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EXPERIENCING COMPASSION FATIGUE FROM HUMANITARIAN
CRISES, INCLUDING COVID- 19.**

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EXPLORING EMOTION REGULATION AND ALTRUISM WHEN EXPERIENCING
COMPASSION FATIGUE FROM HUMANITARIAN CRISES, INCLUDING COVID-

19.

A dissertation submitted in partial fulfillment
of the requirements for the degree of

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at

ST. JOHN'S UNIVERSITY

New York

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ABSTRACT

EXPLORING EMOTION REGULATION AND ALTRUISM WHEN EXPERIENCING
COMPASSION FATIGUE FROM HUMANITARIAN CRISES, INCLUDING COVID-
19.

Saniya Tabani

Despite knowledge of devastating statistics, it has been observed that when hundreds, or even millions are suffering in large-scale crises, including genocides, refugee crises, and more recently, the COVID-19 pandemic, humans seem unable to process and comprehend the magnitude of that suffering on an emotional level. While the expectation is that compassion should increase proportionally with the number of people suffering in catastrophes, prior research has shown a negative relationship such that as need increases, donations decrease. Some factors that may impact this include the identifiable victim effect, use of emotion regulation strategies, specific cognitive processing styles, and compassion fatigue. This research sought to explore the impact of these factors on decision-making, judgment, and altruism, especially in the face of an ongoing, chronic, and collective trauma (COVID-19). A sample of 993 participants, primarily Caucasian, English-speaking individuals with a median age of 39-years-old, and with varying education levels, were presented with questions about demographics, COVID-19, use of emotion regulation strategies, and cognitive processing styles. Participants were randomized thrice into conditions for compassion fatigue, emotion regulation strategies, and COVID-19. They were, lastly, asked questions about compassion fatigue and desired donation amount towards a charity. The findings of this study showed that our participants experienced significantly higher levels of compassion

fatigue and elected to donate higher amounts- contrary to previous research - which may be a result of this population being amidst an ongoing global catastrophe and trauma. In addition, we found that individuals who had contracted COVID-19 were more likely to donate to others due to the identifiable victim effect. We also found individual differences in how emotion regulation use moderated the connection between compassion fatigue and donation amount. Overall, our findings show the impact of COVID-19 and compassion fatigue on altruism; they also highlight the utility of emotion regulation strategies, whether reappraising thoughts or suppressing emotions, especially during a persisting trauma such as COVID-19. Exploring the impact of compassion fatigue on decision-making, judgment, and altruism is imperative, especially given how these factors affect humans on both a micro and macro scale in terms of global policy, immigration, economic reform, and healthcare.

DEDICATION

This dissertation is dedicated to my family, Sadia Tabani, Anwar Tabani, and Samil Tabani. It is also dedicated to those in my family who are no longer with us, but remain with me in spirit and duas: Kamlesh Shah, Habib Tabani, Rehana Tabani, Kulsum Tabani, and Sattar Dagra.

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Last, but certainly not least, this one's for me. While I pride myself on being a fighter and resilient, this journey has not been easy. But I hope I read this, years from now, and can fondly reflect back on how far I've come and what a blessing it is to have found a calling and profession that I love and fulfills me on every level. I hope I always remember the people that carried me through this. And above all, I hope I always remember that the true strength came from inside me.

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INTRODUCTION

Joseph Stalin once said that the death of one person is a tragedy, while the death of one million is a statistic. And Mother Teresa was known to say, "If I look at the masses I will never act. If I look at the one, I will." Such is an idea so pervasive and universal, albeit confounding, that even a dictator and saint agree on it. The statistics on the death toll from global humanitarian crises are staggering: the Rohingya genocide in Myanmar has an estimated death toll of approximately 43,000 (Barron, 2018); the Holocaust death toll has been historically approximated to reach 6 million (Berenbaum, 2006); and an Amnesty International report in 2017 stated that approximately 13,000 people had been killed in the Syrian civil war and refugee crisis. The Uyghur and Tigray genocides, in China and Africa, respectively, have amassed hundreds of thousands of victims and deaths, with many journalists describing a lack of accuracy and underreporting due to suppression of information. And currently we are in the midst of a global pandemic caused by the novel Corona Virus (SARS-CoV-2) also known as COVID-19, which has thus far resulted in a worldwide death toll of 3.57 million people as of April 2021 (World Health Organization, 2021).

Despite these devastating statistics, however, it has been observed that when hundreds, or even millions are suffering in large-scale crises, people seem unable to process and comprehend that suffering on an emotional level (Slovic, 2007). If considering each human life as having equal and irreducible value, then the expectation is that compassion should increase proportionally with the number of people suffering in crises and catastrophes; in fact, many people believe, intuitively, that they would – and should- respond strongly and with more compassion in such situations (Schelling, 1968).

And yet, quite counterintuitively, the research shows that as the number of people in need increases, the degree of compassion that people feel for them ironically decreases; additionally, the research shows that there is a negative relationship between need and donations, and that as the number of victims increases, contributions and donations actually decrease (Fetherstonhaugh, Slovic, Johnson, & Friedrich, 1997).

People tend to experience more strong emotion in response to one individual suffering or in need of aid, and feel a strong inclination to help; but when there are multiple individuals in need of aid, people do not feel stronger emotional responses. Instead they exhibit proportionately less compassion and exhibit less inclination to help (Slovic, 2007). The propensity for helping one, identifiable individual is reflected in the phenomenon known as the “identifiable victim effect”. This can be extended and also seen when it comes to the impact of rising COVID-19 cases on the collective understanding of the virus, wherein people appear to be more likely to appreciate the severity and ramifications of the virus when they are directly or personally affected (e.g., contracting the virus themselves or having a friend/family member/colleague affected). In contrast, many individuals who have not yet been directly impacted and/or are solely hearing stories or statistics on the news, may continue questioning the veracity of the news reports and deem the virus a “hoax,” resulting in decreased levels of compassion for those who have contracted the virus or implement safety strategies (e.g., wearing face masks or maintaining social distance).

Paul Slovic’s research has addressed the question of why people are more inclined to help a personalized, single victim compared to aggregated, mass victims: “Most people are caring and will exert great effort to rescue ‘the one’ whose needy plight comes to

their attention. These same good people, however, often become numbly indifferent to the plight of ‘the one’ who is ‘one of many’ in a much greater problem” (Slovic, 2007). These phenomena and their resulting impact on driving aid and donations during humanitarian crises can be attributed to multiple concepts including compassion fatigue, psychic numbing, the identifiable victim effect, cognitive processing styles, and use of emotion regulation strategies. Furthermore, the onset of a global pandemic, with humans now collectively experiencing chronic and recurring traumas from within, may have chronically reduced the capacity to help and exhibit compassion. There can be many responses to living through catastrophes and disasters, including psychopathology, traumatization, compassion fatigue, and psychic numbing. Exploring the impact of these factors on decision-making, judgment, and altruism is imperative, especially given how these factors affect humans on both a micro and macro scale in terms of global policy, immigration, economic reform, and healthcare.

CHAPTER 1

Compassion fatigue

Initially explored as an offshoot of burnout experienced by emergency room nurses, the term “compassion fatigue” came to be described as the “natural consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a significant other – the stress resulting from helping, or wanting to help, a traumatized or suffering person” (Joinson, 1992; Figley, 1995). The research showed that as part of the formation of the therapeutic relationship between healthcare provider and patient, the patient’s traumatic experiences can trigger responses in the provider, especially those involved in the provider’s capacity for and ability to engage in empathy. Specifically, individuals/providers who display higher levels of empathy in response to another individual’s/their patient’s pain and trauma are more vulnerable to experiencing compassion fatigue (Adams, Boscarino & Figley, 2006).

Scales that measure compassion fatigue shed some light on how compassion fatigue is conceptualized and the components that comprise it, including compassion satisfaction, burnout, vicarious traumatization, and emotional fatigue. Originally created to measure impending burnout and compassion fatigue for nurses, the scales have evolved and been adapted to apply to various healthcare providers and helpers across contexts who work with a multitude of stressors and traumatic events.

