

Individuals' Empathic Responses to Exonerees' Emotional and Physical Suffering

by

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THESIS EXAMINATION INFORMATION

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An oral defense of this thesis took place on June 22, 2022 in front of the following examining committee:

Examining Committee:

Chair of Examining Committee	Dr. Leigh Harkins
Research Supervisor	Dr. Kimberley Clow
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The above committee determined that the thesis is acceptable in form and content and that a satisfactory knowledge of the field covered by the thesis was demonstrated by the candidate during an oral examination. A signed copy of the Certificate of Approval is available from the School of Graduate and Postdoctoral Studies.

ABSTRACT

In exploring avenues to combat the stigma exonerees experience, a study was conducted to examine whether exposure to an exoneree's suffering increases empathy and helping, and whether different empathic responses (e.g., emotions) result from the type of suffering witnessed. Participants were randomly assigned to three conditions: emotional suffering, physical suffering, or control. In all conditions, participants watched a video clip of an exoneree talking about his case. In the two suffering conditions, participants then read and imagined the suffering (emotional or physical) that an exoneree might experience. All participants were then asked about their emotions and helping behaviours. Suffering type did not show the same impact as has been found in previous research. Instead, imaging the exoneree's suffering – regardless of it being emotional or physical – led to greater empathic responses. The findings are discussed in terms of Stellar et al. (2020)'s work and increasing support for exonerees.

Keywords: wrongful conviction; exoneree; suffering; empathy; helping

AUTHOR'S DECLARATION

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Jingyuan Li

STATEMENT OF CONTRIBUTIONS

I hereby certify that I am the sole author of this thesis and that no part of this thesis has been published or submitted for publication. I have used standard referencing practices to acknowledge ideas, research techniques, or other materials that belong to others. Furthermore, I hereby certify that I am the sole source of the creative works and/or inventive knowledge described in this thesis.

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Individuals' empathic responses to exonerees' emotional and physical suffering

The National Registry of Exonerations (n.d.). has reported that there are more than 2700 exonerees who have collectively spent beyond 2000 years incarcerated for crimes they did not commit in the United States alone. Worldwide, exonerees' experiences with wrongful conviction can be likened to the experiences of torture victims, particularly related to issues of isolation and inhumane imprisonment (Grounds, 2004; Weigand, 2009). Despite being victims of the criminal justice system, exonerees often lack financial support and compensation from governments, and often experience stigma upon release due to their association with crimes and prison (Westervelt & Cook, 2010). How the public reacts to exonerees post-incarceration influences exonerees' quality of life, such as causing difficulties securing employment and housing (Clow, 2017; Decker et al., 2015; Kukucka, et al., 2020; Zannella et al., 2020). Many exonerees report that they feel they are treated as though they are guilty after release (Corey, 2001; Robert & Stanton, 2007; Westervelt & Cook, 2010).

Researchers examining public responses to exonerees could inform ways to reduce this stigma and ultimately assist in promoting positive social changes (Clow & Ricciardelli, 2015). In the current research, we attempt to examine people's responses to exonerees' emotional and physical sufferings in relation to their willingness to assist them. Specifically, we investigated the public's prosocial responses to exonerees, such as empathy and helping behaviours.

According to the empathy-altruism model (Batson et al., 1981), seeing another person's suffering is likely to elicit empathy, which ultimately leads to prosocial behaviours. However, subsequent research has revealed that the relationship between

empathy and prosocial behaviour may be weaker than expected (Eisenberg & Miller, 1987). More recently, Stellar et al. (2020) conducted several studies to investigate emotional, behavioural, and physiological reactions of empathy, and they demonstrated that those reactions depend on the type of suffering participants witnessed. Specifically, the studies revealed that compassion and sadness were the affective indicators of empathy when participants witnessed emotional suffering, but anxiety was the marker of empathy when participants witnessed physical suffering. In terms of prosocial behaviours (i.e., the behavioural indicators of empathy), Stellar et al. (2020) found that emotional suffering elicited more interpersonal-oriented *comforting behaviours* (i.e., expressing sympathy and support) in observers, whereas physical suffering elicited more *emergency helping behaviour* (i.e., recruiting others to help, expressing urgency).

Emotional and physical suffering are both real negative consequences of being wrongfully convicted. There are many forms of physical pain that exonerees might experience due to their wrongful conviction, such as physical isolation, being exposed to violence in prison, and the physical consequences of deprivation, which might include greater illness and lack of treatment (Weigand, 2009; Westervelt & Cook, 2010). Possible forms of emotional suffering might include psychological isolation, suicide ideation, new or worsening mental illness (Campbell & Denov, 2004; Grounds, 2004; Westervelt & Cook, 2010). In Stellar et al.'s (2020) work, participants reacted differently to emotional and physical suffering by demonstrating different emotional and behavioural helping responses. We wondered if Stellar et al.'s (2020) work would generalize to a specific individual from a stigmatized outgroup – an exoneree. Thus, we investigated people's empathic responses to an exoneree's physical and emotional suffering to test if these

different types of suffering elicit different emotional and behavioural outcomes, as has been found in other research domains (Stellar et al., 2020). It might help to extend our knowledge about empathy as well as to potentially discover a further avenue to combat the stigma exonerees encounter.

Empathy and Altruism

There are many definitions of empathy, but it is commonly defined as a state within which a person understands another person's feelings or thoughts (Batson et al., 1981; Stellar et al., 2020; Zaki, 2014). Empathy has the potential to reduce prejudice toward outgroups by helping people better connect with outgroup members (Todd et al., 2011; Vorauer & Sasaki, 2009). For example, Batson (1997) found that participants who imagined the experiences of a young woman who had been diagnosed with AIDS felt more empathy toward her, as well as AIDS victims in general, compared to participants in a control condition. Thus, we wondered if empathy might similarly improve reactions to an exoneree as well.

Altruism, on the other hand, is helping someone genuinely for that other person's benefit instead of for one's own needs (Batson, 1991). According to the empathy-altruism model (Batson et al., 1981), people's prosocial behaviour (i.e., altruism) develops when a person feels empathy for another. In other words, people's likelihood to help others depends on how much they empathize with them (Batson et al., 1981; Protel et al., 2013). Witnessing another person's suffering is one way to elicit empathy (Goubert et al., 2009; McAuliffe et al., 2020; Stellar et al., 2020). Batson et al. (1983) found that when participants witnessed another person receiving an electronic shock, those who felt high empathy were more likely to indicate that they would be willing to trade places with the

person in pain compared to those low in empathy. More recent research has similarly found that people higher in empathy are more likely to help those suffering than people low in empathy (Myer et al., 2014). Thus, research suggests that witnessing suffering can cause individuals to feel empathy, and to want to assist the individual who is suffering.

However, the empathy-altruism hypothesis has had difficulty explaining some inconsistencies in the empirical data. For example, previous meta-analyses have found the relationship between empathy and altruism (e.g., helping behaviour) to be low or moderate at best (Eisenberg & Miller, 1987; Underwood & Moore, 1982)¹. Additionally, there is some debate as to whether negative affective responses, such as anxiety and distress, are a component of empathy or an obstacle to empathy. Anxiety is a common response when people witness others in pain - especially physical pain (Batson, 1983; Stellar et al., 2020). Batson (1983), for instance, found that people exhibited roughly equal levels of personal distress and empathy when they witnessed others receiving painful electronic shocks. However, anxiety and distress are believed to lead to self-oriented thoughts, withdrawal, and non-social behaviour (Singer & Klimecki, 2014), which would be at odds with genuine empathy. In the book “Against Empathy”, Bloom (2016) argues that when people witness others suffering, and thus feel the pain of these other people, one way of removing that distress is by simply walking away and not helping.

In this thesis, we are following the work of Davis (1983), who argued that there are two main components of affective empathy: empathic concern (the compassion for

¹ These meta-analyses appear to be the most recent ones on empathy and altruism. More recent meta-analyses tend to focus on particular populations (e.g., adolescents, individuals who have committed crimes, health care professionals) and/or do not focus on helping behaviour (e.g., neurological correlate, therapy experiences, Theory of Mind).

unfortunate others) and personal distress (the discomfort one experiences in response to others' suffering). These different components have been associated with different emotions, such that personal distress has been found to positively correlate with anxiety, and empathic concern has been found to positively correlate with compassion (Stellar et al., 2020). Moreover, researchers in the area of neuroscience found that perceiving others' emotional and physical suffering activated different brain regions (those related to the Theory of Mind, or the Shared Pain network respectively; Bruneau et al., 2015). Stellar et al. (2020) proposed that the types of suffering that individuals witness may explain the discrepancies on the effect of empathy on emotional and behavioural outcomes in the literature. The researchers presented participants with pictures of others' emotional or physical suffering and measured their responses. They found that the participants in the emotional suffering condition reported higher levels of empathy than those in the physical suffering condition. Similarly, Yaghoubi et al. (2021) found that participants reported higher levels of empathic concern for strangers experiencing grief/loss than strangers experiencing physical pain, and higher levels of empathic concern for strangers experiencing physical pain than strangers not experiencing any suffering at all.

