THE EFFECTS OF CHRONIC PAIN AND EMPATHY ON AN INDIVIDUAL'S MORAL MOTIVATION

A Thesis

by

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ABSTRACT

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Chronic pain has been shown to affect decision making in those who suffer from a chronic pain condition when compared to healthy individuals. Morality is seen as a construct that has allowed us as humans to live in relative harmony with vast communities. Morality allows us as a species to worry about the whole rather than the individual. However, it is unknown if moral motivation is something that can be affected by factors that include emotions and cognitive factors. Negative emotions are common when an individual is going through pain, the effect that these negative emotions have on an individual's empathy and moral motivation needs to be explored. The current study was designed to determine how chronic pain affects moral motivation and to see if empathy plays a role. A total of 196 participants responded and completed the survey and were split into a no pain (n = 105) or chronic pain (n = 91) group. Participants completed a survey that consisted of demographic questionnaire, Model of Moral Motive scale, and the Toronto Empathy Questionnaire. Data were exported offline to conduct data analysis using Excel, JASP, and SPSS. Independent samples t-tests, moderation analyses, and correlation analyses were performed. Results found there was no difference between moral motivations by group. Results also showed that empathy was not a moderator of moral motivation by group. Correlation analyses showed that there was a weak statistical positive correlation between empathy and proscriptive morality. Further research is needed to determine what, if any, constructs are moderators for moral motivations.

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CHAPTER 1

INTRODUCTION

Evolutionary psychologists believe that morality is a human construct that has allowed us to survive in a diverse and ever-changing society. Graham and Haidt (2012) define moral systems as "interlocking sets of values, virtues, norms, practices, identities, institutions, technologies, and evolved psychological mechanisms that work together to suppress or regulate selfishness and make coordinated social life possible" (p.14). The construct of morality has allowed us to live in large groups and has enabled us to survive by working together with people who are not related to us. Morality contributes to our ability build complex social structures and live in a somewhat peaceful state. It was stated by de Waal (2013) that morality follows a system of rules that allows us to address others and put the needs of the whole before the needs of the individual. These rules concern what he called "the two H's", which are helping others or, at the very least, not hurting others. Emotional consequences deter an individual from harming another even at a young age (de Waal, 2013). As children, we learn not to harm others because we feel empathy when another individual is hurt, or we get into trouble with an authority figure for causing harm. These emotional consequences shape our moral motivations early in our lives.

Morality is an imperative construct for the species, but morality is usually observed individually. Our basis of morality is linked to our emotions as stated by de Waal and Sherblom (2018). We strive to justify our emotions with reason. According to Prinz (2006), whenever we believe that an action is wrong, we are going to experience negative emotions. These emotions deter us from performing that negative action. These

thoughts and emotions are deterrents that keep most people from engaging or even thinking about the action that is deemed wrong. As humans, we usually feel bad whenever there is harm to another, but we feel good whenever we help someone else. The way we feel about our actions becomes the motivation for our morality. Jotterand and Levin (2019) state that our motivations for morality is a combination of our emotions that are brought up and our rationalizing thoughts about why we chose what we chose. In other words, we are motivated by our emotions and cognitive rationality.

Kohlberg (1969) developed a theory of moral motivation that showed how an individual may develop morality and how they rationalize decisions. According to Kohlberg (1969), individuals go through levels of moral development and begin to shape their moral approaches based on their rationalizations. The first level of moral development is preconventional. There are two stages in this level known as obedience-and-punishment orientation and instrumental orientation. At these stages, an individual's moral development is controlled by outside authority figures. Individuals may rationalize their decisions based on what they are told to do. Conventional is the second level of the theory. The two stages in this level are "good boy, nice girl" orientation and "law and order" orientation. The individual begins to understand how actions can either benefit themselves or others. They start to see how acting in a moral manner allows social relationships to grow and societal order to be maintained. Individuals in this level may rationalize their moral decisions based on what benefits the decision has for them or for another individual. The last stage of moral development is known as postconventional. The two stages at this level are called social-contract orientation and universal-ethical-principal orientation. Individuals begin to think about issues in an abstract manner. The

individual may notice that some laws are unjust and begin to live based on their own individual principals. The individual rationalizes their decision based on their own personal views and according to Kohlberg (1969), the way the individual reasons their decision in a moral dilemma determines a positive moral development. For example, when an individual sees another human who is down on his luck and outside in the heat asking for food or a drink, they may feel sad and experience negative emotions. Therefore, they may buy them a meal or a cool bottle of water. The individual may rationalize their decision by saying that it was the right thing to do. That initial emotional response and subsequent rationale for the decision is the motivation for our morality.