Compassion fatigue and burnout among healthcare providers, especially psychologists and physicians, has been widely discussed with respect to the burden and negative impact COVID-19 has had on frontline workers. In a report based on the American Psychological Association’s (APA) COVID-19 Telehealth Practitioner Survey

(2020), completed by 1,787, U.S. psychologists, clinicians reported a mean stress level of 5.9 (on a scale of 1-10). 4 in 10 psychologists (41%) reported feeling burned out, 30% said they felt they were unable to meet the ever-growing demand of patients during this mental health crisis, and 45% reported having difficulties maintaining a work-life balance (Ferenz et al., 2021). “Mental health work, especially now during the COVID-19 period, is stressful and may trigger burnout related to chronic work-related stress, resulting in emotional exhaustion and loneliness. Partly due to positive intentions of helping as many clients as possible, clinicians make for an especially vulnerable crowd” (Rokach & Boulazreg, 2020). While there are various positive aspects to being a mental health provider, there are also others that can be frustrating for clinicians while they accommodate and adjust to compassion fatigue from COVID-19 and the soon-emerging post-COVID-19 era given its especially strenuous demands.

The media also plays an important role by portraying mass atrocities and tragedies, in ways that are both over-stimulating and dispassionately statistical. In the face of chronic exposure to tragedies, people can begin feeling helpless and less inclined to donate or contribute if they feel that their contributions will not make a difference or if they’ve habituated to the feelings of guilt and aversion experienced after hearing of tragedies. The first time an individual sees an image or reads a news story discussing the plight of a refugee, they may be overwhelmed with empathy and guilt, and even be inclined to donate. The second time, they may linger upon the content. The third time, they may ignore the content completely.

Media-induced psychic numbing and compassion fatigue can be overwhelming when it comes to the heightened, sometimes sensationalized, and incessant coverage of

COVID-19 cases, statistics, and policy, through social media, print media, television/news outlets, and the internet. In the first wave of the pandemic, people were inundated with hourly statistics about infection and hospitalization rates across the country and world as well as conflicting guidelines from the Centers for Disease Control and Prevention (CDC) and United States government. The media's impact on minimizing the danger associated with COVID-19 (perhaps due to blissful ignorance or a rationale to minimize panic and hysteria) has been widely discussed, but not directly studied. It is possible that the initial reporting of staggering numbers of infections and deaths in Asia and Europe contributed to psychic numbing in the United States. It is also worth exploring whether, by the time cases began increasing in the United States and other parts of the world, people had begun experiencing desensitization and compassion fatigue due to prolonged exposure to high-acuity news reports, images, and statistics about number of infections/hospitalizations/deaths.

The causes of compassion fatigue can be many: short attention span or boredom: “when problems in the news can't be easily or quickly solved [...], attention wanders off to the next news fashion” (Moeller, 1999); feeling overwhelmed by too many catastrophes occurring at once; habituation; feelings of helplessness and that one person's assistance will not change the permanency of a tragedy a crisis may seem too remote (geographically or culturally) and not directly connected to the individual's life. Ultimately, regardless of the cause, compassion fatigue – which may serve a self-protective and adaptive function in response to witnessing trauma– seems to cause habituation to humanitarian crises in a way that impedes people from being able to not only consider the magnitude of tragedy, but also respond and help accordingly.

Psychic numbing

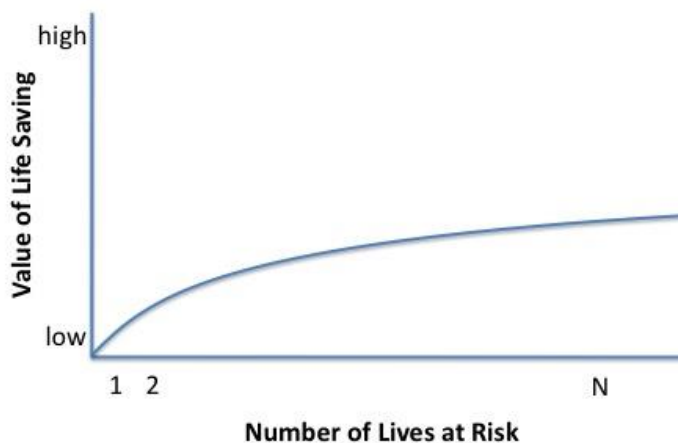
Originally coined by Robert J. Lifton (1967), the term “psychic numbing” was used to describe the “turning off” of feeling that enabled rescue workers to continue functioning in the aftermath of the devastating Hiroshima bombing. Psychic, or psychosocial, numbing is the tendency for people to withdraw attention from past traumatic experiences or from future threats that are thought to have massive consequences but low probability (Lifton, 1982). Psychic numbing can occur at an individual or societal level; individual psychic numbing can be found in survivors of rape or other traumas, including cancer, whereas societal psychic numbing can be a response to a variety of threats facing society, including global warming, nuclear weapon detonations, or immigrant crises.

From a neuroscience perspective, some studies have sought to understand the role of the limbic system, which is responsible for emotional processing and memory, in habituation to past or perceived future trauma and resulting psychic numbing (Phan, Liberzon, Welsh, Britton, & Taylor, 2003). Specifically, the rostral anterior cingulate cortex has been an area of interest as its role seems to be to allocate attention based on resources to emotionally aversive stimuli. The research helps us to understand the neurobiological basis for psychic numbing in terms of how the brain reacts and responds to emotionally aversive stimuli.

In many cases, psychic numbing can be considered to serve the role of a psychologically protective mechanism. Slovic (2007) highlighted a form of psychosocial numbing that is not beneficial, however, and in fact, emphasized that the diminished sensitivity to the value of life and an inability to appreciate loss leads to apathy and

inaction, which is consistent with what is seen in response to mass atrocities around the world. Slovic has posited that this is due to people's difficulties with innumeracy and because they cannot comprehend and tolerate the emotional connotation associated with large numbers. According to Slovic (2007), as represented in Figure 1 below, the threshold at which people's emotional responses to the loss of life is two. Figure 1 shows that while emotional feeling is greatest at $N=1$, it begins to decline at $N=2$, remaining disproportionately low as N increases and becomes a higher value "statistic."

Graph 1: Graph of the value of saving a human life



Paul Slovic recently discussed the impact of psychic numbing on responses to COVID-19, describing the increase in risky behavior resulting in new cases spiking around the country during the first, second, and third waves as a function of psychic numbing and difficulties engaging in slow, rationale, and focused thinking: "COVID-19 handed the world a high-stakes gamble this year, and only a few leaders handled it well, responding early and aggressively with evidence-based tracking, quarantining and social distancing. People in many other areas have had the unsettling opportunity to see

psychic numbing in action. Even as the number of deaths from the coronavirus in the United States has climbed to the equivalent of eight passenger jets crashing and killing everyone on board, every single day, since mid-March, some people have refused to wear masks or avoid gathering in large groups, and have angrily pushed to open businesses, schools and venues. Now, as a result of that risky behavior, new cases are spiking around the country.” (O’Hara, 2020). Between 2020 and 2021, not only has COVID-19 ravaged the world, but additional threats from the climate crisis, police brutality, development of nuclear weapons, mass genocides, and refugee crises around the world have left people in dire and desperate states, with world leaders and dignitaries responding in inversely proportional ways. According to Slovic, being able to act effectively is crucial for both societies and individuals, especially in context of COVID-19, but psychic numbing and fast, intuitive and emotional thinking (Kahneman, 2003) impede effectiveness and the ability to logically consider data, logistics, and the science needed for appropriate decision-making.

Identifiable victim effect:

The current research shows that in the face of mass tragedy, people are more likely to donate and extend help when there is one identifiable victim; the idea of being able to effectively help one identifiable and relatable person also leads to less pronounced compassion fatigue. A recent example of this is the devastating photograph of 3-year-old Aylan Kurdi, a Syrian child whose lifeless body was shown washed up on the shore of a Turkish beach. This photograph, widely circulated across news outlets and social media, garnered attention towards the Syrian refugee crises in a manner that other news stories had not managed to do. Subsequently, across the United States and Western Europe,

newspapers and media outlets began following with news stories markedly more sympathetic to the plight of migrants and refugees. The stronger sympathy towards and inclination to help Aylan is known as the “identifiable victim effect”, which is people’s greater tendency to help and donate towards personalized, single victims compared to aggregated, statistical victims represented in large numbers/groups, even when the statistics reflect a greater objective need (Jenni & Loewenstein, 1997). Contributing to – and in support of the identifiable victim effect – Kogut and Ritov (2005b) documented the “singularity effect”, which is the human preference for helping a single, identified victim over a group of victims; they conducted a research study that showed that an appeal for donations to save a solitary sick child raised almost twice as much money as a call for the same life-saving treatment for a group of eight children (Kogut & Ritov, 2005a). A similar study found that people responded more generously to an appeal to help a single needy boy or girl than to an appeal to help the same two children posed together (Slovic and Vastfjall, 2010). Small, Loewenstein, and Slovic (2007) conducted a study where they gave participants leaving a psychological experiment the opportunity to contribute up to \$5 of their earnings to a charity for children. The study presented information on the children in and as three separate conditions: identifiable victim, statistical victims, and identifiable victim with statistic information. The results showed that donations in response to the identified individual were far greater than in response to the statistical information. Even more important and surprising, were the results that showed that coupling the statistical information with the identifiable victim actually significantly reduced the contributions to charity. Thus, it seems that “putting a face” to the statistics does not do much to increase donations.