Moreover, Stellar et al. (2020) found that participants who witnessed physical suffering experienced greater anxiety than those in the emotional suffering condition, and anxiety and compassion were both positively associated with empathy. In contrast, they found that participants who witnessed emotional suffering experienced greater compassion and sadness than those in the physical suffering condition, and only compassion was associated with empathy. In addition, they found emotional suffering

elicited more interpersonal-oriented comforting behaviours, such as willingness to talk to the target or offer sympathy and encouragement, whereas physical suffering elicited more emergency helping behaviours, such as recruiting others to help or asking the target how to help, which focus more on problem solving than emotional comforting (Stellar et al., 2020).

Current Study

In the current research, we aim to explore possible avenues for increasing empathy and prosocial behaviours toward exonerees with the current research. Previous research suggests that increased exposure to exonerees (e.g., educating people about wrongful conviction or telling the stories of exonerees) can reduce the stigma of wrongful conviction (Ricciardelli & Clow, 2012). It may do so by filling in gaps of knowledge and providing a more complete picture that represents the plight of exonerees, thereby increasing people's awareness and sympathy for victims of wrongful conviction (Bell et al., 2008; Blandisi et al., 2015). For example, Ricciardelli and Clow (2012) had one class of students listen to an exoneree's lecture on wrongful conviction while a second section of students in the same course heard a faculty member's lecture on Aboriginal experiences. Students reported their attitudes about wrongful conviction (among other issues) weeks before and after the lecture. Participants who heard the exoneree's guest lecture showed increased positive attitudes and sympathy toward wrongfully convicted persons after the lecture (vs. before) – demonstrating that the exoneree's lecture changed their views – whereas those who heard the other lecture reported similar attitudes and sympathy before and after the lecture. Research with other stigmatized groups suggests that exposure to stigmatized individuals may enable people to empathize more with

members of that group (Batson, 1997; Tarrant & Hadert, 2010; Todd et al., 2011; Vorauer & Sasaki, 2009), and that might have been what assisted the attitude change in Ricciardelli and Clow (2012).

However, to our knowledge, research has yet to investigate how empathy toward exonerees might motivate individuals to help them. One way to elicit empathy and prosocial behaviour towards exonerees may be to expose individuals to the suffering that exonerees could encounter. To this end, one of our research goals was to test whether previous research on empathy and helping generalize to exonerees (a stigmatized group). A second research goal is to investigate whether reactions to an exoneree differs depending on whether the exposure primes emotional or physical suffering as Stellar et al. (2020) found.

We hypothesized the following:

H1: Individuals in the emotional suffering condition would rate empathy, compassion, and sadness higher than those in the physical suffering and control conditions, and those in the physical suffering condition would rate anxiety higher than those in the emotional suffering and control conditions (similar to Stellar et al. (2020) and Yaghoubi et al. (2021)).

H2: Individuals in the physical suffering condition would engage in emergency helping (by donating) more than those in the emotional and control conditions, while individuals in the emotional suffering condition would engage in comforting helping (by writing compassionate letters) more than those in the other conditions, as suggested by Stellar et al. (2020).

Next, we expected individuals' empathy and prosocial behaviours would be moderated by their emotions and suffering conditions. To assist readers in following all the predictions we have stemming from Stellar et al.'s (2020) work, we have provided a summary figure (see Figure 1) that incorporates a) different types of suffering that exonerees could experience, b) participants' empathy, c) a range of emotional responses (sadness, compassion, and anxiety), and d) behavioural outcomes (e.g., comforting and emergency helping) to determine whether thinking about an exoneree's suffering leads to empathy, and ultimately helping behaviour. Specifically, we hypothesized the following in the emotional suffering condition:

H3. Compassion and sadness would be positively correlated with empathy, as was found in previous studies (see Davis, 1983; Stellar et al., 2020).

H4. Compassion, sadness, and empathy would be positively correlated with participants' comforting helping behaviour (i.e., compassion expressed in the messages for the exoneree) as suggested by Stellar et al. (2020).

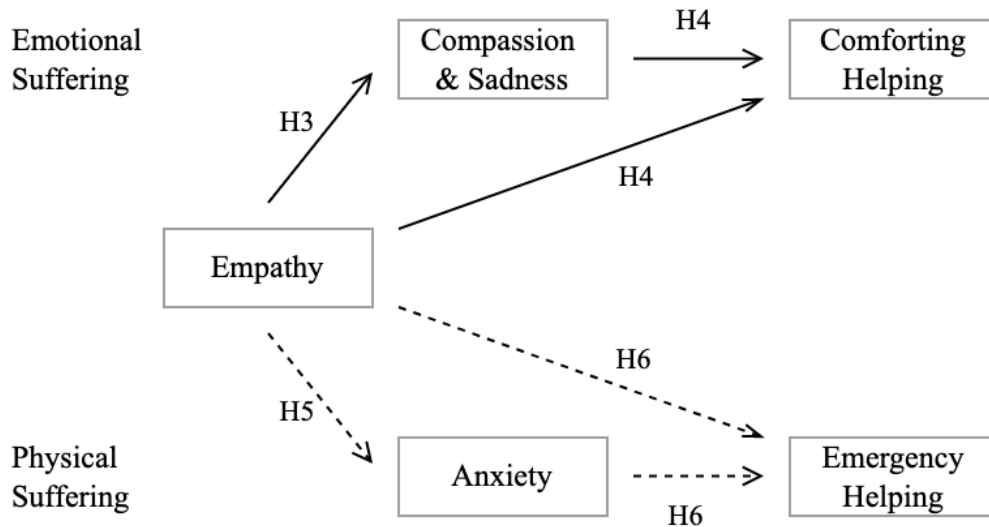
We hypothesized the following in the physical suffering conditions:

H5. Anxiety would be positively correlated with empathy, as was found in previous studies (Davis, 1983; Neumann et al., 2016; Shu et al., 2017; Stellar et al., 2020).

H6. Anxiety and empathy would be positively correlated with emergency helping behaviour (i.e., amount of money willing to donate to the exoneree), as suggested by previous studies (see Baston et al. (1983) and Stellar et al. (2020)).

Figure 1

Empathy-Emotion-Helping by Emotional and Physical Condition



Note. The solid lines represent hypotheses in the emotional suffering condition; the dotted lines represent hypotheses in the physical suffering condition.

Our final hypothesis involved mediation:

H7: Empathy would mediate the relationship between compassion and sadness and comforting helping within the emotional suffering condition, whereas it would mediate the relationship between anxiety and emergency helping within the physical suffering condition as suggested by Stellar et al. (2020).

Method

Participants

To test many of our hypotheses (H3 – H6), we conducted correlations within each suffering condition separately. Thus, to determine the number of participants for the study, a G*Power analysis estimated 83 participants per condition would be necessary to detect a medium correlation ($r = .27$) with 80% power. As this study has three conditions,

this would mean a total sample of 249. We began with a sample of 358 undergraduate students from Ontario, Canada, as we anticipated that we would lose people (a number of participants did not complete the study ($n = 46$), failed attention and manipulation checks ($n = 30$), or indicated at the end of the survey that they wished to withdraw from the study ($n = 30$)). This left us with a final useable sample of 252, with at least 82 participants per experimental condition. As we have 82, rather than 83 participants in some of our condition, our power for the study was reduced to .798.

Participants were 21 years old on average ($SD = 4.88$) and 65.5% identified as women (31.3% men 2.4% non-binary, and 0.8% unsure). Less than half (36.1%) of the sample identified as White, with participants reporting a range of ethnic identities (e.g., Southeast Asian (21%), Black (11.1%), Chinese (4.8%), Arab (4.4%), Latin American (2.8%)). Participants who correctly answered the attention checks (where we told them what answer to pick for the question, to test if they were paying attention) received 1% toward their introductory psychology course as compensation for their participation, as approved by our university's Research Ethics Board (see Appendix A and Appendix B). Although our participants were enrolled in introductory psychology, this course is a mandatory course as well as a popular elective for many programs in our university, such as nursing, political science, and criminology.

Measures and Materials

This study was conducted as part of a larger study that focused on individuals' responses to an exoneree (see Appendix C for a complete list of materials). Only the materials relevant to this thesis' hypotheses and analyses are described further.

Video

A five-minute video clip was created from an hour long videotaped public guest lecture delivered by a Canadian exoneree. In the video clip, the exoneree talked about the following: how he was falsely accused of a murder he did not commit, how he was mistakenly identified by a hypnotized witness, his incarceration experiences, and being granted bail after Innocence Canada became involved in his case. The video clip was designed to be as neutral as possible regarding our conditions (as control participants also watched this video), which means that there were no verbal or nonverbal cues demonstrating the exoneree experienced emotional or physical suffering.