While there is a wealth of research about the psychology of morality, there is a poverty of research about how an individual's moral motivation is influenced by other phenomena such as chronic pain. Morality is intertwined with our emotions, and because of this, pain may have a negative effect on our moral motivations. Pain is unpleasant and could be detrimental when making decisions that involve both logical and emotional components, such as morality.

Chronic Pain and Implications

Pain has implications for the sufferer's emotional well-being. Pain is defined by the International Association for the Study of Pain (IASP) (2017) as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage." Chronic pain is described by Melzack and Wall (1996) as pain that continues after healing has occurred or after it has served its function. The International Association for the Study of Pain (2019) states that chronic pain is pain that lasts longer than three months. Thus, chronic pain can be persistent or recurrent, if it

lasts the requisite three months. Pain is adaptive; we learn to avoid things that cause us pain, and in turn, this helps us survive as a species. However, pain can cause us mental distress and can be maladaptive whenever it persists or is disproportionate to the cause (IASP, 2017).

Whenever we are in pain, multiple psychological processes are activated. Linton and Shaw (2011) describe some of these processes, but the two important in understanding moral reasoning are attention and emotional regulation. Whenever we are in pain, our attention is immediately centered on the noxious stimuli. Individuals in pain can sometimes distract themselves, while others may just be concerned with returning to homeostasis. Moore et al. (2019) showed that chronic pain influences certain cognitive functions. The cognitive functions that are most effected by chronic pain are complex memory, attention, and executive functioning. Emotions also play a role in the psychological regulation of pain and pain processing. Ruiz-Aranda et al. (2010) noted that emotional regulation is a major component of the emotional reaction that comes along with the experience of pain. Common emotions displayed during pain are anxiety, fear, guilt, and frustration. Linton and Shaw (2011) describe these emotions as drivers of behavior and because of this, we need to know more about how pain could compromise reasoning.

Individuals with chronic pain have shown an increased risk of experiencing mental and emotional distresses that can affect decision-making (Hess et al., 2014). Studies have shown that chronic pain, as opposed to acute pain, is more emotional. Because of this, emotional decision-making tasks are more affected (Apkarian et al., 2004). Although, negative emotions are something that people usually experience when

in pain, it is important to understand how these emotions can affect other things such as moral decision making or moral motivations.

Moral Motivation

Allen et al. (2005) explains two different approaches to morality. The first is a top-down approach, where morals are universal laws that require us to find them. This premise of morality suggests that people are not able to be good on themselves without a set of rules. For some, this is a belief that religion is the foundation of morality; these moral laws were given to us and that without these laws humans would be just like any other animal. However, another way to look at moral motivations would be to take a bottom-up approach. de Waal (2013) looked at the way bonobos would act in relation to others and found that they also showed empathy and a moral code within their groups. Bottom-up morality considers the individual experiences and not the moral laws that we either need to discover or that are handed to us through religious dogma. Allen et al. (2005) state that bottom-up approaches are characterized by trial and error of evolution. If we look at morality from a bottom-up viewpoint, we can see that morality has grown with us as a species.

Going back to the system of rules laid out by de Wall (2013), it is noted that morality is either helping someone or not harming someone. Both can address the community's well-being by not harming other members and helping individuals. The individual is not punished for acting in self-interest, so long as they do not harm another, still, they can also be rewarded by helping others in their community. Whether this is by being recognized for their actions, having their altruism reciprocated, or just being fulfilled by helping someone. Studies have also shown how helping another individual

was associated with better mental health. Whenever an individual helps another, they may feel their sense of perception change and begin to change their values, internal standards, and their own conceptualization of their quality of life (Schwartz et al., 2003).

According to Janoff-Bulman and Carnes (2016), there are two broad but different ways that people can be moral, doing good or preventing themselves from doing something bad. Individuals can be "good" by being selfless or engaging in behaviors that are considered positive. People can also prevent themselves from engaging in "bad" behaviors that are selfishly motivated or inhibiting impulses frowned upon in society. The first domain is proscriptive morality, where an individual does "good". An individual who is displaying proscriptive moral motivations would go out of their way to do something that is considered altruistic for somebody else, even if there is nothing in return for them. They actively approach this moral domain and attempt to be selfless. The second domain is prescriptive morality, where an individual suppresses impulses and other actions that are viewed as "bad." Proscriptive can be considered as approaching "good," whereas prescriptive can be seen as avoiding "bad" (Janoff-Bulman & Carnes, 2016).