This discrepancy in aid towards identified victims compared to statistical victims may be the result of multiple factors including the idea that names and faces, rather than numbers or biographical detail, pull for more relatability and empathy (Kogut & Ritov, 2005a, 2005b); it may also stem from a “neglect of differences in expected benefit,” where people may believe that their aid would be more beneficial when put towards one individual as opposed to scattered amongst multiple individuals, who it may not make an impact on (Small & Loewenstein, 2003).

Cognitive and affective processing

Although not widely studied in the compassion fatigue literature, people exhibit individual differences in their cognitive and affective processing. These differences may exacerbate or ameliorate the experience of compassion fatigue and psychic numbing. One such difference is cognitive processing style. When it comes to judgments, decision-making, and models of thought processes involved, Stanowich and West’s (2000) and Kahneman’s (2003) research describes two modes known as “System I”, which encompasses fast, automatic, and affective responses, and “System II”, which includes slower, rational, controlled, and analytical responses. Slovic (2007) reasons that System I affect, and the way individuals instinctively and affectively respond to stimuli, is in some sense, a measure of the value of human life. System I affect is not sensitive to numerical gradation (Hsee & Rottenschreith, 2004), which is consistent with the observation that compassion and aid do not increase proportionally with amount of need. System I is also easily influenced and impacted by factors such as attention, vividness, and social proximity, and importantly, does not respond as strongly to multiple victims as it does to

single victims (Slovic, 2007). Thus, if people are using System I processing as heuristics when faced with emotionally arousing stimuli from mass atrocities, their moral decision-making may be different than what would be expected or considered rational.

The basic negative and positive feelings – the emotions - that guide our judgments and actions, impact the way people process information and decide to help others. There are also individual differences with affective processing worth exploring. It appears that aggregate statistical representations of groups do not trigger as much emotion as single victims. This could be, in part, because humans struggle with enumeration and cannot truly comprehend large scale numerical concepts (Slovic, 2007). So, although statistics can be used to convey the enormity of a crisis they also may confuse people and thus undermine responses. Hamilton and Sherman (1996) investigated the hypothesis that our affect systems respond more strongly to single, rather than multiple, victims because individuals are perceived as “more concrete, unitary, coherent, consistent, and entitative than groups.” Because of this conceptualization, individuals also elicit more attention, elaborative processing, perspective-taking, and affect. Thus, it appears that our emotions and affective processes are more triggered when we consider one person in distress and experience the identifiable victim effect, and an overwhelmed numerical processing system dampens our response to the idea of larger amounts of people suffering.

To better understand and identify cognitive styles that follow patterns of responses that are consistent, habitual, unconscious, and/or deliberate, researchers put forth the ideas of: 1) the systematic style, which is associated with logical and rational behavior, and employs a sequential approach to thinking, learning, problem-solving, and decision making 2) the intuitive style, which is associated with spontaneous, emotional,

and visual approaches, and relying more on intuition/"hunches" (Keen, 1973; Martin, 1983).

Emotion regulation

Emotion regulation refers to an individual's ability to effectively manage an emotional experience, and includes strategies that can be employed on a regular basis to enhance mood and/or cope with emotions like anger, anxiety, and guilt; emotion regulation processes can be automatic (i.e. impulsive) or controlled (i.e. deliberate) (Prikhidko & Swank, 2018).

In terms of compassion fatigue, for some people, groups may be able to elicit an emotional response similar to that for individuals suffering, but some people may be wary about allowing that to happen and instead begin to employ emotion regulation strategies. Interestingly, there is a question in the literature about the direction of the link between compassion fatigue and emotion regulation. Specifically, is it that already compassion-fatigued individuals are the ones who are employing emotion regulation strategies in the face of distressing cues, or is it that compassion fatigue is the end result of these individuals' regulating emotion towards distressing cues?

Shaw, Batson and Todd's (1994) research on empathy avoidance showed that when helping is foreseen as materially costly, people will actively avoid feeling the emotions they know will compel them to help and actively avoid feeling empathy. Thus, research has proposed that when faced with the prospect of mass suffering, people might find their emotions especially costly- both financially and/or psychologically- and take steps to prevent or eliminate them. People tend to predict that they will feel more intense emotionality as the number of victims in a crisis increases, even if their predictions turn

out to be inaccurate when compared to actual emotional experience (Dunn & Ashton-James, 2008). If people expect to feel stress and intense emotion toward mass suffering, and appraise that they would be unable to cope with it, they might take steps to prevent that experience from ever happening, such as proactively down-regulating emotions (Lazarus & Folkman, 1986).

Because people expect the suffering of large groups to be potentially overwhelming, they engage in affect regulation strategies to prevent themselves from experiencing overwhelming levels of emotion. Because groups are more likely than individuals to elicit emotion regulation, people consequentially feel less emotion for groups than for individuals. Following these ideas, Cameron & Payne (2010) conducted a study on the role of emotion regulation in reducing compassion and how “emotion regulation creates insensitivity to mass suffering”. The results of one experiment showed that compassion fatigue emerged for the people who were skilled at emotion regulation. The results of another experiment showed that participants who were told to down-regulate their emotions experienced compassion fatigue, but participants who were told to experience their emotions did not. Additionally, the researchers examined the time course of these effects using a dynamic rating to measure affective responses in real time. The time course data suggested that participants regulated emotion toward groups proactively, by preventing themselves from ever experiencing as much emotion toward groups as toward individuals.

Two strategies used to down-regulate negative emotions are cognitive reappraisal, which is characterized by “reinterpreting situations to modulate emotional responses” and emotion suppression, which consists of restricting the outward expression of the emotion

(Gross, 1998, 1999). In layman's terms, cognitive reappraisal entails changing the way people think about the emotionally-laden event and emotion suppression entails changing the way people behaviorally respond (by hiding or suppressing emotions) to the emotionally-laden event.

CHAPTER 2

The current study

At the time of the conception and proposal of the original study, the goals and purposes of our research were to explore individual differences in psychic numbing and compassion fatigue, specifically on contributing factors such as cognitive styles and use of emotion regulation strategies, or various demographic variables, including age cohort, gender, ethnicity, level of education, etc. However, that was before a significantly confounding factor and event occurred: a global pandemic, COVID-19. Being thrust into the very catastrophe and traumatic event that our contemporaries have studied, but only at a distance, caused us to redirect our focus and adapt the study to fit the current context. In the midst of COVID-19, a greater research question became whether Slovic's findings would be replicated when the participants are experiencing, from within and collectively, the very trauma and catastrophe they have a difficult time conceptualizing.

The revised goals of this research and hypotheses, given the historical events that interfered with the original study, include 1) looking at the impact of emotion regulation strategies and cognitive styles on compassion fatigue and furthermore, the resulting impact on altruism; 2) examining whether the presence of a pandemic alters the pre-existing connections between compassion fatigue and altruism (i.e., donation amount); 3) exploring how this connection differs when individuals are experiencing a collective, global catastrophe from within; 4) determine what factors may either exacerbate or help alleviate the compassion fatigue that has been previously well documented.. Essentially, do people's approaches to coping with compassion fatigue impact their likelihood to want to help others and donate, especially amidst a pandemic? This is especially important to

explore in the context of COVID-19, where there are direct life/death outcomes tied to individuals' propensity for altruism and likelihood to help each other.

Although parts of this phenomenon have been documented and some solutions have been proposed, the extent to which emotion regulation strategies and cognitive processing styles modify this effect has less widely been studied. More importantly, these factors have not been examined or studied under such conditions wherein participants are concurrently experiencing a collective catastrophe and a multitude of chronic stressors.

Hypotheses:

1. Individuals who are exposed to the manipulation designed to increase compassion fatigue will opt to donate less than the individuals that are not in the manipulation condition/are not experiencing elevated levels of compassion fatigue.
2. Individuals who experience compassion fatigue and use cognitive reappraisal as an emotion regulation strategy will donate more than those who employ emotion suppression strategies.
3. Due to slow and rational thought processes, individuals with systematic cognitive styles will not succumb to compassion fatigue (e.g., have lower levels of compassion fatigue) and be more likely to donate greater amounts than individuals with intuitive cognitive styles.
4. Amount of money donated and levels of compassion fatigue will be impacted by whether participants were exposed to COVID-19 images, wherein participants who were exposed to the COVID-19 conditions will donate less amounts of money; participants exposed to COVID-19 stimuli (both

compassion fatigue inducing and not), will donate less amounts of money than those in the non-COVID conditions (i.e., exposure to any COVID-19 content, whether they are photographs of individuals or groups, will result in overall lower levels of donation).