Manipulation of Suffering

We had three conditions: emotional suffering, physical suffering, and control. Participants in the emotional and physical suffering conditions (but not the control condition) read a short description of the kind of suffering the exoneree in the video may have gone through and imagined a particular type of suffering the exoneree in the video may have experienced. For example, those who were assigned in the physical suffering condition were instructed to imagine any physical pain the exoneree may have experienced. The stimuli for the physical suffering condition are shown as an example below, with the changes for the emotional suffering condition in square brackets (the emphasis appears in the actual stimuli):

“Wrongful conviction is when an innocent person is convicted of a crime they did not commit, which is a serious issue. Wrongful conviction disrupts a person’s entire life. One of the many negative consequences is that it brings **physical pain** [emotional pain] to the person wrongfully convicted.”

“Research has shown that being sent to prison for a crime you did not commit leads individuals who have been wrongfully convicted to experience many forms of **physical pain [emotional pain]**, such as ending up with more chronic illnesses, having more untreated health issues, being exposed to a violent environment and possibly being violently victimized by others, and they may even be the victims of sexual assault while wrongfully incarcerated [ending up with more depression, having more untreated anxiety disorders, being exposed to a lonely environment and possibly being completely isolated from others, and they may even be the victims of suicidal thoughts while wrongfully incarcerated].”

“Please think about the kinds of **physical pain [emotional pain]** the exoneree in the video may have experienced after wrongful conviction. Please list any additional forms of **physical pain [emotional pain]** you can think of (anything we did not describe in the paragraph above) in your own words in the space provided below. Please be as detailed as possible.”

Next, a textbox was provided so participants could list other kinds of physical or emotional suffering they could imagine, to engage participants in the topic of the manipulation. Afterward, to keep participants thinking about the relevant type of suffering, participants rated five suffering items, on a scale ranging from 0 (*the least pain imaginable*) to 100 (*the most pain imaginable*): chronic illness, untreated health issues, violence from other inmates, being a victim of sexual assault [depression, anxiety disorders, loneliness and isolation, suicidal thoughts]. Finally, participants rated the overall physical pain [emotional pain] they believed the exoneree suffered.

Emotions

Participants were then asked to rate their emotions regarding how they felt when they imagined what the exoneree in the video may have gone through (Stellar et al., 2020). Compassion/sympathy, warmth/tenderness, soft-hearted, and moved were averaged together to create a compassion variable ($\alpha = .77$). Sad and upset were averaged together to create a sadness variable ($\alpha = .80$). Anxious, nervous, uncomfortable/uneasy, and alert were averaged to create an anxiety variable ($\alpha = .80$). The remaining items (afraid/scared, disgust, contempt/disdain, and inspired) were included to obscure the focal emotions in this study but were not analyzed. Participants rated each emotion on a 10-point scale ranging from 1 (*Not at All*) to 10 (*As Much as I've Ever Felt*), and the order of the emotions was randomized across participants to eliminate order effects.

Empathy

Trait Empathy. The Interpersonal Reactivity Index (Davis, 1983) was used to assess participants' trait empathy; their general levels of empathy toward others across various situations, almost like a disposition or general approach. The Interpersonal Reactivity Index (IRI) has 28 items and uses a 5-point response scale (1 = *Does not describe me well*; 5 = *Describes very well*). This measure has four subscales: fantasy (e.g., "I really get involved with the feelings of the characters in a novel."), personal distress (e.g., "In emergency situations, I feel apprehensive and ill-at-ease"), perspective-taking (e.g., "I try to look at everybody's side of a disagreement before I make a decision."), and empathic concern (e.g., "I often have tender, concerned feelings for people less fortunate than me."). Each subscale consists of seven items. The IRI has been frequently used in past research. All four subscales have been highly reliable in past

research (Davis, 1983; Guan & Qian, 2014; Hawk et al., 2013), as well as in the current data (ranging from .72 to .79.).

State Empathy. The one-item empathy measure from Stellar et al. (2020) was modified for the current study to assess the amount of empathy participants felt immediately following our manipulation, to get a snapshot of participants' empathy levels at a particular point in time (i.e., right after our manipulation). Participants were asked to rate how much empathy they felt toward the exoneree as a single item (“How much empathy do you feel toward the exoneree?”) on a 10-point scale ranging from 1 (*Not at All*) to 10 (*As Much as I've Ever Felt*). As it is a single item measure and state empathy is not widely used, the IRI was included as well to verify that the state empathy measure was working as expected.

Prosocial Behaviours

To assess whether participants were willing to help the exoneree in our video clip, we created two behavioural measures: one to assess comfort helping and the other to assess emergency helping. Comfort helping was measured by asking participants to write a few words to help support the exoneree in the video. After responses were collected, three coders (who were blind to the condition) rated the level of compassion expressed in those support letters. As was done by Grant et al. (2009), participants' messages were coded as 1 (*not at all compassionate*), 2 (*somewhat compassionate*), or 3 (*extremely compassionate*). Raters were instructed to consider to what extent the participant expressed sympathy and concern for the exoneree's misfortune and/or hoped for his well-being. An example of a letter rated by all coders as *not at all compassionate* said “Stay strong, things will get better,” whereas an excerpt from a message rated by all coders as

extremely compassionate said “I couldn’t imagine how much adversity you must have felt during your period in prison ... I pray that you are doing well and found peace ...” An additional coding category of 0 (did not write a message) was used when participants did not respond (n = 33) or put in an irrelevant message (n = 5).² Although a one-way ANOVA indicated that one coder rated significantly lower than did the other two coders, the interrater reliability between all three coders was strong: ICC(2) = .92, 95% CI [.90, .94]. Thus, we used the average of the three coders’ ratings as our comforting helping variable.

Emergency helping was measured by assessing participants’ willingness to donate to the exoneree in the video. Specifically, participants were instructed to imagine they won \$100 (to avoid demographic differences in SES, and technical or privacy difficulties of collecting money online) and asked if they were willing to donate this money to cover the exoneree’s medical bills (yes/no). If participants said yes, they were asked to indicate how much of the money they would like to donate. Anyone who replied “no” was recorded as 0 dollars, and the amount of money participants chose to (hypothetically) donate was the measure of emergency helping.

Attention & Manipulation Checks

There were two attention checks and one manipulation check imbedded within the study. These checks were used to remove the data of participants who were not paying attention to the study (e.g., randomly hitting buttons to complete the study as quickly as possible). As these checks were very basic, participants who failed any one of the three checks were dropped from analyses. The attention check questions were “If you are

² Irrelevant messages appeared to just be filler to move on (e.g., “Bible”), or were uninterpretable (e.g., “one day at a time”).

reading this question, choose 4 as your answer to this question.” and “If you are reading this question, choose 1 as your answer to this question.” The manipulation check was “At the beginning of the study, what negative consequence of wrongful conviction did you read about and answer questions about?” and participants were given four options to choose from: emotional suffering, physical suffering, false criminal record, and police race relations (the correct answer would be emotional suffering if participants were in the emotional suffering condition or physical suffering if they were in the physical suffering condition; control participants did not receive this question).

Procedure

The study was run online using Qualtrics survey software. A link to the study was posted on the university’s SONA Research Participation Pool website, where interested participants could pursue all available studies. Clicking on the link brought participants to the consent form. After consenting to participate, all participants watched the video clip (even participants in the control condition). After watching the video, the computer randomly assigned participants to one of the three conditions: emotional suffering, physical suffering, or control condition. Participants in the suffering conditions saw the appropriate suffering material (emotional or physical) while those in the control condition moved on to the dependent measures. The dependent measures appeared in the order described in the Materials section except for trait empathy, which was the last measure, followed by some demographic questions (e.g., gender, age, ethnicity) and a debriefing form.

Results

Before testing our hypotheses, boxplots were generated by SPSS software that identified five influential outliers on state empathy in the emotional suffering condition. If they were excluded, there would be only 77 participants in the emotional suffering condition (G*Power suggested 83), which would further lower our power to detect an effect. Thus, we replaced these outliers with the mean of our state empathy scores instead. No other outliers were found.

Exploring Empathy

The current study included two different empathy measures: the IRI measured participants' trait empathy (i.e., participants' general level of empathy across various situations), and one-item measured participants' state empathy (i.e., participants' level of empathy toward the exoneree after watching the video). We explored the similarities and differences among these empathy measures, as well as how they related to participants' emotions and helping variables. See Table 1 for the correlation matrix.

We found a significant moderate positive correlation between the two empathy measures, $r(250) = .37, p < .001$. Moreover, both scales correlated positively with all the emotional and helping variables in the study. Therefore, in the main thesis analyses, we included only one measure of empathy, and we chose state empathy as it should be most impacted by the suffering manipulation.