Prescriptive morality occurs when an individual decides to do something positive, whereas proscriptive morality involves an individual inhibiting negative behavior. Both moral paradigms have countless examples during the Holocaust showing people engaging in both. Individuals who engaged in prescriptive morality chose to act and help those being persecuted even at the detriment of their own lives or lives of their families. Proscriptive morality can also be seen in the individuals who chose not to act with malice at any of the people who were being persecuted. These individuals restricted negative

behaviors. We can see that both are types of moral motivations, but Janoff-Bulman and Carnes (2016) make the argument that proscriptive morality is not as moral as prescriptive morality. Helping somebody in need is better than keeping an individual's self-interest at bay. Janoff-Bulman et al. (2009) state that "Proscriptive morality entails avoidance motives— overcoming a negative desire and restraining a motivation to do something bad. Prescriptive morality involves approach motives— establishing a positive desire, overcoming inertia, and activating a motivation to do something good" (p.523). With proscriptive morality being associated with avoidance and prescriptive morality being connected with approach motivation, we can assume that proscriptive is a more straight forward motivation to seek out than prescriptive.

Empathy's Role in Morality

Empathy is a trait that can be seen in parenting. According to Prazkier (2016), being a parent is based on understanding the needs and being sensitive to the needs of the offspring. The better off an individual is at understanding the needs of the other, the more successful they may be at keeping their offspring alive and healthy. Empathy is an emotional construct and is something that most people have experienced from time to time. Research has shown that empathy is tied to our emotions and because of this, individuals can understand another person's suffering (Tommaso et al. 2019). Spreng et al. (2009) stated that empathy can be thought of as a reaction to an individual's emotional response. This response could in turn be responsible or justify the consequent action. Because of empathy, seeing somebody struggle or hurt may allow a person to feel the emotional reaction and give them justification for their decision to act justly or inhibit their negative impulse.

Decety and Cowell (2014) sum up how morality is related to empathy by stating that moral behavior can be affected differently by different factors such as emotions or cognitive elements. One of the cognitive elements that could play an important role is empathy. It was noted by de Wall (2013) that empathy does not come from a conscious decision by us, but rather comes from our perception of body language and emotional processing. People sometimes smile when they see another person smile, or they could feel sadness when another individual is crying.

Whenever an individual feels angry when another individual does something wrong, or guilty whenever we cause harm, even if these actions do not affect us directly is known as empathic anger (Batson et al., 2007). A person may experience empathic anger whenever a standard of morality has been violated that threatens the wellbeing of another, even if this moral transgression does not occur or pose any threat to the individual feeling the empathic anger. Feeling these negative emotions when someone is treated unjustly paired with the role that negative emotions play in pain sensation, research is needed to determine how pain and empathy affect moral motivations. Lamm et al. (2019) noted that the study of empathy is complex and still in the beginning stages. They also mentioned that what motivates prosocial behaviors, or prescriptive moral motivations, is the next step in the neuroscience research of social emotions and their implications.

The aim of this study was to determine how chronic pain affects moral motivation and to see if empathy plays a role. The influence of pain on moral motivation was explored with the following hypotheses. The first hypothesis states that participants in the chronic pain group will show prescriptive morality less than those in the non-pain

group as measured by The Model of Moral Motives (MMM) Scale (Janoff-Bulman & Carnes, 2016). Because of the cognitive demand and load that chronic pain demands, those who suffer from chronic pain would act in a manner that inhibits their negative impulses rather than approach the prescriptive moral motive. The second hypothesis states that empathy is a moderator for moral motivation in participants without chronic pain and is not a moderator for participants with chronic pain. Those in the no pain group are expected to be affected by empathy more than those who are suffering from chronic pain. The relationship between pain and negative emotions lends us to believe that those in the no pain group will be more moderated by empathy than those in the chronic pain group.

CHAPTER II

MATERIALS AND METHODS

Participants and Recruitment

Student, faculty, and staff volunteers aged 18+ were asked to participate in a survey study. Participants were recruited using the SONA tool, social media, and word of mouth. Participants provided informed consent before participating, and no personal information was collected to preserve confidentiality. Exclusions consisted of individuals who failed to finish the survey completely and those who declined to provide informed consent. A total of 251 participants responded to the survey; only 196 completed the survey and provided informed consent and were kept for data analysis. Full participant demographics can be viewed in Table 1.

Model of Moral Motives Scale

To test the hypothesis that those in the chronic pain group will show less prescriptive morality than individuals in the no pain group, the Model of Moral Motives Scale (MMM) was administered, which was constructed by Janoff-Bulman and Carnes (2016). This scale assesses how people apply reason to their moral decisions (see APPENDIX A). The MMM scale consists of 30 total statements where the participant is instructed to indicate whether they agree or disagree with the statement. The statements are a part of six subgroups. Three subgroups (self-restraint, not harming, and social order) fall into the proscriptive morality category. The remaining three (industriousness, helping/fairness, and social justice) fall into the prescriptive morality category.