5. Participants who reported that they contracted COVID-19, due to the identifiable victim effect and resulting lower levels of compassion fatigue, will donate greater amounts of money.

Method

Participants

993 participants were recruited through Qualtrics, the St. John's University SONA System, and social media. Qualtrics is an online data collection service which is compliant with regulations outline in the Health Insurance Portability and Accountability Act (HIPAA). We decided to choose Qualtrics due to its ease of use and functionalities to obtain large samples and randomize participants. Our proposed sample size is based on a similar study's sample size (Maier, Slovic, & Mayorga, 2017), which found statistical support for relatively small effect sizes using a sample of 638 participants (to note, the researchers collected data from 906 participants and 638 participants qualified for analysis due to meeting inclusion criteria). Thus, to account for potential exclusion of some participants and to attain higher power, and because our proposed study is similar in nature to Maier, Slovic, and Mayorga's (2017), we believe recruiting approximately 900 participants would be an appropriate goal. We anticipate that perhaps, as many as a quarter of the total participants would not be included in the sample because of attrition, failure of attention checks built into the survey, insufficient amount of time taken to

complete the survey, or unreliable patterns of responding. The Qualtrics panel included coding to eliminate participants that failed comprehension and attention checks, as well as participants who completed the survey in under 50% of the sample's median time.

Procedures

Participants were consented and enrolled in the study. They completed the online survey housed on the Qualtrics platform. They were briefly asked questions, before randomization, about demographics, whether they contracted COVID-19, their use of certain emotion regulation strategies (e.g., whether they currently tend to use more emotional regulation strategies of cognitive reappraisal or emotional suppression), and decision-making approaches/cognitive processing styles (e.g., whether they are more likely to/often engage in systematic/rational versus intuitive/affective processing styles). The latter two sets of questions are derived from the Cognitive-Style Inventory (Martin, 1983) (Appendix B) and the Emotion Regulation Questionnaire (Gross & John, 2003) (Appendix C). Participants were randomized three times (2 x 2 x 2 design) into conditions for compassion fatigue, emotion regulation styles, and COVID-19.

Participants were first randomized into one of two emotion regulations conditions and prompted for use of one of two strategies: cognitive reappraisal (where they were asked to “change the way they think about what is happening in the pictures”) or emotion suppression (where they were asked to “suppress the way they feel about what is happening in the pictures.”)

Next, they were randomized into a COVID-19 or non-COVID condition wherein the content of the pictures they would see in the next level of randomization would entail COVID-19 related pictures/content or images from non-COVID atrocities (e.g.,

Rohingya genocide, Yemeni refugee crisis, etc.). Lastly, they were randomized into either a compassion fatigue inducing condition (where they were presented pictures of multiple individuals from a variety of global tragedies) or a non-compassion fatigue activated condition (where they were presenting pictures of one individual in the context of the same global tragedies). Our rationale for using vivid imagery pictures stems from Jenni and Loewenstein's (1997) research that found support for the idea of vividly depicted, identified victims generating more aid because they "constitute their own reference class", and thus, helping the victim is seen as helping 100% of the relevant group in need. According to Slovic (2007), "victims who have been personalized, as through a photo or personal narrative, may simply generate stronger affective responses of distress or sympathy than do pallid statistical victims. In doing so, they may more effectively inspire potential helpers to action". At the midpoint of each picture condition, a comprehension-check was built in to prompt and ensure that participants remembered which emotion regulation strategy they were employing. At the end of each picture condition, participants were asked to label and rate their emotional experience (e.g., feeling emotions of sadness, helplessness, anger).

Participants were then administered items from a measure of compassion fatigue, the Compassion Fatigue Scale (Gentry et al. (2002) (Appendix A). Lastly, participants were asked to respond to a prompt asking them how much money (from a hypothetical prospective lottery earning of \$50), in increments of \$5, they would like to donate to a charitable cause. Participants were allowed to select \$0 (no donation).

In addition, as an attention check, respondents who spent less/greater than 2 standard deviations from the mean or 50% of the mean of viewing time on the conditions

and completing the questionnaires were dropped from the sample on the assumption that they did not take the time to adequately participate in the study. Additionally, if participants did not complete the outcome variable question (amount donated), their data was disqualified from the study.

Measures:

The Cognitive-Style Inventory (Martin, 1983), assesses for differences in cognitive processing styles, specifically systematic/rational thinking versus intuitive/emotional thinking and decision making, and includes items such as: “The most efficient and effective way to deal with a problem is logically and rationally” and “I generally rely on facts and data when problem solving”. The inventory has 40 items. Respondents are asked to refer to a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree), and answer according to the number that corresponds with their level of agreement with the statement.

The Compassion Fatigue Scale (Gentry et al., 2002; Figley, 1995) assesses for respondents’ compassion status, including risk of compassion fatigue and degree of compassion satisfaction. We used items from the 30-item Compassion Fatigue Scale - Revised by Gentry et al. (2002) (e.g., “I have felt a sense of hopelessness association with seeing global mass atrocities”). The Compassion Fatigue Scale was originally developed based on clinical experience for healthcare workers experiencing secondary trauma, and had 40 items divided between two subscales for compassion fatigue and burnout (Figley, 1995). The instructions of the scale by Gentry and colleagues asks participants to indicate how frequently a particular characteristic is true about themselves on a 6-point Likert scale (0=Never, 1=Rarely, 2=A Few Times, 3=Somewhat Often, 4= Often, 5=Very

Often). Upon factor analysis of the items it appeared that the items in the revised Compassion Fatigue scale fell on two distinct factors of compassion fatigue and compassion satisfaction. The compassion satisfaction items were reverse scored and added to the compassion fatigue items to devise a total sum score that depicted the pure construct of compassion fatigue. Items from the burnout subscale were removed, leaving 26 items in our adapted scale. The scale is scored based on clinical cutoffs: sum scores of 26 or below indicate extremely low risk, between 27 and 30 indicate low risk, between 31 and 35 indicate moderate risk, between 36-40 indicate high risk, and scores of 41 or more indicate extremely high risk of compassion fatigue.

The Emotion Regulation Questionnaire (Gross & John, 2003) is a 10-item scale that measures the tendency to regulate emotions by using cognitive reappraisal or expressive/emotional suppression strategies. Respondents answered each item on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The scale includes items such as, “When I want to feel less negative emotion (such as sadness or anger), I change what I’m thinking about” and “When I am feeling negative emotions, I make sure not to express them”.

Statistical analyses:

Statistical analyses were conducted in SPSS and SYSTAT. To examine the effect of experimental assignment of individuals on conditions of compassion fatigue, COVID-19, and emotion regulation on the outcome variable of donations, we used a 2 x 2 x 2 analysis of variance.

Analyses conducted included a univariate analysis of variance (ANOVA), independent samples T-tests, Pearson correlations, and Chi-square tests. It was

hypothesized that the mechanism by which compassion fatigue predicts donations will be moderated by emotion regulation and/or cognitive processing styles. To evaluate this, we used the bootstrapping techniques recommended by Hayes (2013) in PROCESS. The final set of hypotheses concerned individual difference variables, and were tested for their moderating effect on the experimental variables and on the overall model via PROCESS. Variables used in the moderator analysis were mean centered.

Factor analyses were conducted on the Compassion Fatigue Scale to distinguish and determine two separate factors (e.g., compassion fatigue and compassion satisfaction) within the scale, so to better and more accurately interpret scores and cutoffs. Gentry et al. (2002) offer scoring guidelines and cutoffs that did not seem an appropriate metric for our data because these cutoffs do not account for scoring complications around the compassion satisfaction items (e.g., they are not reverse scored in their scale). To focus on a “pure” construct of compassion fatigue, we isolated and summed scores of items that were only measuring compassion fatigue. To capture compassion fatigue and compassion satisfaction items, we reverse scored compassion satisfaction items and added their summation to the sum of compassion fatigue items (total CF sum = compassion fatigue sum + reverse scored compassion satisfaction sum).

Scores from the various other scales were summed and averaged, as indicated, and coded into dichotomous variables for analyses (e.g., emotion regulation strategy, cognitive reappraisal, emotion suppression, intuitive thinking style, systematic thinking style, donation, etc.).