Table 1*Zero Order Correlations between Empathy Measures, Emotion Measures, and Behaviours Measures*

	1	2	3	4	5	6	7	8	9	10	11
1.State Empathy	1.00										
2.Empathy (IRI)	.37***	1.00									
3.IRI-EC	.48***	.76***	1.00								
4.IRI-PD	.08	.47***	.16*	1.00							
5.IRI-FS	.10	.71***	.35***	.13*	1.00						
6.IRI-PT	.32**	.54***	.43***	-.16*	.19**	1.00					
7.Compassion	.59***	.40***	.48***	.15*	.14*	.25***	1.00				
8.Sadness	.57***	.40***	.38***	.21**	.22***	.19**	.54***	1.00			
9.Anxiety	.40***	.34***	.34***	.25***	.14*	.12	.44***	.60***	1.00		
10.Comforting Helping	.18**	.22***	.27***	.03	.13*	.14*	.15*	.17**	.08	1.00	
11.Emergency Helping	.32***	.29***	.37***	.05	.17**	.15*	.30***	.30***	.29***	.17**	1.00

Note. EC = Empathic Concern, PD = Personal Distress, FS = Fantasy, PT = Perspective Taking

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

Interestingly, where the empathy scales appeared to differ from one another was in their relations to the IRI subscales. IRI total scores were strongly correlated with empathic concern and fantasy subscales, and moderately correlated with personal distress and perspective taking subscales, whereas state empathy correlated moderately with empathic concern, less strongly with perspective taking, and did not significantly correlate with personal distress or fantasy at all. Interested readers can refer to Table 1 for more details.

Empathic Responses: Emotions and Behaviours

We hypothesized (H1) that participants in the emotional suffering condition would report the highest level of state empathy, compassion, and sadness, whereas those in the physical suffering condition would report the greatest anxiety. To test this hypothesis, we conducted one-way ANOVAs on empathy, compassion, sadness, and anxiety with condition as the between-participants variable. There were significant differences between the three groups in empathy, $F(2, 249) = 5.35, p = .005, \eta^2 = .04$, and sadness, $F(2, 248) = 6.17, p = .002, \eta^2 = .05$, however, the differences were not entirely as we predicted. Participants who thought about the exoneree's emotional suffering ($M = 8.56, SD = 1.07$) reported higher empathic feelings toward him than those in the control condition ($M = 7.73, SD = 1.81$), $p = .004$, 95% CI [.23, 1.43], however, no significant differences in empathy were found between those in the emotional and physical suffering conditions ($M = 8.13, SD = 1.87$), $p = .19$, 95% CI [-.15, 1.03], or between the physical suffering and control conditions, $p = .26$, 95% CI [-.20, .98]. Similarly, participants who thought about the exonerees' emotional suffering ($M = 7.58, SD = 2.04$) experienced greater sadness than those in the control group ($M = 6.41, SD = 2.29$), $p = .002$, 95% CI

[.37, 1.97], but there were no differences in sadness between the emotional and physical suffering conditions ($M = 7.16$, $SD = 2.13$), $p = .41$, 95% CI [-.36, 1.20], or between the physical suffering and control conditions, $p = .06$, 95% CI [-.03, 1.54]. Unexpectedly, there were no significant differences in compassion (Emotional Suffering: $M = 6.15$, $SD = 2.01$; Physical Suffering: $M = 5.95$, $SD = 2.01$; Control: $M = 5.84$, $SD = 2.05$), $F(2, 249) = .51$, $p = .60$, or anxiety (Emotional Suffering: $M = 5.17$, $SD = 2.16$; Physical Suffering: $M = 5.00$, $SD = 2.44$; Control: $M = 4.61$, $SD = 2.41$), $F(2, 248) = 1.24$, $p = .29$.

As for the behavioural markers of empathy (H2), we conducted one-way ANOVAs on participants' comforting and emergency helping behaviours with condition as the between-participants variable. We expected emotional suffering ($M = 1.59$, $SD = .90$) to elicit more comforting helping than physical suffering ($M = 1.71$, $SD = .96$) and control ($M = 1.40$, $SD = .93$), and physical suffering ($M = 53.64$, $SD = 37.66$) to elicit more emergency helping than emotional suffering ($M = 54.57$, $SD = 38.48$) and control ($M = 43.35$, $SD = 38.82$). However, there were no significant differences in comforting helping, $F(2, 249) = 2.30$, $p = .10$, or emergency helping, $F(2, 249) = 2.19$, $p = .12$. Therefore, our hypothesis (H2) was not supported.

Relations Between Empathy, Emotions, and Helping

We conducted Pearson correlations between our key variables by emotional and physical suffering conditions separately (see Table 2). We had numerous hypotheses about the relationships between participants' empathy, emotions, and helping behaviours, by suffering type (H3-H6), refer back to Figure 1; the relationships we actually found can be seen in Figure 2. Within the emotional suffering condition, participants' compassion and sadness positively correlated with their empathy, $r(80) = .47$, $p < .001$, and $r(80)$

= .26, $p = .02$, respectively, but not with anxiety, which supports our hypothesis (H3). We predicted that participants' comforting helping behaviour toward the exoneree would positively correlate with their compassion, sadness, and empathy (H4), but, contrary to our predictions, sadness was positively related to emergency helping, $r(80) = .28, p = .01$, not comforting helping, $r(80) = .10, p = .35$, and compassion did not significantly correlate with comforting, $r(80) = .16, p = .15$, or emergency helping, $r(80) = .08, p = .46$. Moreover, empathy did not positively correlate with comforting either, $r(80) = .12, p = .28$. Thus, our hypothesis (H4) was not supported.

Table 2

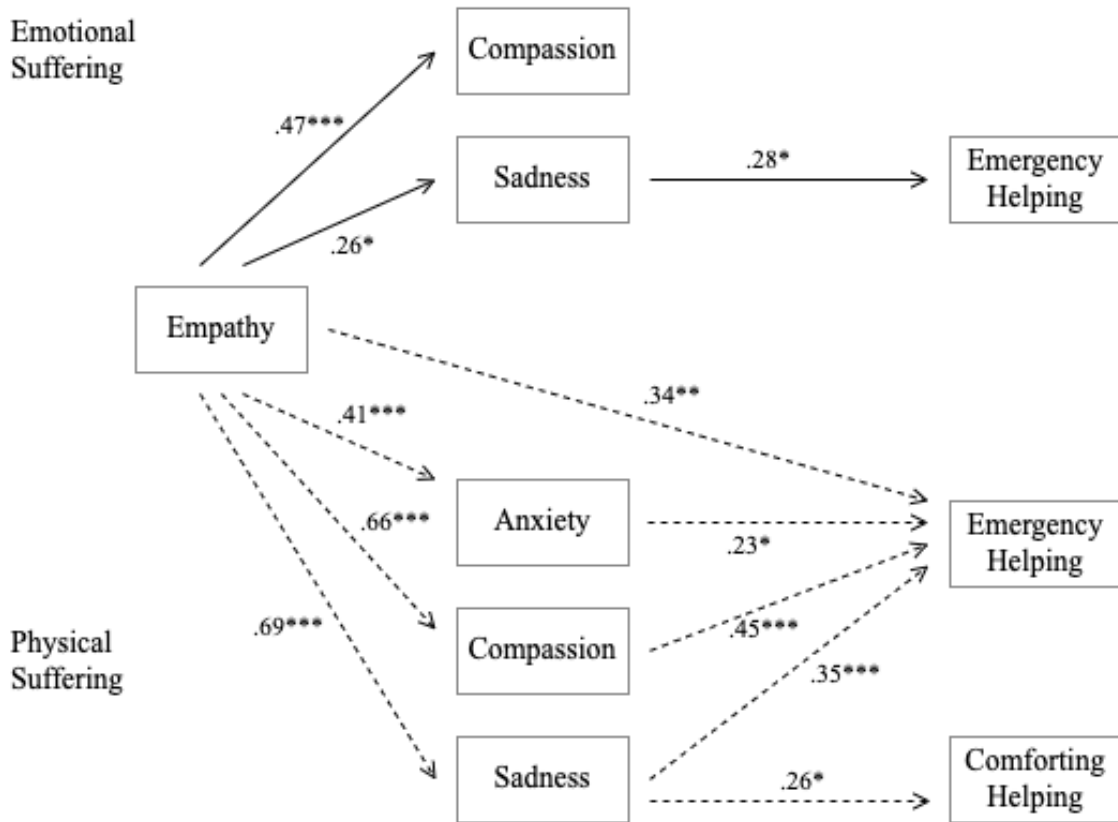
Zero Order Correlations between Key Study Variables by Suffering Condition: Emotional Suffering (Left/Bottom) and Physical Suffering (Right/Top)