Participants viewed the 30 randomized statements in Qualtrics and were asked to indicate whether they agree or disagree using a scale of one to seven, (1 - strongly disagree and 7 - strongly agree). The sum of their scores for each statement was averaged within their subgroup and then averaged within the proscriptive or prescriptive morality domains to generate respective morality scores.

Toronto Empathy Questionnaire measure

The Toronto Empathy Questionnaire (TEQ) is a self-report scale that is used to measure empathy created by Spreng et al. (2009). The empathy instrument combined parts of other empathy scales in one valid and reliable scale (Kourmousi et al., 2017). The TEQ consists of 16 questions, where each question is rated by the participants on a five point scale. The five point scale ranges from 0-never, 1-rarely, 2-sometimes, 3-often, 4-always. The scores for each participant were summed to compute an empathy score

(Spreng at al., 2009). The TEQ will be used to establish an empathy level for each participant.

Experimental Procedures

Participants were informed that participation was voluntary and that they could stop the survey at any point and were asked to provide informed consent before the start of the survey. Using Qualtrics software, participants were provided informed consent and asked to fill out a demographic questionnaire that asked age, gender, ethnicity, education level, occupation, military service, religion and chronic pain status. Participants then answered the MMM and the Toronto Empathy Questionnaire. Participants were then divided into two groups (chronic pain or no pain) for analyses based on their answers to the chronic pain questions.

Data Analysis

All data were exported from Qualtrics into Microsoft Excel for offline analyses. After the data was exported into Excel, it was clean and coded and imported into JASP for statistical analyses (JASP Team, 2018). The first set of analyses were chi square analyses to compare the groups within each descriptive variable.

To test the first hypothesis that those in the chronic pain group will show prescriptive morality less than those in the no pain group, an independent samples t-test was performed to determine if there was a group difference in prescriptive scores. A Bayesian t-test was used to determine the probability of the alternative hypothesis.

The moderation analyses were performed in order to test the hypothesis that those who suffer from chronic pain have empathy as more of a moderator for moral motivations than those who do not suffer from chronic pain. Moderation analyses allow

us to see the effect of a variable like empathy on moral motivations when separated by chronic pain groups. The idea was that an individual's empathy scores will influence a person's moral motivation scores. The effect may be different depending on whether that person suffers from chronic pain or not. Figure 1 and Figure 2 show the relationship that is being tested by the moderation analyses. The figures can be seen in Appendix B.

Finally, a correlation analysis was performed to see if there was a relationship between the TEQ scores for each participant and their Moral Motivation Scale scores. Pearson's Correlation Coefficient was used to compare the relationship between both variables. Using this procedure, a correlation matrix was created for the moral dilemma scores and empathy levels of each participant.

CHAPTER III

RESULTS

Chi squares were performed for each of the demographic variables that were observed. Results can be seen in Appendix C in Table 1. Independent samples t-tests were used to test the hypothesis that prescriptive scores of the chronic pain group would be significantly less than those in the no pain group. The mean prescriptive score for the no pain group was 85.13 (SD = 9.08). The mean prescriptive score for the chronic pain group was 84.60 (SD = 5.80). An independent samples t-test showed that the difference was not significant ($t(194) = 0.41$, $p = 0.68$, $CI_{95} = [-1.99, 3.05]$, $d = 0.06$), suggesting that there is no significant difference in prescriptive moral motivation due to chronic pain. The Bayesian independent samples t-test revealed that H_0 is 5.93 times more likely than H_1, $B_{01} = 5.93$.

An independent samples t-test was performed to compare the proscriptive scores between the two groups. The mean proscriptive scores for the no pain group was 74.89 (*SD* = 10.51). The mean proscriptive score for the chronic pain group was 74.78 (*SD* = 10.95). An independent samples t-test showed that the difference was not significant ($t(194) = 0.07$, $p = 0.95$, $CI_{95} = [-2.92, 3.13]$, $d = 0.01$), suggesting that there is no significant statistical difference in proscriptive moral motivation due to chronic pain. A Bayesian independent sample t-test revealed that H_0 is 6.41 times more likely than H_1, $B_{01} = 6.41$.

A hierarchical multiple regression was performed to test the hypothesis that empathy was a moderator for moral motivation for those in the no pain group as opposed to the chronic pain group. In the first step, two variables were included into the model. The variables were groups (chronic pain or no pain) and TEQ scores. These variables did not account for a significant amount of variance in the participant's prescriptive scores, $R^2 = .007$, $F(2,193) = 0.683$, $p = 0.506$. The interaction term between empathy and groups was then added into the model, which did not account for a significant portion of variance in the participant's prescriptive scores, $\Delta R^2 = 0.001$, $\Delta F(1,192) = 0.285$, $p = 0.594$, $b = 0.20$, $t(192) = 0.53$, $p = 0.59$.