To note, emotion regulation and cognitive processing styles were both examined and analyzed for their individual components *and* as constructs on the whole. Initially,

the two different types of emotion regulation strategies – emotion suppression and cognitive reappraisal- were examined separately. But upon preliminary analyses and understanding that individuals employ both strategies, with some to higher/varying degrees, the two pieces were combined to create a variable of “regulation.” Similarly, for cognitive processing styles, we started out by examining the impact of intuitive versus systematic styles and found that not only were both styles highly correlated, but they were often occurring in conjunction. Thus, a variable combining the both styles and better representing individuals’ tendencies to process information was created as “cognition” (which also is referred to as processing in our text).

Results:

Descriptive Statistics:

Our sample consisted of 993 participants. The average age for our respondents was 39 years old and the median age was 36. 41.2% of participants were male and 57.9% were female, with .5% of individuals identifying as another gender identity. Median level of education was some college, but no degree (28.1% of participants). 2% had less than a high school degree, almost 24% were high school graduates, 19.7% had a bachelor’s degree, and a combined 19.2% had a graduate level degree. 13.6% of participants identified as of Hispanic/Latinx ethnicity. 69% of participants reported their race as White, 11.2% as Black or African American, 8.2% as Asian, 3.6% as other, and 3.3% selected multiple race options and endorsed a multiracial identity. 38.2% reported being married, 7.7% divorced, and 46.3% never married. In terms of political affiliation, 23.8%

reported a Republican affiliation, 46% reported a Democratic affiliation, and 20.2% reported themselves as Independent.

To shed some light on financial factors, especially in context of COVID-19, 13.9% of participants reported an income of \$100,000-\$149,999, with 11.3% reporting following that earning \$20,000-\$29,999. With respect to employment, 48.4% reported they are currently working, 29.4% reported they are not working (i.e., temporarily laid off, looking for work, retired, or disabled) and 20% endorsed being a student. Highest percentages of occupations included education/academic institutions, other, retired, unemployed, and management.

Participants were also asked about their media consumption and news sources, including television (e.g., cable networks such as CNN, NBC, Fox News, etc.), Internet news media (e.g., Guardian, Huffington Post, New York Magazine, Time, etc.), social media (e.g., Facebook, Twitter, Instagram, etc.), and newspaper/print media (e.g., The New York Times, Times Magazine, Chicago Tribute, local newspaper, etc.). 12.2% reported that they get their news only from television, 3% reported only use of the Internet, 10.7% cited social media as their source, and 1.8% still endorsed use of the newspaper/print media. 12.6% of participants reported using all four mediums, with the remainder (59.7%) reporting mixed use of different sources (e.g., some reported use of social media and television versus some who reported use of internet, social media, and print media).

Table 1.1: Education level

Highest level of education completed/degree achieved	Percentage of sample
Less than high school degree	2%

High school graduate (high school diploma or equivalent including GED)	23.8%
Some college but no degree	28.1%
Associate degree in college (2-year)	7.2%
Bachelor's degree in college (4-year)	19.7%
Master's degree	14.6%
Doctoral degree	1.9%
Professional degree (JD, MD)	2.7%

Table 1.2: Race

Race	Percentage of sample
White	69%
Black or African American	11.2%
American Indian or Alaska Native	.7%
Asian	8.2%
Native Hawaiian or Pacific Islander	.1%
Other	3.6%
Prefer not to answer	3.2%
Multiracial identities:	3.3%

Table 1.3: Marriage Status

Marriage Status	Percentage of sample
Married	38.2%
Widowed	4.4%
Divorced	7.7%
Separated	1.0%
Never Married	46.3%
Prefer not to answer	2.3%

Table 1.4: Income

Income	Percentage of sample
Less than \$10,000	9.7%
\$10,000 to \$19,999	6.8%
\$20,000 to \$29,999	11.3%

\$30,000 to \$39,999	8.7%
\$40,000 to \$49,999	6.6%
\$50,000 to \$59,999	6.4%
\$60,000 to \$69,999	4.5%
\$70,000 to \$79,999	5.3%
\$80,000 to \$89,999	3.1%
\$90,000 to \$99,999	4.2%
\$100,000 to \$149,999	13.9%
\$150,000 or more	11.6%
Prefer not to answer	7.7%

Table 1.5: Occupation

Occupation	Percentage of sample
Management, professional, and related	11.1%
Service	4.9%
Sales and office	4.9%
Farming, fishing, and forestry	.8%
Construction, extraction, and maintenance	3.4%
Production, transportation, and material moving	1.1%
Government	2.1%
Retired	13.9%
Unemployed	13.3%
Healthcare	5.5%
Education and/or academic institution	18.8%
Student	2.0%
Prefer not to answer	3.5%
Other	14.7%

Hypothesis 1: Individuals who are exposed to the manipulation designed to increase compassion fatigue will opt to donate less than the individuals that are not in the manipulation condition/are not experiencing elevated levels of compassion fatigue.

Increased levels of compassion fatigue, whether measured by the compassion fatigue scale or represented by the experimental manipulation, was not found to have a significant effect on donation amount, contrary to Slovic's 2007 findings. We were unable to replicate Slovic's results in his study, which may be a function of COVID-19 or

better explained by other factors.

Compassion Fatigue Levels:

Our results showed an overall higher level and mean sum score of compassion fatigue (Mean = 62.616, standard error = .431) compared to the clinical cutoffs described by Figley (1995) in the Compassion Fatigue Scale, in which a score of 26 or less is extremely low risk, 27-30 is low risk, 31-35 is moderate risk, and 41 or more is extremely high risk for compassion fatigue.

Prorating sum scores to mean scores, our sample's compassion fatigue mean level of response to the response scale was 2.5, which falls between the ratings of 2 ("A Few Times") and 3 ("Somewhat Often"). A clinical cutoff higher than 41 is a mean response between 1 ("Rarely") and 2 ("A Few Times").

Correlations between self-reported high compassion fatigue levels and donation:

Our analyses did not yield significant correlations between self-reported high levels of compassion fatigue and amount of money donated (dollars) (Pearson correlation coefficient = -.045, $p = .157$).

Table 2: Randomization:

Randomization; Between-Subject Factors

Condition	Code	Description	N
COVID01	0	Non-COVID-19 pictures	461
	1	COVID-19 pictures	477
CF01	0	Non-compassion fatigue pictures (individuals)	462

	1	Compassion fatigue inducing pictures (groups)	476
ER01	0	Emotion regulation: emotional suppression	454
	1	Emotion regulation: cognitive reappraisal	484

Donations, in dollars, as a function of randomization conditions and their interactions

Per our analyses, donations by participants, in dollars, were a mean of \$18.73 (standard error = .580). Looking at the tests of between subjects' effects, there were no significant effects on donation amount as a function of which condition participants were randomized into. For participants that were randomized into compassion fatigue and emotion regulation conditions, the p value of 0.066 is the closest to approaching .05.

Table 3: Tests of Between Subjects Effects, Randomization and Donation Amount

Tests of Between-Subjects Effects

Dependent Variable: Dollars

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4294.424 ^a	7	613.489	1.957	.058
Intercept	326346.737	1	326346.737	1040.786	<.001
COVID01	1028.318	1	1028.318	3.280	.070
CF01	161.312	1	161.312	.514	.473
ER01	39.104	1	39.104	.125	.724
COVID01 * CF01	1019.962	1	1019.962	3.253	.072
COVID01 * ER01	49.929	1	49.929	.159	.690
CF01 * ER01	1063.458	1	1063.458	3.392	.066
COVID01 * CF01 * ER01	710.947	1	710.947	2.267	.132
Error	291608.908	930	313.558		
Total	619975.000	938			
Corrected Total	295903.332	937			

a. R Squared = .015 (Adjusted R Squared = .007)