	Empathy	Compassion	Sadness	Anxiety	Comforting Helping	Emergency Helping
1. Empathy	1.00	.66***	.69***	.41***	.14	.34**
2. Compassion	.47***	1.00	.56***	.36***	.02	.45***
3. Sadness	.26*	.48***	1.00	.59***	.26*	.35***
4. Anxiety	.22	.45***	.64***	1.00	.18	.23*
5. Comforting Helping	.12	.16	.10	-.06	1.00	.13
6. Emergency Helping	.08	.08	.28*	.23*	.02	1.00

Note. The left side (bottom half) of the diagonal shows correlations within the emotional suffering condition ($n = 82$), the right side (top half) shows correlations within the physical suffering condition ($n = 88$). * $p < .05$. ** $p < .01$. *** $p < .001$

Figure 2

Actual Correlations between Empathy, Emotions, and Helping by Emotional and Physical Suffering



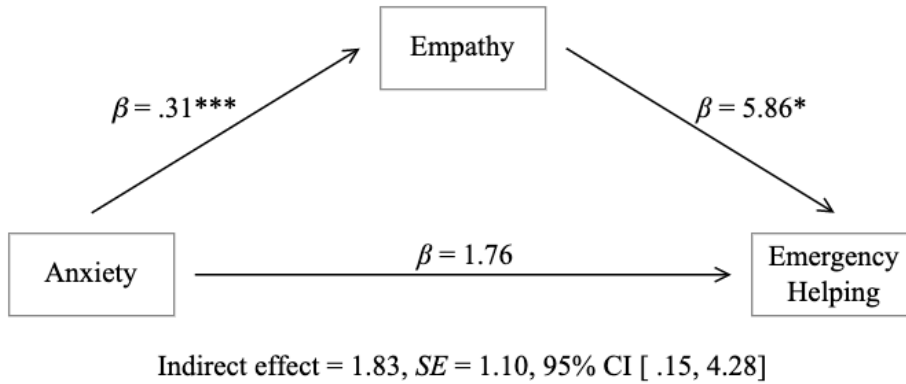
Note. The solid lines represent relationships within the emotional suffering condition; the dotted line represents relationships within the physical suffering condition. * $p < .05$. ** $p < .01$. *** $p < .001$

Within the physical suffering condition, participants' empathy positively correlated with their anxiety as we predicted (H5), $r(86) = .41, p < .001$, but surprisingly, it also positively correlated with sadness, $r(86) = .69, p < .001$, and compassion, $r(86) = .66, p < .001$. In addition, participants' emergency helping positively correlated with anxiety as we predicted (H6), $r(86) = .23, p = .03$, but it also positively correlated with compassion, $r(86) = .45, p < .001$, and sadness, $r(86) = .35, p < .001$. We did find that participants' empathy positively correlated with emergency helping, as we expected (H6), $r(86) = .34, p = .001$.

To test the possible mediating effect of empathy on the emotional and behavioural responses (H7), we used Haye's PROCESS (model 4) and conducted mediation analyses separately for emotional and physical suffering conditions. Although a simple linear regression analysis indicated that anxiety positively predicted emergency helping within the physical suffering condition, $\beta = .23, SE = 1.62, p = .03$, mediation analyses revealed a mediating effect of empathy on the positive relationship between anxiety and emergency helping within the physical suffering condition (see Figure 3), $\beta = 1.83, SE = 1.10, 95\% CI [.15, 4.28]$. It supports that anxiety and emergency helping are the empathic responses when individuals perceive physical suffering (see Stellar et al., 2020). No mediation occurred in the emotional suffering condition, however. Thus, our hypothesis (H7) was only partially supported.

Figure 3

Mediation of Empathy within Physical Suffering Condition



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

Summary

Participants' compassion, anxiety, and helping behaviours did not differ by suffering condition, but those in the emotional suffering condition showed greater empathy and sadness than those in control. Thus, our first hypothesis was partially supported, and the second hypothesis was not supported. Regarding hypotheses 3-6, we predicted that, within the emotional suffering condition, empathy would positively correlate with compassion and sadness (H3), which was supported. Also, we expected comforting helping would positively correlate with compassion, sadness, and empathy (H4), which was not supported. Within the physical suffering condition, empathy positively correlated with anxiety as we predicted (H5). Also, emergency helping positively correlated with anxiety and empathy as we predicted (H6). However, the results by suffering type (emotional vs. physical) were not as distinct and separated as we expected from Stellar et al. (2020). For example, empathy also correlated with compassion and sadness within the physical suffering condition, and thus hypotheses in

the physical suffering condition (H5 – H6) were only partially supported. Lastly, empathy mediated the relationship between anxiety and emergency helping within the physical suffering condition, but it did not mediate the relationship between compassion and/or sadness and comforting helping within the emotional suffering condition. Thus, our seventh hypothesis was only partially supported as well.

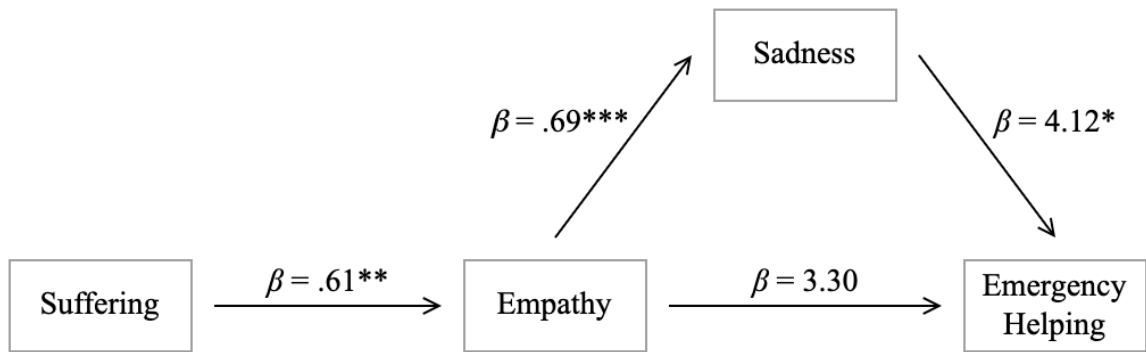
Exploratory Analyses

We conducted exploratory analyses to further understand the role of empathy on prosocial behaviours concerning exonerates and their suffering. Because our ANOVAs only revealed differences in empathy between emotional suffering and the control group (i.e., found no differences between emotional and physical suffering), we combined the two suffering conditions together, and explored the role of empathic feeling, emotions, and helping behaviour when people were thinking about suffering or not (i.e., suffering conditions vs. control). First, we dummy coded our conditions such that 0 = control and 1 = emotional suffering or physical suffering, and ran a simple regression to test if thinking about suffering was related to increased empathy, which it was, $\beta = .61, p = .006$. We then used Hayes' PROCESS analysis (model 4) to test the relation between empathy, the emotions (i.e., compassion, sadness, and anxiety), and helping behaviour (i.e., comforting helping and emergency helping), within the suffering conditions only (i.e., dropping the control condition). Unexpectedly, significant indirect effect for empathy were not found, $\beta = 1.65, SE = 1.13, 95\% CI [-.33, 4.13]$. Instead, significant indirect effect for sadness, $\beta = 2.83, SE = 1.23, 95\% CI [.40, 5.21]$, was found on the relation between empathy and emergency helping (see Figure 4). Overall, it shows that thinking about an exoneree's suffering leads to empathy, which further leads to participants' emergency helping

behaviour through feeling sadness. There was no mediating effect of compassion or anxiety, and no effect on comforting helping.

Figure 4

The Impact of Empathy with Sadness as a Mediator



Sadness Indirect effect = 2.83, SE = 1.23, 95% CI [.40, 5.21]

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

Discussion

People do not typically think about what exonerees experience or all the suffering they go through (Ricciardelli & Clow, 2012). Therefore, we wondered whether exposing people to what exonerees may suffer through could reduce stigma (Clow et al., 2012) and facilitate empathic responses. As Stellar et al. (2020) suggested that emotional and physical suffering could elicit different emotional and behavioural responses, we compared those empathic responses in emotional suffering, physical suffering, and no suffering (i.e., control) conditions. Our findings provide partial support for the predictions derived from Stellar et al.'s (2020) work.

