohesive and relevant thesis. Their intro course gave me the foundations I needed to create meaningful work, and the confidence I needed to present it in a clear and impactful way.
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When people hear of an intentional wrongdoing, a motivation to administer some kind of punishment typically follows (Carlsmith, Darley, & Robinson, 2002; Shariff et al., 2014), and this punishment can be administered in a variety of formal (e.g., prison time, firing from a place of employment) and informal (e.g., giving a former friend the “cold shoulder”) settings. Additionally, one might punish because they personally feel wronged or because they want justice for someone else who has been wronged: the distinction between “second-party” and “third-party” punishment (Leibbrandt & López-Pérez, 2011). What concerns underlie people’s desire to see wrongdoers punished? Prior work has found that people naturally want to administer punishment proportionate to the wrong committed, and give the perpetrator their “just deserts” (Carlsmith, Darley, & Robinson, 2002). This intuitive explanation might not give us the full story, however. Beyond factors tied to the specific wrongdoing committed, are there individual differences between people that predict the extent of the punishment they are likely to dole out? The present research examines this question in the context of third-party punishment as it relates to two such individual difference measures: behaviors: empathy and negative reciprocity.

Past research suggests that there is a negative correlation between empathy and punishment behavior. Empathy can be defined as “reactions of one individual to the observed experiences of another” (Davis, 1983). Empathy is commonly measured by using Davis’s Inerpersonal Reactivity Index (IRI), a 28-item index that includes perspective-taking, fantasy, empathic concern, and personal distress measures (1983). The IRI has been used in past research to explore the negative correlational relationship between empathy and punishment. The more empathic a person is, the less punishment they are likely to administer across different contexts. One study (Sjoberg, 2015) quantified punishment behavior in mock jury settings to determine
how people would punish a hypothetical offender. Participants in this study scoring higher in trait empathy doled out less severe punishment for a hypothetical offender. Similar differences in empathy have also been shown to be a predictive factor for inclination to punish the perpetrator rather than compensate for the wrongdoing with altruistic behavior (Leliveld et al, 2012). When given the choice to either compensate a victim or punish an offender, people with lower trait empathy were more likely to administer punishment behavior, while people higher in trait empathy opted to compensate altruistically. This prior work has shown that people lower in trait empathy are more likely to punish when given an alternative choice to compensate, thus providing further support for the notion that low empathy predicts greater punishment behavior.

Whereas past work focusing on empathy as an important predictor of punishment behavior is informative, whether these two show a causal relationship and the mechanism by which such a relationship would manifest remains unclear. This raises the possibility that other individual difference measures, especially those with a more direct conceptual relationship to actual punishment, would lend us greater power to predict an individual’s proclivity for punishment. One such trait is negative reciprocity (Perugini et al., 2003), an individual’s desire for reciprocity specifically in the context of wrongdoing. Whereas this individual difference variable has been tied in past work to cooperative behavior (Romano & Balliet, 2017) and one’s desire for “vengeance” (Eisenberger et al, 2004), it has yet to be tested in the context of punishment behaviors.

In this study, we pitted trait empathic concern against negative reciprocity to determine which will better predict performance in the third-party punishment game (3PPG). We chose to measure punishment behavior with using the 3PPG since it applies to a wider variety of real life contexts, such as jury punishment. As negative reciprocity (and the items used to measure it;
Perugini et al., 2003) more directly corresponds to the actual features of punishment contexts, we predicted that this individual difference variable would outperform empathy in predicting the extent to which participants would punish others in a third-party punishment game (3PPG).

**Methods**

**Participants**

We recruited 111 participants (40.2% women; mean age = 18.49 years, $SD = 0.84$) via an Introduction to Psychology research pool in return for class credit. Of the majority of participants, 48.3% were white, 73.3% were American citizens, and 83.31% were native English speakers.

**Procedure**

Participants completed a series of tasks using Qualtrics survey software. These tasks related to economic decision making, charitable decision making, and prosocial behavior, and were set to be completed within a two-hour session as part of a separate experiment. Participants completed these surveys in controlled testing room with a white noise machine to prevent distraction. The order of these tasks was randomized for all participants.

**Materials**

This study focuses on just three measures from the entire two-hour study. The measures of interest for our purposes were the empathic concern subscale of the Interpersonal Reactivity Index (Davis et al., 1980), the negative reciprocity subscale of the Personal Norm of Reciprocity Scale (Perugini et al., 2003), and the Third Party Punishment Game (Peysakhovich, Nowak & Rand, 2014). Empathic concern was measured using 7 items, (e.g., “I often have tender, concerned feelings for people less fortunate than me”), and negative reciprocity with 9 items
(e.g., “If I suffer a serious wrong, I will take my revenge as soon as possible, no matter what the costs”). The dependent variable comes from performance on a version of the 3rd Party Punishment Game (Peysakhovich et al., 2014). The participant (person A) is told that they are matched with two people, person B and person C. The participant is provided with a situation in which one of these players has behaved unfairly to the other, stealing points (which would be converted into money) from them without prior cause. The participant is then asked how many of their own points they would be willing to forego in order to punish the unfair player by taking points away from them. This raw number of points given up served as our measure of punishment behavior.

**Results**

We tested a standard multiple regression model including the amount of money spent to punish an unfair player in the 3rd party punishment game \( (M = 43.44, SD = 30.31) \) as the dependent variable. Self-report ratings of empathic concern \( (M = 3.59, SD = 0.63) \) and negative reciprocity \( (M = 3.83, SD = 1.06) \) were entered simultaneously as predictors on the same model step. Pearson correlations among the three variables of interest are reported in Table 1. Tolerance and VIF values did not demonstrate significant multicollinearity. The scatterplot of the residuals did not reveal concerns regarding linearity and homoscedasticity.