Graph 2.1: Donation differences across randomization conditions

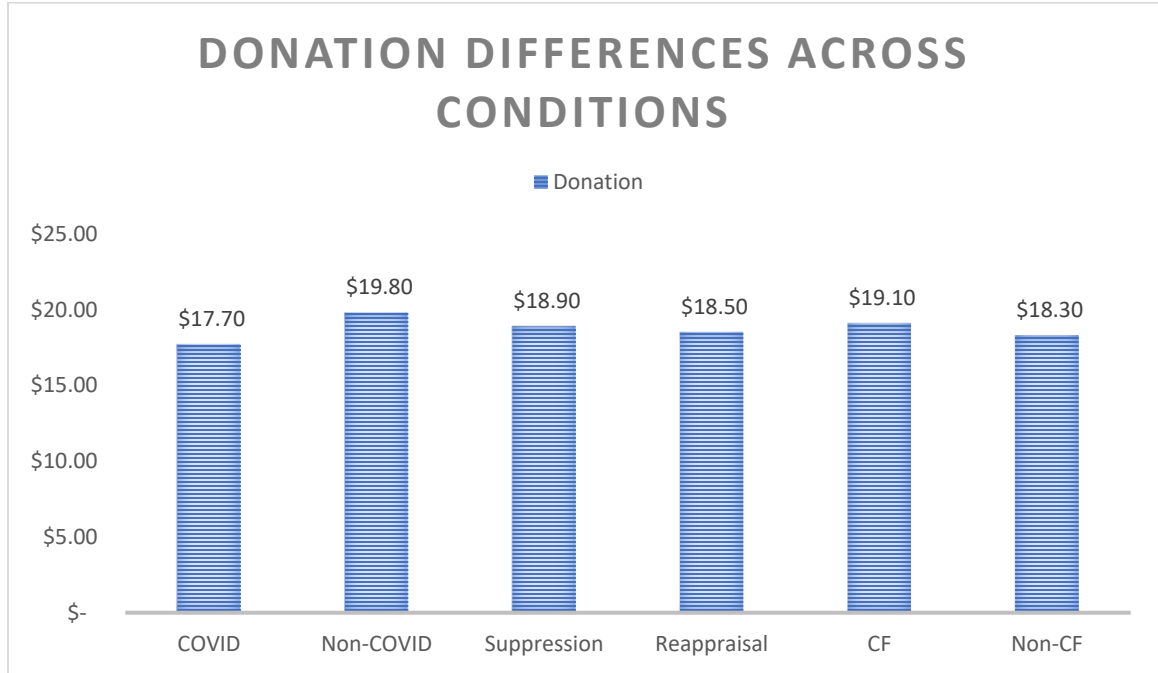


Table 4.1: Impact of randomization on donation amount

Condition	Code	Description	Dollars (Mean)	Std. Error
COVID01	0	Non-COVID-19 pictures	\$19.80	.828
	1	COVID-19 pictures	\$17.70	.814
CF01	0	Non-compassion fatigue pictures (individuals)	\$18.31	.828
	1	Compassion fatigue inducing pictures (groups)	\$19.14	.814
ER01	0	Emotion regulation: emotional suppression	\$18.93	.835
	1	Emotion regulation: cognitive reappraisal	\$18.52	.806

Impact of randomizations/manipulations on compassion fatigue scores:

The experimental manipulations designed to induce compassion fatigue – in both COVID and non-COVID contexts- were unsuccessful in doing so. Participants that were exposed to pictures of groups of people experiencing catastrophes (including COVID-19, genocides, and refugee crises) did not report significantly different/higher compassion

fatigue scores compared to their non-compassion fatigue induced counterparts who were exposed to pictures of individuals experiencing the same crises.

Table 4.2: Impact of randomization on compassion fatigue scores

Condition	Code	Description	Compassion Fatigue Scores (Mean)	Std. Error
COVID01	0	Non-COVID-19 pictures	63.16	.615
	1	COVID-19 pictures	62.07	.604
CF01	0	Non-compassion fatigue pictures (individuals)	62.36	.615
	1	Compassion fatigue inducing pictures (groups)	62.87	.605
ER01	0	Emotion regulation: emotional suppression	64.83	.620
	1	Emotion regulation: cognitive reappraisal	60.41	.599

Table 5: Tests of Between Subjects Effects, Randomization and Compassion Fatigue scores

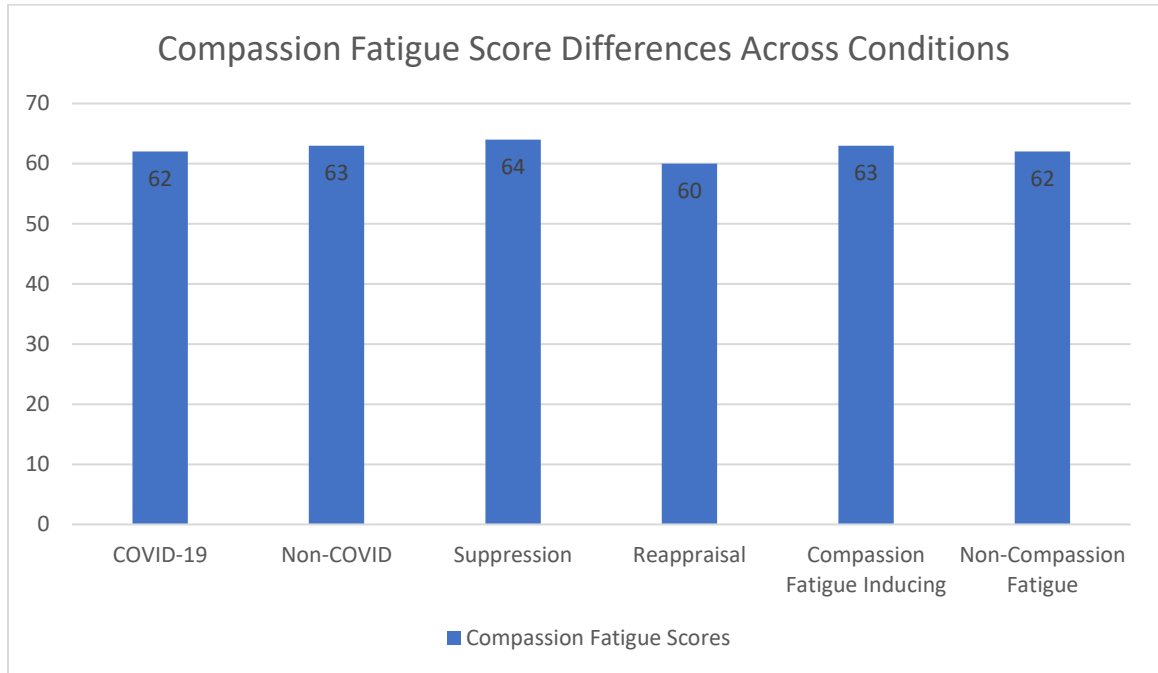
Tests of Between-Subjects Effects

Dependent Variable: NewCF_sum

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5925.901 ^a	7	846.557	4.899	<.001
Intercept	3645342.18	1	3645342.18	21093.530	.000
COVID01	276.849	1	276.849	1.602	.206
CF01	59.946	1	59.946	.347	.556
ER01	4542.963	1	4542.963	26.288	<.001
COVID01 * CF01	129.173	1	129.173	.747	.388
COVID01 * ER01	538.291	1	538.291	3.115	.078
CF01 * ER01	22.536	1	22.536	.130	.718
COVID01 * CF01 * ER01	503.811	1	503.811	2.915	.088
Error	160547.943	929	172.818		
Total	3829068.00	937			
Corrected Total	166473.844	936			

a. R Squared = .036 (Adjusted R Squared = .028)

Graph 2.2: Compassion Fatigue Score Differences across Randomization Conditions



Impact of self-reported high “pure” compassion fatigue scores on donations:

We also decided to explore whether self-reported compassion fatigue scores, from the scale, predicted whether individuals donated or not. Rather than examining it as a continuous variable, we dichotomized the donation variable (0 = did not donate, 1 = did donate) and found something interesting. While the differences on self-reported compassion fatigue sum scores (including compassion fatigue and compassion satisfaction scores) were negligible in terms of predicting whether individuals donated or not (compassion fatigue mean scores of 62.83 for those that did not donate versus scores of 62.79 for those that did), more people who donated had higher “pure” compassion fatigue scores (scores derived from solely the compassion fatigue items in the scale). 786 participants elected to donate money and reported a “pure” compassion fatigue score of 30.58, as opposed to the 206 participants that elected to donate no money and reported “pure” compassion fatigue scores of 27.44.

Table 6: T-Test results, Compassion Fatigue scores (Pure and Total Sum) and Donation

	Donate	N	Mean	Std. Deviation	Std. Error Mean
Compassion Fatigue Sum Score (NewCF_Sum)	No	206	62.83	14.58	1.02
	Yes	768	62.79	13.18	.47
"Pure" Compassion Fatigue Score (PureCF_Sum)	No	206	27.44	8.41	.59
	Yes	768	30.58	9.86	.35

Independent samples test

	t	df	p	Mean difference	Std. error difference	95% CI, Lower	95% CI, Upper
NewCF_sum	.03	990	.973	.04	1.06	-2.04	2.11
PureCF_sum	-4.20	990	<.001	-3.15	.75	-4.62	-1.68

Hypothesis 2: Individuals who experience compassion fatigue and use cognitive reappraisal as an emotion regulation strategy will donate more than those who employ emotion suppression strategies.