In terms of Stellar et al.'s (2020) work, our findings demonstrated that when people thought about the exoneree's emotional suffering, those who experienced more

empathy tended to experience more compassion and sadness, in support of Stellar et al. (2020). However, when people thought about the exoneree's physical suffering, higher empathy was still associated with compassion and sadness, contrary to Stellar et al. (2020), but also anxiety, supporting Stellar et al.'s (2020) claim that anxiety is related to empathy when witnessing physical suffering. These findings suggests that thoughts of physical suffering may be an addition to preexisting consideration of emotional suffering, at least when exonerees are involved. Furthermore, although emotions (i.e., compassion, sadness, and anxiety) were all positively associated with greater emergency helping within the physical suffering condition, our mediation analysis within the physical suffering condition showed that empathy mediated the relation between emergency helping and anxiety, but not for any of the other emotions (i.e., compassion and sadness), which further supports Stellar et al.'s (2020) argument that anxiety and emergency helping are both markers of empathy when people perceive others' physical suffering. The anxiety elicited from picturing the exoneree's physical suffering led to greater emergency helping in the form of more (hypothetical) donations, which was explained by the amount of empathy one felt toward the exoneree. Although some prior research has indicated that anxiety is a self-oriented emotion leading to withdrawal behaviours (Singer & Klimecki, 2014), our study is similar to Stellar et al. (2020) in that it shows a positive association of anxiety, with empathy, and helping behaviours.

Regarding helping behaviours, contrary to our predictions stemming from Stellar et al. (2020), participants who experienced greater sadness for the exoneree's emotional suffering tended to show more emergency helping instead of comforting helping. Also, participants who experienced more sadness and compassion – not just anxiety – for the

exoneree's physical suffering showed more emergency helping. Moreover, those with more sadness in the physical suffering condition – not emotional suffering – showed more comforting behaviour as well. These findings raise question as to why empathy and the emotions do not relate to helping in the suffering conditions as we expected from Stellar et al. (2020).

Possibly the different findings were because Stellar et al. (2020) looked at empathy toward friends or general others while we explored empathy toward a particular stigmatized group: exonerees. It is possible that individuals act one way with positive (e.g., friends) or neutral (e.g., strangers) targets, and another way when they encounter negatively stigmatized group members (e.g., exonerees). Moreover, our manipulations looked at emotional and physical aspects of the same issue rather than different forms of suffering as has been done in past research (e.g., death of a loved one vs. broken bones; Stellar et al., 2020). Thus, in this study, the influences of one condition might have bled over to the other, which could not happen in past research. Our ANOVA results revealed that when individuals thought about an exoneree's suffering – whether it was emotional or physical – they showed similar empathic reactions. A possible further explanation is that individuals who took the exoneree's perspective viewed wrongful conviction as equally horrible – regardless of suffering condition. Possibly, wrongful conviction is so far beyond thinking of a broken bone or a relationship break-up that participants demonstrated similar levels of empathy, emotions, and helping behaviours, regardless of condition. In addition, wrongful conviction itself might be a sad, all-encompassing and horrible event that is too far removed from the discrete stimuli used in past research. Thus, previous findings on how those responses differ depending on emotional and

physical suffering may not apply to exonerees. Sitting in prison for a crime they did not commit involves physical suffering, but it also brings the pain of isolation and separation (i.e., emotional suffering) to mind. When it comes to wrongful conviction, people might not be able to take exonerees' emotional suffering out of their physical suffering completely. In fact, Repeated Measures ANOVA on our two manipulation check questions asking how participants perceived the exoneree suffered emotionally and physically showed that emotional suffering was rated significantly higher than physical suffering across conditions, $F(1, 249) = 450.63, p < .001, \eta_p^2 = .64$. Therefore, our physical suffering condition may simply have been adding consideration of physical suffering to existing thoughts of emotional suffering, rather than a discrete and separate condition.

Also, the correlations in this study showed that people who felt more empathy tended to feel greater sadness across conditions, rather than just in emotional suffering. This further suggests that wrongful conviction, in and of itself, is sadness-provoking. Moreover, our study used a sample of undergraduate students, and as the exoneree in our research was wrongfully convicted and lost his girlfriend just after graduating from psychology at the University of Toronto, our participants may have been able to identify and relate to his loss more than other participants. Future research may wish to explore more varied samples and/or different exonerees to address this possibility.

Another possibility is that our suffering manipulations led participants to take the perspective of the exoneree where Stellar et al.'s manipulations did not have this perspective taking aspect. Indeed, asking people to take a target person's perspective has increased their empathic concern and helping behaviours in previous research (Sassenrath

et al., 2017). As our manipulation did lead to greater empathy, it suggests that further investigating perspective-taking might be a promising avenue for stigma reduction research for exonerees. Finally, as the mediation model in our exploratory analyses showed the role of empathy and sadness in explaining why people were willing to donate to the exoneree when exposed to his suffering, it suggests that advocacy efforts that target empathy and/or sadness might be key in increasing assistance for exonerees and combatting the stigma they experience. Future research may want to investigate whether empathy, perspective-taking, and sadness can similarly reduce stigma toward exonerees and wrongful conviction experiences.

Limitations and Future Directions

We examined university students' empathy and prosocial behaviours toward an exoneree. However, previous research has suggested that undergraduate students might be more educated about wrongful conviction than others (Bell et al., 2018), but might be less adept at hiding subtle prejudices toward them than the general public (Clow et al., 2012). Also, we measured participants' empathy toward a specific exoneree, and thus we cannot be sure that the prosocial responses we found can be extended to other exonerees. Therefore, to increase generalizability, future research should replicate the study using more diverse participant samples and multiple exonerees to see if individuals' prosocial responses can apply to exonerees in general.

In terms of our lack of comforting helping findings, participants in our study were instructed to write a supportive message to help comfort the exoneree, if they wished. Although those who felt compassionate toward the exoneree should have been willing to help the exoneree in this way, individuals may have varied in their abilities to think of

ideas on the spot or to draft responses to express their feelings independent from their willingness to comfort. Future studies may need to include a broader range of operationalizations of comforting, such as willingness to give a hug or attentively listen to an exoneree talking about personal stories. Also, participants' decisions to write a message or not in this study, briefly or in more detail, could be different assessments of comfort helping that we have not currently considered or analyzed. Additionally, some participants might not have taken this task seriously because they were in a survey study; they may not have believed that their responses would be sent to the actual exoneree (even though they were told that they would be). Moreover, three raters rated the level of compassion expressed in the messages. Although this study achieved high inter-rater reliability, one of the raters gave significantly lower scores than the two other raters, $F(2, 249) = 6.99, p < .001, \eta^2 = .02$, suggesting there is a subjective element to our assessment of comforting helping, and caution is warranted in interpreting whether exonerees' emotional suffering could elicit comforting helping based on the findings. Future research is needed before any strong conclusions about comforting helping can be drawn.

In addition, our manipulation of suffering might have been insufficient. We conducted one-way ANOVAs comparing our three groups on our two manipulation check questions, asking how participants perceived the exoneree suffered emotionally and physically. Although there were significant differences in physical suffering, $F(2, 249) = 5.45, p = .005, \eta^2 = .04$, where those in the physical suffering condition rated physical suffering higher than those in the emotion suffering condition, $p = .004$, 95% CI [.18, 1.16], there were no significant differences in the perception of emotional suffering across the two suffering conditions, $F(2, 249) = .74, p = .48$. Perhaps the exoneree's

wrongful conviction case was emotional for participants, regardless of condition, as the exoneree lost his girlfriend, was convicted of a crime he did not commit, and lost years of his life in prison. Wrongful conviction itself may, in and of itself, be considered high in emotional suffering. Alternatively, our manipulation may simply have lacked strength.

The current study used expository texts to manipulate emotional and physical suffering (see Appendix C). Future studies could consider using more narrative texts, as a meta-analysis found that information presented in narrative format was more easily recalled and comprehended than information presented in an expository format (Mar et al., 2021). Moreover, another meta-analysis showed that narrative reading leads to better performance on social-cognitive tasks, including theory of mind, empathy, and prosocial behaviours, compared to non-narrative reading (Dodell-Feder & Tamir, 2018). Elements of stories often resonate with individuals' actual lives (Mar et al., 2021), thus, stories might be an easier context for people to imagine an exoneree's emotional or physical suffering. Therefore, future studies could explore whether differing methods of conveying information (e.g., stories versus essay format) lead to stronger manipulation of suffering and/or have a stronger impact on willingness to help exonerees.

Conclusion

Our findings demonstrate that considering an exoneree's suffering does have implications for empathy and prosocial behaviours, even though our results differed somewhat from past research (Stellar et al., 2020). Components of empathy may vary depending on situations. In this particular case in which we asked people to consider the suffering an exoneree had gone through, sadness seems to drive the empathic reaction. As people do not usually think about exonerees' experiences, and research shows exonerees

are disadvantaged in finding housing and employment, perhaps exposing people to exonerees' experiences and suffering might increase their empathy and sadness, and ultimately increase people's willingness to help this stigmatized group.

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Appendices

Appendix A. Ethics Approval

Date: May 10, 2021
To: Kimberley Clow
From: Paul Yelder, REB Vice-Chair
File # & Title: 16390 - Lemon
Status: **APPROVED**
REB Expiry Date: May 01, 2022

Documents Approved:

Clean version of revised stimuli (Received May 8, 2021)
Clean (no track changes) version of revised consent form (Received May 8, 2021)
Debriefing form (Received April 11, 2021)
Explanation of the study. (<i>Received April 11, 2021</i>)
Video information. (<i>Received April 11, 2021</i>)

Notwithstanding this approval, you are required to obtain/submit, to Ontario Tech Research Ethics Board, any relevant approvals/permissions required, prior to commencement of this project.