A hierarchical multiple regression was conducted to test if empathy was a moderator for proscriptive morality for those in the no pain group as opposed to the chronic pain group. In the first step, two variables were included into the model. The variables were groups (chronic pain or no pain) and TEQ scores. These variables did account for a significant amount of variance in the participant's prescriptive scores, $R^2 = .097$, $F(2,193) = 10.343$, $p < 0.001$. The interaction term between empathy and groups

was then added into the model, which did not account for a significant portion of variance in the participant's prescriptive scores, $\Delta R^2 = 0.000$, $\Delta F(1,192) = 0.002$, $p = 0.969$, b = 0.02, $t(192) = 0.04$, $p = 0.97$. Figure 3 and Figure 4 can be found in Appendix D. An independent samples t-test was conducted to compare the mean TEQ scores between the groups. The mean TEQ score for the no pain group was 32.80 (*SD* = 3.46). The mean TEQ score for the chronic pain group was 33.30 (*SD* = 3.30). An independent samples t-test showed that the difference was not significant ($t(194) = -1.02$, $p = 0.31$, CI_{95} = [-1.45, 0.46], d = -0.15), suggesting that there is no significant statistical difference in TEQ levels due to chronic pain. The Bayesian independent samples t-test revealed that H_0 is 3.94 times more likely than H_1, $B_{01} = 3.94$.

A correlational matrix was used to see if there is a relationship between TEQ scores and moral motivations. There is a weak positive correlation between proscriptive scores and TEQ scores, $r(193) = 0.31$, $p < .001$. This could mean that the higher an individual's empathy score, the higher they will score in proscriptive scores. However, when looking at the relationship between prescriptive scores and TEQ scores a weak non statistically significant correlation can be seen, $r(193) = 0.076$, $p = 0.29$. This shows that there is not a statistically significant correlation between the TEQ scores and prescriptive scores. There is also a weak positive correlation between prescriptive and proscriptive scores, $r(193) = 0.228$, $p = 0.001$. A correlational matrix with plots can be seen in Appendix E.

CHAPTER IV

DISCUSSION

The purpose of this study was to determine if there was a relationship between chronic pain and moral motivation. The first hypothesis was that participants in the chronic pain group will show prescriptive morality less than those in the non-pain group as measured by The MMM scale (Janoff-Bulman & Carnes, 2016). There was no statistical difference in prescriptive scores between the two groups (pain and no pain), meaning that a difference in moral motivation scores between our two groups was not found. When looking at morality from a bottom-down approach, this approach may explain why there was no difference between the two groups even though research has shown that chronic pain does effect decision making. When looking at morality and moral motivations as something that has evolved with us over time throughout our history through trial and error of the individuals, it can be easy to see how our morals can be passed down socially by others. Therefore, moral motivations remain solid whenever an individual come across a moral dilemma. The theory of bottom-up morality suggests that because human morality evolved to where it is today, there shouldn't be a worry about decision-making being compromised because of a chronic illness. When looking at morality and moral motivations in a bottom-up approach, this can possibly explain why there was no difference in prescriptive morality between the two groups.

There was no evidence suggesting that an individual suffering from chronic pain would have different levels of empathy than an individual that does not. Individuals empathize with others who are going through emotional turmoil by being able to feel their pain. It seems that empathy has been ingrained in humankind through trial and error

of evolution. The moderation analyses did not statistically support the hypothesis that empathy is a moderator of moral motivations for those without chronic pain compared to those who suffer from chronic pain. When we looked at prescriptive scores, we found that the two variables (group and empathy scores) did not statistically explain the variance in our model. When adding the interaction variable of group and empathy into the model, the interaction term did not explain any additional variance of the model. However, when looking at proscriptive scores we saw that the two variables (group and empathy scores) had a significant main effect. This means there is a relationship between the variables and the participant's proscriptive scores on their own. When we added the interaction term into our analysis, the term did not explain more of the variance in our model. When looking at Figure 1 and Figure 2, we can see that an increase in empathy does show an increase in prescriptive and proscriptive scores, but there is no statistical difference between those who suffer from chronic pain and those who do not. In both moderation analyses, empathy did not add any significant value to the models.