We discovered that both cognitive reappraisal and emotion suppression significantly moderated the connection between compassion fatigue and donations. However, because we did not find one strategy to yield greater amounts of donation over the other, we combined both emotion suppression and cognitive reappraisal strategies

into one construct of “regulation” and further examined how that moderates the connection between compassion fatigue and donation. There was a Pearson correlation of .645 between regulation and cognition ($p = .000$) signifying the connection between both regulation strategies and processing styles, which further reinforced the idea that these coping strategies and approaches work hand-in-hand.

We found a significant effect for cognitive reappraisal (2.28, $p = .00$) on donation and an interaction ($p = .00$) wherein the participants that elected to donate the highest amount of money (\$22.88) were the ones that were high in compassion fatigue and engaging in more use of cognitive reappraisal as an emotion regulation strategy. The participants that donated lower amounts (\$15.52) are engaging in less amounts of reappraisal in the face of similarly high levels of compassion fatigue. Emotional suppression follows a similar pattern of findings as cognitive reappraisal in terms of moderation and interaction, but interestingly, people that are high on compassion fatigue but not using suppression as much are donating the least by a substantial amount (\$21.05 is the greatest and \$12.71 is the lowest).

Table 7: Cognitive Reappraisal Model:

Y : Dollars

X : NewCF_sum (Compassion fatigue score sum)

W : Cognitive reappraisal (emotion regulation strategy of cognitive reappraisal)

	coeff	se	t	p
constant	19.00	.57	33.23	.00
Compassion Fatigue Sum	.01	.04	.19	.85
Cognitive reappraisal	2.28	.56	4.11	.00
Interaction	.11	.04	3.15	.00

Table 8: Emotional Suppression Model:

Y : Dollars

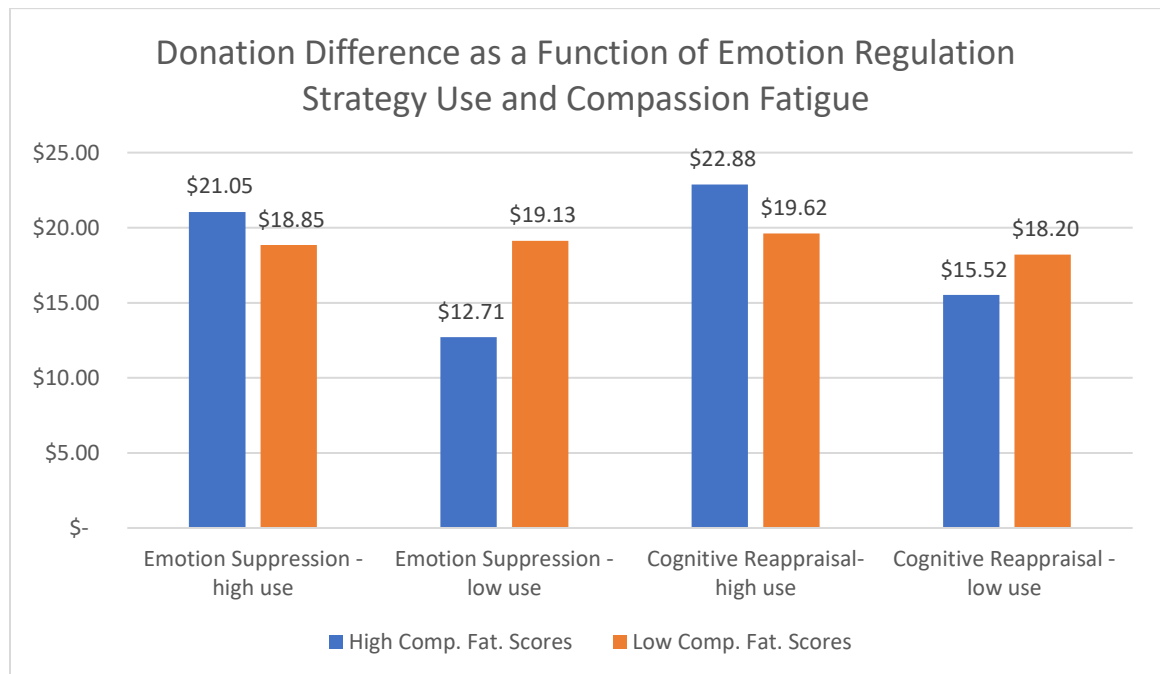
X : NewCF_sum (Compassion fatigue score sum)

W : Emotional Suppression (Emotion regulation strategy of emotional suppression)

	coeff	se	t	p
constant	17.98	.58	31.20	.00
Compassion Fatigue Sum	-.07	.04	-1.66	.10
Emotional Suppression	1.56	.44	3.59	.00
Interaction	.12	.03	3.77	.00

Graph 3: Donation Difference as a Function of Emotion Regulation Strategy and

Compassion Fatigue



Graph 4: Donation Difference as a Function of Emotion Regulation Strategy and Compassion Fatigue

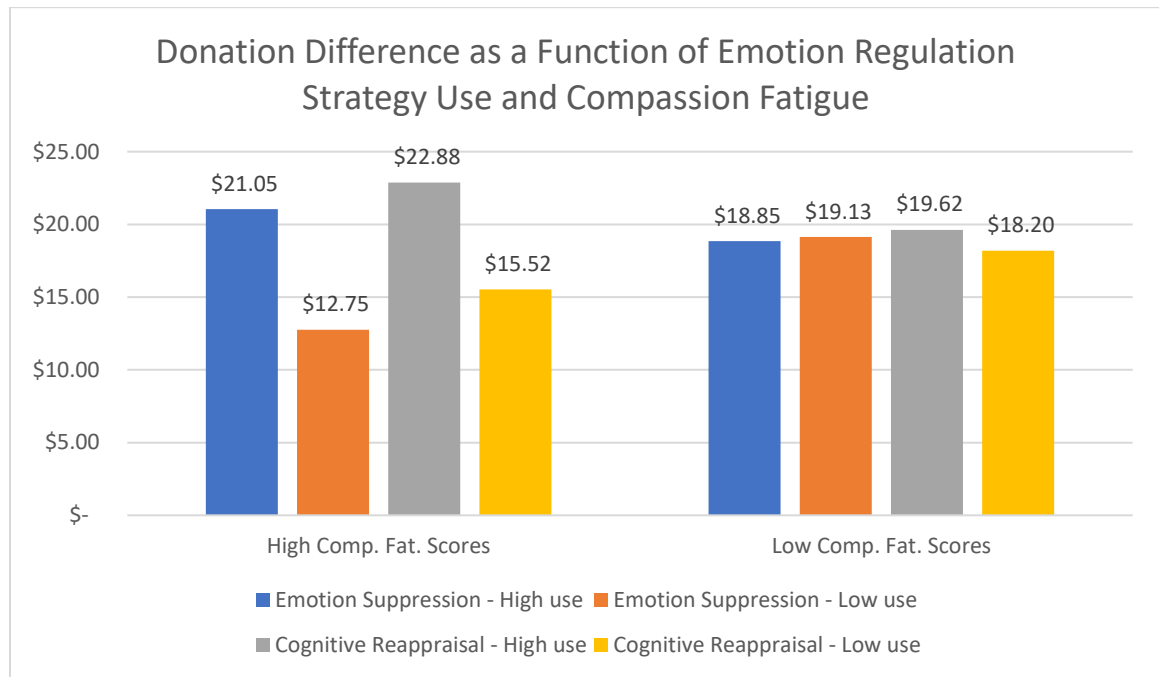


Table 9: Correlations between compassion fatigue scores and emotion regulation style and cognitive processing styles:

		Correlations					
		PureCF_sum	CF_SAT_SUM	ReappStyleMean	SuppStyleMean	IntuitiveMean	SystematicMean
PureCF_sum	Pearson Correlation	1	.106	.114	.419	.404	.253
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001
	N	992	992	992	992	992	992
CF_SAT_SUM	Pearson Correlation	.106	1	.457	.038	.308	.364
	Sig. (2-tailed)	<.001		<.001	.227	<.001	<.001
	N	992	992	992	992	992	992
ReappStyleMean	Pearson Correlation	.114	.457	1	.332	.509	.543
	Sig. (2-tailed)	<.001	<.001		<.001	<.001	<.001
	N	992	992	992	992	992	992
SuppStyleMean	Pearson Correlation	.419	.038	.332	1	.456	.393
	Sig. (2-tailed)	<.001	.227	<.001		<.001	<.001
	N	992	992	992	992	992	992
IntuitiveMean	Pearson Correlation	.404	.308	.509	.456	1	.651
	Sig. (2-tailed)	<.001	<.001	<.001	<.001		<.001
	N	992	992	992	992	992	992
SystematicMean	Pearson Correlation	.253	.364	.543	.393	.651	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	<.001	
	N	992	992	992	992	992	992

Emotion “regulation” as a moderator:

In examination of the construct of “regulation” and its relation to donations, we found a significant effect of regulation on donations (.22, $p = .00$), as well as an interaction such that participants who elect to give the highest donation amount (\$22.58) are the ones who are high on compassion fatigue and highly using regulation strategies; the lowest amount of donations (\$14.75) is given by people high on compassion fatigue but are low on use of any emotion regulation (.02, $p = .00$). Thus, we find that the answer is not as simple as saying that compassion fatigue and donation are not at all related; in fact, they are related, but differently so and depending on whether individuals are higher on their ability to regulate their emotions (regardless of which specific strategy). Low

regulators are found to elect to give the least and high regulators elect to give more money in the presence of high compassion fatigue.