The Ontario Tech Research Ethics Board (REB) has reviewed and approved the research study named above to ensure compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2 2018), the Ontario Tech Research Ethics Policy and Procedures and associated regulations. As the Principal Investigator (PI), you are required to adhere to the research protocol described in the REB application as last reviewed and approved by the REB. In addition, you are responsible for obtaining any further approvals that might be required to complete your project.

Under the TCPS2 2018, the PI is responsible for complying with the continuing research ethics reviews requirements listed below:

Renewal Request Form: All approved projects are subject to an annual renewal process. Projects must be renewed or closed by the expiry date indicated above (“Current Expiry”). Projects not renewed 30 days post expiry date will be automatically suspended by the REB; projects not renewed 60 days post expiry date will be automatically closed by the REB. Once your file has been formally closed, a new submission will be required to open a new file.

Change Request Form: If the research plan, methods, and/or recruitment methods should change, please submit a change request application to the REB for review and approval prior to implementing the changes.

Adverse or Unexpected Events Form: Events must be reported to the REB within 72

hours after the event occurred with an indication of how these events affect (in the view of the Principal Investigator) the safety of the participants and the continuation of the protocol (i.e. un-anticipated or un-mitigated physical, social or psychological harm to a participant).

Research Project Completion Form: This form must be completed when the research study is concluded.

Always quote your REB file number (**16390**) on future correspondence. We wish you success with your study.

Sincerely,

Dr. Paul Yelder

REB Vice-Chair

paul.yelder@[ontariotechu.ca](mailto:paul.yelder@ontariotechu.ca)

Emma Markoff

Research Ethics Assistant

researchethics@ontariotechu.ca

NOTE: If you are a student researcher, your supervisor has been copied on this message.

Appendix B. Ethics Change Form Approval

Date: June 21, 2021
To: Kimberley Clow
From: Paul Yelder, REB Vice-Chair
File # & Title: 16390 - Lemon
Status: **CHANGE REQUEST APPROVED (Received on June 7, 2021)**
Current Expiry: May 01, 2022

Documents Approved:

Consent Letter - Consent to use the video for research and educational purposes

Participant Materials/Handouts - Description of new proposed video clip.

Notwithstanding this approval, you are required to obtain/submit, to Ontario Tech Research Ethics Board, any relevant approvals/permissions required, prior to commencement of this project.

The Ontario Tech Research Ethics Board (REB) has reviewed and approved the change request related to the research study named above. This request has been reviewed to ensure compliance with the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS2 2018), the Ontario Tech Research Ethics Policy and Procedures, and associated regulations. As the Principal Investigator (PI), you are required to adhere to the research protocol described in the REB application as last reviewed and approved by the REB.

Under the Tri-Council Policy Statement 2, the PI is responsible for complying with the continuing research ethics reviews requirements listed below.

Renewal Request Form: All approved projects are subject to an annual renewal process. Projects must be renewed or closed by the expiry date indicated above (“Current Expiry”). Projects not renewed 30 days post expiry date will be automatically suspended by the REB; projects not renewed 60 days post expiry date will be automatically closed by the REB. Once your file has been formally closed, a new submission will be required to open a new file.

Change Request Form: If the research plan, methods, and/or recruitment methods should change, please submit a change request application to the REB for review and approval prior to implementing the changes.

Adverse or Unexpected Events Form: Events must be reported to the REB within 72

hours after the event occurred with an indication of how these events affect (in the view of the Principal Investigator) the safety of the participants and the continuation of the protocol (i.e. un-anticipated or un-mitigated physical, social or psychological harm to a participant).

Research Project Completion Form: This form must be completed when the research study is concluded.

Always quote your REB file number (**16390**) on future correspondence. We wish you success with your study.

Sincerely,

Dr. Paul Yelder
REB Vice-Chair
paul.yelder@[ontariotechu.ca](mailto:paul.yelder@ontariotechu.ca)

Emma Markoff
Research Ethics Assistant
researchethics@ontariotechu.ca

NOTE: If you are a student researcher, your supervisor has been copied on this message.

Appendix C. List of Questionnaires

Physical Suffering Condition Stimuli:

Wrongful Conviction is when an innocent person is convicted of a crime they did not commit, which is a serious issue. Wrongful conviction disrupts a person's entire life. One of the many negative consequences is that it brings **physical pain** to the person wrongfully convicted.

Research has shown that being sent to prison for a crime you did not commit leads individuals who have been wrongfully convicted to experience many forms of **physical pain**, such as ending up with more chronic illnesses, having more untreated health issues, being exposed to a violent environment and possibly being violently victimized by others, and they may even be the victims of sexual assault while wrongfully incarcerated (Weigand, 2009; Westervelt & Cook, 2010).

Please think about the kinds of **physical pain** the exoneree in the video may have experienced after wrongful conviction. Please list any additional forms of physical pain you can think of (anything we did not describe in the paragraph above) in your own words in the space provided below. Please be as detailed as possible.

Emotional Suffering Condition Stimuli:

Wrongful Conviction is when an innocent person is convicted of a crime they did not commit, which is a serious issue. Wrongful conviction disrupts a person's entire life. One of the many negative consequences is that it brings **emotional pain** to the person who is wrongfully convicted.

Research has shown that being sent to prison for a crime you did not commit leads individuals who have been wrongfully convicted to experience many forms of **emotional pain**, such as ending up with more depression, having more untreated anxiety disorders, being exposed to a lonely environment and possibly being completely isolated from others, and they may even be the victims of suicidal thoughts while wrongfully incarcerated (Grounds, 2004; Westervelt & Cook, 2010).

Please think about the kinds of **emotional pain** the exoneree in the video may have experience after wrongful conviction. Please list any additional forms of emotional pain you can think of (anything we did not describe in the paragraph above) in your own words in the space provided below. Please be as detailed as possible.

Please rate the degree of physical pain you think each of the following causes to exonerees.

1) Chronic illnesses

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

2) Untreated health issues

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

3) Violence from other inmates

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

4) Being a victim of sexual assault

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

Overall, please rate the degree of physical pain you feel an exoneree would experience because of their wrongful conviction.

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

Please rate the degree of emotional pain you think each of the following causes to exonerees.

1) Depression

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

2) Anxiety disorders

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

3) Loneliness and isolation

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

4) Suicidal thoughts

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

Overall, please rate the degree of emotional pain you feel an exoneree would experience because of their wrongful conviction.

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

Emotions & Empathy (Stellar et al., 2020)

When I imagined what the exoneree in the video may have gone through, I felt ____

1 2 3 4 5 6 7 8 9 10
Not at all As much as I've ever felt

Sad
Upset
Angry
Compassion/sympathy
Afraid/Scared
Nervous
Disgust
Softhearted
Warmth/tenderness
Moved
Uncomfortable/uneasy
Annoyed/irritated
Contempt/disdain
Anxious
Inspired
Alert

How much empathy do you feel toward the exoneree?

1 2 3 4 5 6 7 8 9 10
Not at all As much as I've ever felt

Attitudes towards the exoneree items (Clow & Leach, 2015)

For each of the following, please indicate if you agree or disagree with each statement. Some statements may refer to relations or situations you do not currently have (e.g., children, job). Please answer the statement as accurately as you can, envisioning how you would feel if it was the case.

- | Yes | No | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | I would be willing to work in the same organization as the exoneree |
| <input type="checkbox"/> | <input type="checkbox"/> | I would be willing to have the speaker attend my university |
| <input type="checkbox"/> | <input type="checkbox"/> | I would be willing to have the speaker as an acquaintance |
| <input type="checkbox"/> | <input type="checkbox"/> | I would be willing to work alongside the speaker at my job |
| <input type="checkbox"/> | <input type="checkbox"/> | I would be willing to have the speaker live on my street as my neighbour |

We are collecting messages of support to help boost exoneree's morale. If you would be willing to write a few words to help support Rob, the exoneree in the video, please write them below.

Trait Empathy Measurement:

Interpersonal Reactivity Index (IRI): (Davis, 1983)

Please rate the following statements on a 5-point scale.

1	2	3	4	5
Does not describe me well				Describes very well

I daydream and fantasize, with some regularity, about things that might happen to me.