The final analysis performed was a correlational analysis. It was used to determine if higher empathy scores correlated with higher prescriptive or proscriptive scores. The analysis revealed that there is no correlation between empathy levels and prescriptive scores. This means there was no evidence for a relationship, positive or negative, between an individual's scores on the TEQ and their prescriptive scores. There was a weak positive correlation between empathy scores and proscriptive morality scores. Proscriptive is the inhibition of negative impulses; If humans are inherently good and born with a sense of morality, then we can rationalize how higher empathy levels do not correlate with higher prescriptive scores. If we are born with empathy and morality that

has been handed to us by evolution, then it is easier for us to act prescriptively. This weak positive relationship between proscriptive scores and scores on the TEQ can be seen when we think about a simple scenario. It would take more empathy to inhibit our negative impulses and act in a proscriptive manner. If we had a chance to take something from a weaker individual, the proscriptive thing would be to not take it. This inhibition would be easier for those who have higher empathy levels. More research is needed to determine how much of an effect empathy has on an individual's proscriptive scores.

Empathy and morality are both are things that humans have developed through generations of evolution. Basic levels of empathy and morality can be seen in gorillas, apes, and bonobos. Further research is needed to understand how these concepts served to help us grow together in sprawling communities and construct a social code that allowed us to live in relative harmony.

Limitations

One of the main limitations in this study is that the study included self-reported data. Participants were trusted to report whether they suffered from chronic pain, even if a primary care physician had not diagnosed them. Participants were also trusted to answer the surveys truthfully. Given the nature of empathy and morality, the participants may not have answered truthfully, and instead answered the surveys in a way that they believed that we would like them to. However, because the survey was anonymous and online, they may have answered truthfully. Finally, a limitation could be that those who identified with chronic pain may not have been in pain at the moment they took the survey. Chronic pain can be recurring, and perhaps the individuals were not suffering from pain but still identified as a person with chronic pain. Had the survey been taken in

a lab setting with a noxious stimulus (such as a cold pressor task) administered, the results may have been different. Future research should look at acute pain and see if pain causes a person to avoid prescriptive morality and lean towards proscriptive morality more than those who are not suffering from acute pain.

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APPENDIX A

APPENDIX A

Moral Motivation Scale Used in the Study

Instructions for the Model of Moral Motives (MMM) Scale:

We are interested in the extent to which you agree or disagree with the statements below. Using the following scale, please indicate the extent of your agreement by placing the number that best represents your response on the line preceding each statement. There are no correct or incorrect reactions, so respond with how you really feel.

Strongly						**Strongly**
Disagree						**Agree**
1	**2**	**3**	**4**	**5**	**6**	**7**

Items for the Six Moral Motives:

Self-Restraint

It's particularly important to me to demonstrate self-control in the face of temptation.
Exercising self-discipline is an important way for me to feel like a decent person.
It's not always easy to avoid temptations, but for my own good I feel I really have to try my best.
Life is full of unhealthy attractions, so it's necessary for me to develop a strong sense of self-discipline and control.
It's important for me to avoid overindulging when it comes to life's pleasures.

Industriousness

I consistently put the necessary time and effort into providing for my own well-being and success.
I value hard work and personal commitment when it comes to making decisions in my life.
When things get tough, I apply myself and work even harder to overcome difficulties.
I think it's important to take responsibility for my failures and setbacks rather than blame other people.
Whether or not I have others to lean on, I think it's important for me to try to provide for myself.

Not Harming

A fundamental rule I live by is "do not cause harm."
I especially dislike people who cheat to get ahead.
We should never steal from other people.
It is always wrong to kill another human being.
There is no excuse for taking advantage of others for one's own gain.

Helping/Fairness

When someone does me a favor, I try particularly hard to return the favor.
Having compassion for someone who is suffering is an extremely admirable trait.
Treating others fairly is a clear sign of a good person.
A decent person will go out of his or her way to help others.
Being generous is an important part of who I am.

Social Order

In a good society, there must be very little deviation from behaviors viewed as appropriate.
It is harmful to society when people choose radically new lifestyles and ways of living.
There are good reasons why traditional ways of living have lasted for so long, even if people don't fully understand those reasons.
In a decent society, people should strictly attend to the values and practices of the larger community.
The best societies are usually the least permissive societies.

Social Justice

It is our responsibility, not just a matter of personal preference, to provide for groups worse off in society.
Giving to groups worse off in society does not make those groups too dependent on help.
It is important for those who are better off to help provide resources for the most vulnerable members of society.
Increased economic equality is ultimately beneficial to everyone in society.
In the healthiest societies, those at the top should feel responsible for improving the well-being of those at the bottom.