The overall predictive model was statistically significant, \( F(2,109) = 6.726, p = .002, R^2 = .11, \) Adjusted \( R^2 = .09 \). This indicated that approximately 9% of the variance in punishment behavior was explained by the combination of the two predictor variables. Empathic concern significantly predicted punishment behavior, \( \beta = -0.21, t(109) = -2.11, p = .04, sr^2 = .036, \) whereas negative reciprocity did not, \( \beta = 0.19, t(109) = 1.88, p = .06, sr^2 = .029. \)
Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Empathic Concern</td>
<td>-</td>
<td>1.0</td>
<td>.41*</td>
</tr>
<tr>
<td>2. Negative Reciprocity</td>
<td>- .41*</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3. 3rd PPG</td>
<td>-.29*</td>
<td>.27*</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. * p < .01

Discussion

Here, we measured individuals’ levels of trait empathy and negative reciprocity, examining relationships between these variables and third-party punishment behavior in an economic game. Whereas empathy was found to significantly negatively predict the extent to which an individual would forego personal resources to punish an unfair third party, the relationship between negative reciprocity and punishment was slightly weaker than this, and was not found to be statistically significant. These findings are consistent with much of the research already conducted examining the relationship between empathy and punishment. The level of trait empathy did negatively correlate with amount of punishment administered, as it did in Sjoberg’s (2015) studies on empathy and punishment in mock juror punishment measures, and as it did in Leliveld (2012) studies on decisions to punish or compensate. Although empathy was the one statistically significant variable of the two, both variables predicted a similar amount of unique variance in the dependent variable as indicated by semi-partial correlations.

One possible interpretation for why the negative reciprocity was not as strong of a predictor is that we used a dependent variable that measured third party punishment as opposed to second party punishment. We used Peysakhovich’s (2014) version of the third party punishment game, which focuses on punishment behaviors of an outside observer, since we
thought that would most closely resemble the experience of a juror, who is objectively a third party observer. However, Perugini’s (2003) negative reciprocity inventory was designed to measure beliefs about revenge, so many of the items have to do with second person punishment and direct violations of a more personal sense of fairness. The items on this scale, such as “If I suffer a serious wrong, I will take my revenge as soon as possible, no matter what the costs” are second-person focused and set out to gauge beliefs about being personally wronged as opposed to observing another person being wronged (Peysakhovich, Nowak & Rand, 2014). With this in mind, it follows that negative reciprocity might be a better contender in predicting second-party punishment.

This work has implications for real-world punishment contexts in which fairness and constancy across situations is emphasized (e.g., jury selection). Analyzing the ways in which beliefs about fairness and trait empathy affect inclination to punish can inform jury selection, help to eliminate bias in jurors, or even compose a jury that is more or less willing to punish a perpetrator. With this study, we were hoping that the results would translate to a legal context and help analyze traits that will make jurors more or less inclined to punish. Although our dependent variable measures punishment from a passive observer, it is more focused on withholding public goods than administering legal punishment. Studies like Sjoberg’s (2015) which measured punishment using hypothetical jury scenarios already demonstrated a negative correlation between empathy and punishment, but future research should analyze how beliefs about revenge and fairness predict sentences assigned by jurors.

Given the fact that empathy is a significant predictor of punishment, we know very little about the mechanism through which empathy predicts punishment. Our design focused specifically on the empathic concern measure of the IRI, but other empathy measures should be
tested against punishment to further examine this correlation. If we learn more about the specific ways in which empathy functions as a predictor of punishment, we can formulate more punishment-based measures of empathy that could help dissect this mechanism. The IRI is an established measure that is reliable, generalizable, and has been used as the primary measure of trait empathy, but as the field of psychology expands, the measures for empathy should become more context specific to yield results that are more clearly targeted toward punishment. The measure of trait empathy we used also do not help us to distinguish whether the trait empathic concern is directed towards the victim of the wrongdoing or the perpetrator who will be punished by the wrongdoing. A person might punish because they want retribution for the victim, but they also might punish less if they feel pity for the perpetrator who is facing a life sentence. In a legal context, it will be important to make this distinction, since the focus of the empathic concern has a lot to do with whether a juror will punish or withhold punishment. Future research should analyze how empathy works as a predictor, and who it is more likely to work in favor of.

Future research should also go into the interaction between empathy and negative reciprocity. This study aimed to pit the two variables against each other and evaluate their predictive power in terms of predicting punishment, but there could be an interaction between empathy and beliefs about revenge that could have profound effects on the degree of punishment administered. For example, a person who scores high on the empathic concern and scores low in negative reciprocity might administer greater degrees of empathic concern since they function based on empathy for the perpetrator. Examining the ways in which these two factors interact might give more insight into specific scenarios that yield results contrary to the negative correlation that has been found between empathy and punishment.
These findings serve as a starting point for future research into more motivating factors for punishment, and can be especially useful to attorneys who want to select a stronger or weaker punishing juror in the voir dire process. This one of the few studies that examines the negative reciprocity measure in the context of punishment highlights the potential for this individual difference measure to predict particular punishment behaviors. While there was a significant negative correlation between empathy and punishment, more research needs to examine the ways in which it functions as a predictor of punishment, and how it could potentially react with beliefs about revenge and fairness.
References