- 1) I often have tender, concerned feelings for people less fortunate than me.
- 2) I sometimes find it difficult to see things from the "other guy's" point of view.
- 3) Sometimes I don't feel very sorry for other people when they are having problems.
- 4) I really get involved with the feelings of the characters in a novel.
- 5) In emergency situations, I feel apprehensive and ill-at-ease.
- 6) I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.
- 7) I try to look at everybody's side of a disagreement before I make a decision.
- 8) When I see someone being taken advantage of, I feel kind of protective towards them.
- 9) I sometimes feel helpless when I am in the middle of a very emotional situation.
- 10) I sometimes try to understand my friends better by imagining how things look from their perspective.
- 11) Becoming extremely involved in a good book or movie is somewhat rare for me.
- 12) When I see someone get hurt, I tend to remain calm.
- 13) Other people's misfortunes do not usually disturb me a great deal.
- 14) If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.
- 15) After seeing a play or movie, I have felt as though I were one of the characters.
- 16) Being in a tense emotional situation scares me.
- 17) When I see someone being treated unfairly, I sometimes don't feel very much pity for them.
- 18) If you are reading this question, choose 4 as your answer to this question.
- 19) I am usually pretty effective in dealing with emergencies.
- 20) I am often quite touched by things that I see happen.
- 21) I believe that there are two sides to every question and try to look at them both.
- 22) I would describe myself as a pretty soft-hearted person.
- 23) When I watch a good movie, I can very easily put myself in the place of a leading character.
- 24) I tend to lose control during emergencies.
- 25) When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

- 26) When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.
- 27) When I see someone who badly needs help in an emergency, I go to pieces.
- 28) Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Other Scales:

Social Dominance (Ho et al., 2015)

Show how much you favor or oppose each idea below by selecting a number from 1 to 7 on the scale below. You can work quickly; your first feeling is generally best.

1	2	3	4	5	6	7
Strongly Oppose	Somewhat Oppose	Slightly Oppose	Neutral	Slightly Favor	Somewhat Favor	Strongly Favor

- 1. Some groups of people must be kept in their place.
- 2. It's probably a good thing that certain groups are at the top and other groups are at the bottom.
- 3. An ideal society requires some groups to be on top and others to be on the bottom.
- 4. Some groups of people are simply inferior to other groups.
- 5. Groups at the bottom are just as deserving as groups at the top.
- 6. No one group should dominate in society.
- 7. Groups at the bottom should not have to stay in their place.
- 8. Group dominance is a poor principle.
- 9. We should not push for group equality.
- 10. We shouldn't try to guarantee that every group has the same quality of life.
- 11. It is unjust to try to make groups equal.
- 12. If you are reading this question, choose 1 as your answer to this question.
- 13. Group equality should not be our primary goal.
- 14. We should work to give all groups an equal chance to succeed.
- 15. We should do what we can to equalize conditions for different groups.
- 16. No matter how much effort it takes, we ought to strive to ensure that all groups have the same chance in life.
- 17. Group equality should be our ideal.

Dark-Triad: (Paulhus et al., 2011)

Please rate your agreement or disagreement with each item using the following guidelines.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

- 1. It's not wise to tell your secrets.
- 2. Generally speaking, people won't work hard unless they have to.

3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people because they don't need to know.
8. Make sure your plans benefit you, not others.
9. Most people can be manipulated.
10. People see me as a natural leader.
11. I hate being the center of attention.
12. Many group activities tend to be dull without me.
13. I know that I am special because everyone keeps telling me so.
14. I like to get acquainted with important people.
15. I feel embarrassed if someone compliments me.
16. I have been compared to famous people.
17. I am an average person.
18. I insist on getting the respect I deserve.
19. I like to get revenge on authorities.
20. I avoid dangerous situations.
21. Payback needs to be quick and nasty.
22. People often say I'm out of control.
23. It's true that I can be mean to others.
24. People who mess with me always regret it.
25. I have never gotten into trouble with the law.
26. I like to pick on losers.
27. I'll say anything to get what I want.

Global Belief in Just World Scale (Reich & Wang, 2015)

Please rate the following statement on a 7-point scale.

1	2	3	4	5	6	7
Strongly Disagree						Strongly Agree

1. I feel that most people get what they are entitled to have.
2. I feel that a person's efforts are noticed and rewarded.
3. I feel that people earn the rewards and punishments they get.
4. I feel that people who meet with misfortune have brought it on themselves.
5. I feel that people get what they deserve.
6. I feel that rewards and punishment are fairly given.
7. I basically feel that the world is a fair place.

Justice Sensitivity Scale (Schmitt et al., 2010)

How do you react in unfair situations?

24. It takes me a long time to forget when others have to fix my carelessness.
25. It disturbs me when I receive more opportunities than others to develop my skills.
26. I feel guilty when I am better off than others for no reason.
27. It bothers me when things come easily to me that others have to work hard for.
28. I ruminate for a long time about being treated nicer than others for no reason.
29. It bothers me when someone tolerates things with me that other people are being criticized for.
30. I feel guilty when I receive better treatment than others.

Finally, we will look at situations in which you treat someone else unfairly, discriminate against someone, or exploit someone.

Please select what best represents your opinion.

0	1	2	3	4	5
Not at all					Exactly

31. It gets me down when I take something from someone else that I don't deserve.
32. I have a bad conscience when I deny someone the acknowledgement he or she deserves.
33. I cannot stand the feeling of exploiting someone.
34. It takes me a long time to forget when I allow myself to be careless at the expense of someone else.
35. It disturbs me when I take away from someone else the possibility of developing his or her potential.
36. I feel guilty when I enrich myself at the cost of others.
37. It bothers me when I use tricks to achieve something while others have to struggle for it.
38. I ruminate for a long time when I treat someone less friendly than others without a reason.
39. I have a bad conscience when I criticize someone for things I tolerate in others.
40. I feel guilty when I treat someone worse than others.

Fear of expressing compassion for others (Gilbert et al., 2011)

Please use this scale to rate the extent that you agree with each statement.

1	2	3	4	5
Does not describe me well				Describes very well

1. Being too compassionate makes people soft and easy to take advantage of.
2. People will take advantage of you if you are too forgiving and compassionate.
3. I fear that being too compassionate makes people an easy target.
4. I fear that if I am compassionate, some people will become too dependent upon me.
5. People will take advantage of me if they see me as too compassionate.
6. I worry that if I am compassionate, vulnerable people can be drawn to me and drain my emotional resources.

3) To what extent you have suffered physical pain in your life?

0 10 20 30 40 50 60 70 80 90 100
the least pain imaginable the most pain imaginable

Demographic Questions:

[NOTE to REB: These questions are included so that readers of the eventual paper can gauge how representative our sample is of the general population or to allow us possible insight into any surprising findings (e.g., men respond differently than women, the findings are different for senior students) that might later result in a new REB proposal to follow-up on the surprising finding. Only group data is reported in papers. If data is shared with researchers for valid research purpose (e.g. meta-analyses), demographic data will only be shared in a form that keeps all data anonymous (e.g., in group form, infrequent responses are combined or removed.)]

Please answer these questions about yourself. Keep in mind that all answers will remain anonymous. Should any question make you feel uncomfortable, feel free to skip it.

- 1) What is your age? ____ (*students can enter a number*)
- 2) What gender do you identify with?
 - a. Male
 - b. Female
 - c. Non-binary
 - d. Unsure
- 3) Please indicate which faculty you are currently within.
 - a. Faculty of Business and Information Technology
 - b. Faculty of Education
 - c. Faculty of Engineering and Applied Science
 - d. Faculty of Energy Systems and Nuclear Science
 - e. Faculty of Health Sciences
 - f. Faculty of Science
 - g. Faculty of Social Science and Humanities
- 4) Year in program.
 - a. 1
 - b. 2
 - c. 3
 - d. 4
- 5) What is your race or ethnic group? (Check all that apply)
 - a. Arab
 - b. Black
 - c. Chinese
 - d. Filipino
 - e. Indigenous (e.g., First Nations, Inuk, Metis)
 - f. Japanese
 - g. Korean

- h. Latin American
 - i. South Asian (e.g., East Indian, Pakistani, Sri Lankan)
 - j. Southeast Asian (e.g., Vietnamese, Cambodian, Malaysian, Laotian)
 - k. West Asian (e.g., Iranian, Afghan)
 - l. White (Caucasian)
 - m. Other, please specify (*students can enter a word*)
- 6) Have you lived in Canada all your life?
- a. Yes
 - b. No
- 7) If not, how many years have you lived in Canada? (*students can enter a number*)
- 8) What is your employment status?
- a. Full-time
 - b. Part-time
 - c. Unemployed
 - d. Student
- 9) What religion do you identify with?
- a. Christianity
 - b. Judaism
 - c. Islam
 - d. Hinduism
 - e. Buddhism
 - f. Sikhism
 - g. Atheism/No Religion
 - h. Agnosticism
 - i. Traditional (Aboriginal/Indigenous) Spirituality
 - j. Other, please specify (*students can enter a word*)
- 10) If you chose Christianity, please specify.
- a. Roman Catholic
 - b. Protestant
 - c. Christian Orthodox
 - d. Other, please specify (*students can enter a word*)