APPENDIX B

APPENDIX B

Figures Showing Moderation Analyses

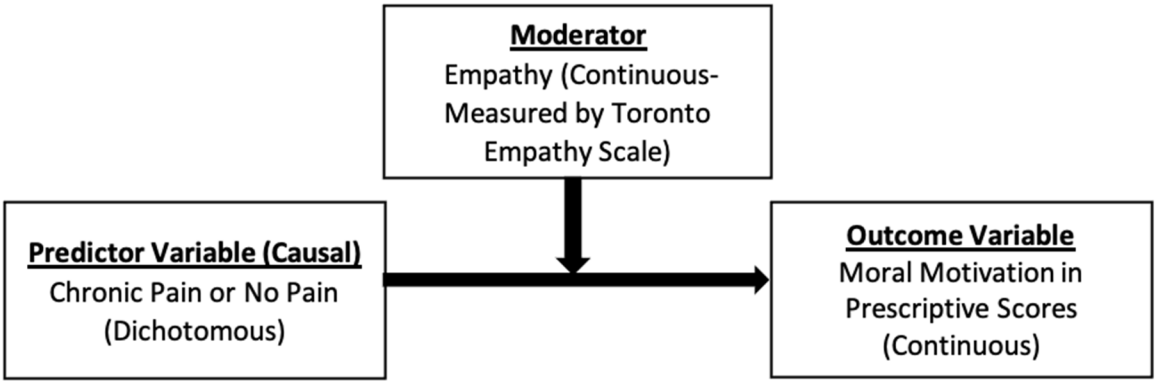

Figure 1. Model of Moderation Analyses for Prescriptive Morality Scores

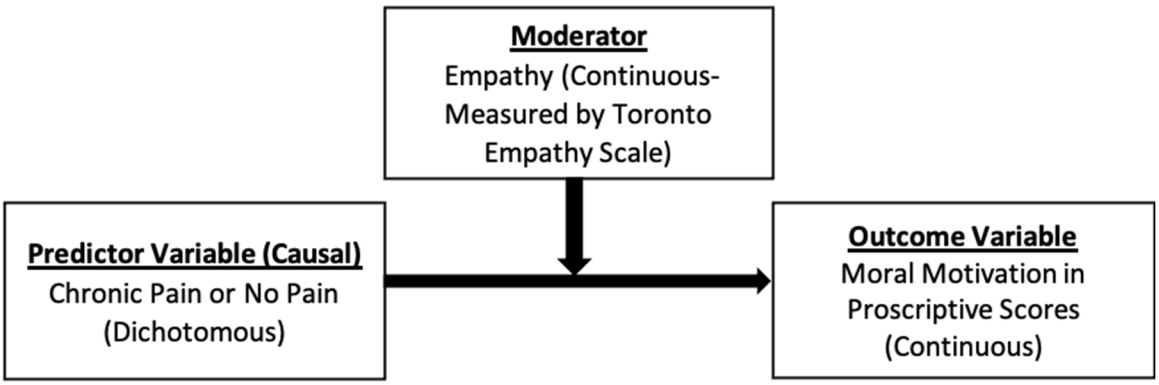

Figure 2. Model of Moderation Analyses for Proscriptive Morality Scores

APPENDIX C

APPENDIX C

Demographic Table Showing Chi Squared Analyses

Table 1

Participant Demographics by Group

Variable	Total (n=196)		No Pain (n=105, 53.57%)		Pain (n=91, 46.43%)		X^2	*p*
	n	%	*n*	%	*n*	%		
Age (years)							12.155	0.033
18-24	69	35.20	46	43.81	23	25.27		
25-34	35	17.86	17	16.19	18	19.78		
35-44	29	14.80	14	13.33	15	16.48		
45-54	33	16.84	17	16.19	16	17.58		
55-64	18	9.18	9	8.57	9	9.89		
65-74	12	6.12	2	1.90	10	10.99		

Gender							5.624	0.131
Female	129	65.82	64	60.95	65	71.43		
Male	63	32.14	40	38.10	23	25.27		
Transgender	2	1.02	0	0.00	2	2.20		
Non-Binary	2	1.02	1	0.95	1	1.10		
Ethnicity							4.013	0.404
White	157	80.10	81	77.14	76	83.52		
Hispanic or Latino	32	16.33	18	17.14	14	15.38		
Black	3	1.53	3	2.86	0	0.00		
Asian	1	0.51	1	0.95	0	0.00		
Other	3	1.53	2	1.90	1	1.10		

Education							7.725	0.259
< High School	1	0.51	0	0.00	1	1.10		
High School	18	9.18	10	9.52	8	8.79		
Some College	40	20.41	24	22.86	16	17.58		
Two Year College	9	4.59	4	3.81	5	5.49		
Four Year College	89	45.41	50	47.62	39	42.86		
Prof. Degree	29	14.80	10	9.52	19	20.88		
Doctorate	10	5.10	7	6.67	3	3.30		
Occupation							5.369	0.252
Healthcare	31	15.82	17	16.19	14	15.38		
Education	45	22.96	24	22.86	21	23.08		
Law Enforcement	2	1.02	0	0.00	2	2.20		
Government	15	7.65	5	4.76	10	10.99		

None of Above	103	52.55	59	56.19	44	48.35		
Religion							5.008	0.415
Christian	156	79.59	88	83.81	68	74.73		
Muslim	1	0.51	1	0.95	0	0.00		
Buddhist	1	0.51	0	0.00	1	1.10		
Atheist	11	5.61	4	3.81	7	7.69		
Agnostic	15	7.65	6	5.71	9	9.89		
Prefer not to Answer	12	6.12	6	5.71	6	6.59		

Note. N = 196. Each percentage reflects the total percentage per group.

APPENDIX D

APPENDIX D

Graphs Showing Relationship Between Empathy and Moral Motivation Scores

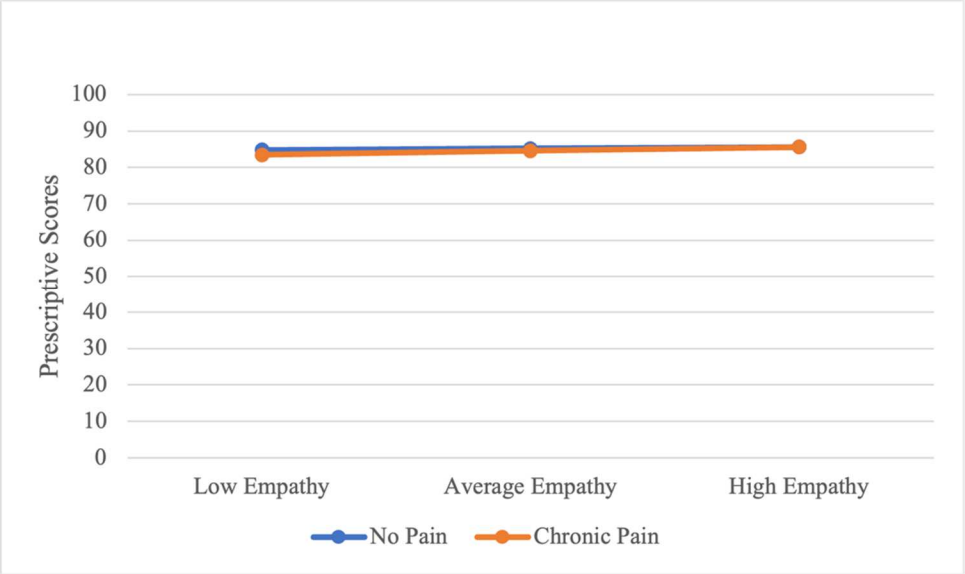

Figure 3. Prescriptive Scores by Group and Empathy Levels

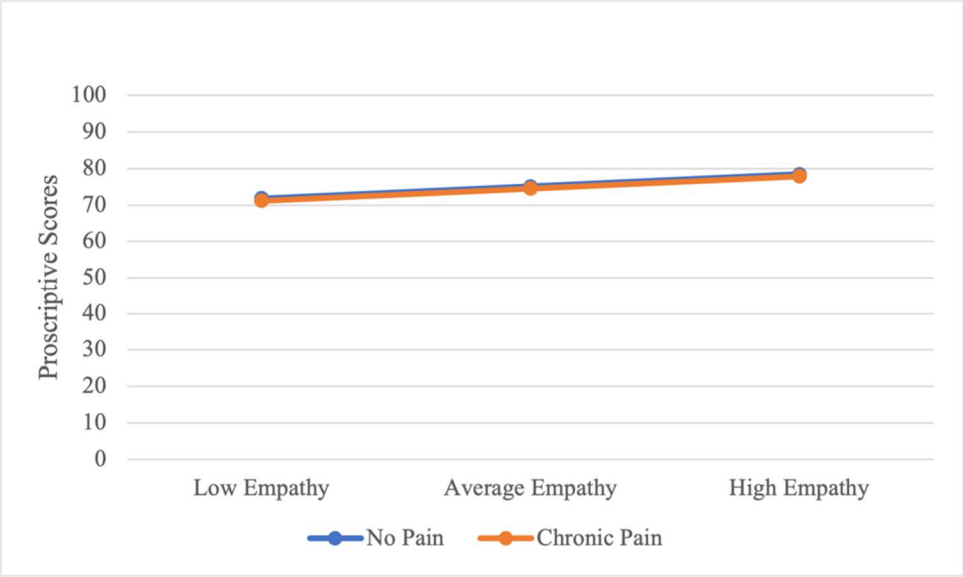

Figure 4. Proscriptive Scores by Group and Empathy Levels

APPENDIX E

APPENDIX E

Correlational Graphs