Table 10: Emotion Regulation Model:

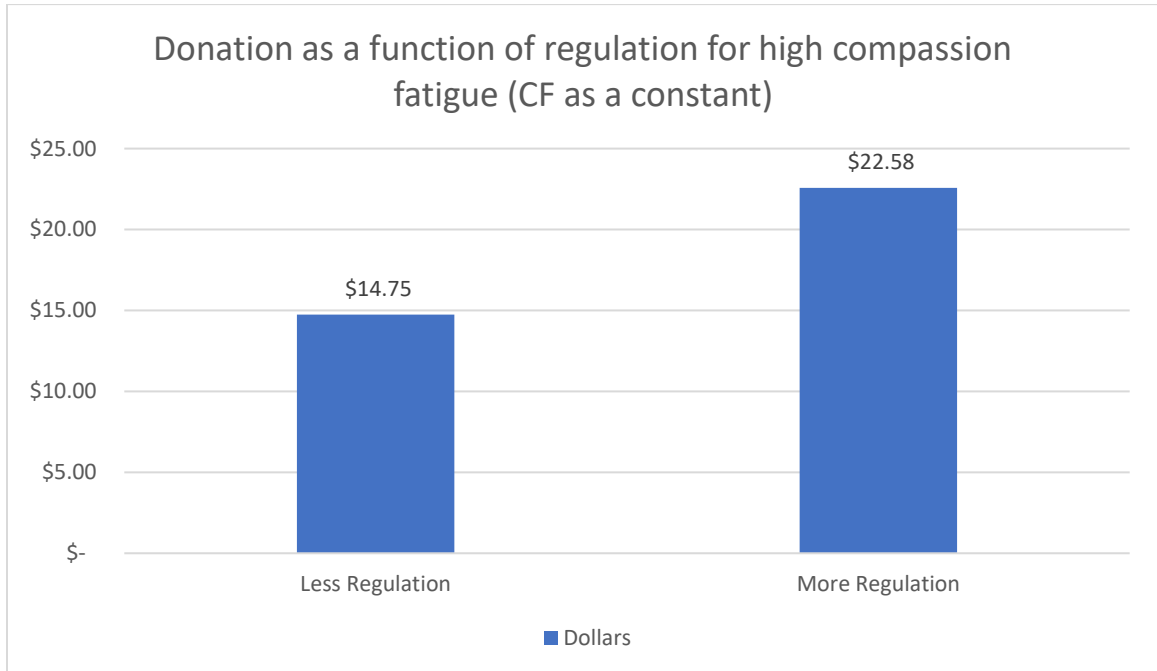
Y : Dollars

X : NewCF_sum (Compassion Fatigue score sum)

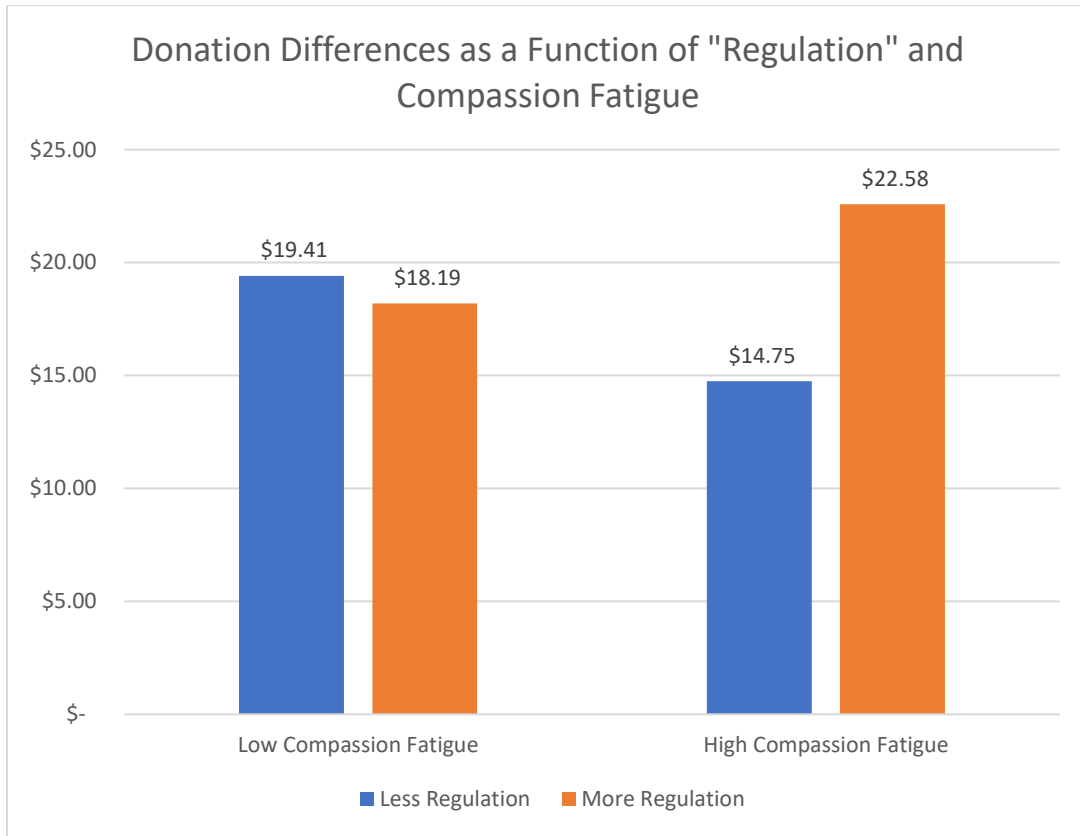
W : Regulation (Emotion regulation)

	Coeff	se	t	p
constant	18.64	.55	33.80	.00
Compassion Fatigue Sum	-.01	.04	-.33	.74
(Emotion) Regulation	.22	.06	3.68	.00
Interaction	.02	.00	4.42	.00

Graph 5: Donation difference with emotion regulation use



Graph 6: Donation differences as a function of emotion regulation and compassion fatigue



Hypothesis 3: Due to slow and rational thought processes, individuals with systematic cognitive styles will not succumb to compassion fatigue and be more likely to donate greater amounts than individuals with intuitive cognitive styles.

We found that individuals who tend to use systematic cognitive processing styles, due to their slow and rationale approaches, were found to have lower levels of compassion fatigue; however, this did not have a significant impact on donation. We did find significant moderation effects for both systematic and intuitive processing styles.

Similarly, with our approach to emotion regulation, we discovered that it was a more

meaningful exploration and analysis to combine the two (highly correlated) cognitive processing styles into one construct of “cognition” and examine the impact of cognitive processing and using hot and/or cold thinking in such situations. When combining systematic and intuitive processing styles into a unified construct of “cognition,” we did find a significant impact on donations, indicating that processing does, indeed, affect compassion fatigue and donation.

Participants who engaged in more systematic thinking reported lower compassion fatigue scores than the mean; the same was found for those who engaged in intuitive thinking/processing. Both systematic and intuitive thinking followed similar patterns of moderation for the connection between compassion fatigue and donation. Participants who engage in more intuitive thinking processes elected to donate more money (2.87, $p = .00$); an interaction was also detected wherein people who were higher in use of intuitive process and experiencing high levels of compassion fatigue were likely to donate more money. Once again, analyses looking at systematic thinking styles yielded similar results that showed the highest donation amount (\$21.18) was coming from participants high in use of systematic thinking styles and high levels of compassion fatigue. Upon combining the two styles into one construct, we found that “cognition,” or use of processing (.21, $p = .00$), is related to donation, and there is also a significant interaction ($p = .00$). The highest amount of money donated (\$21.76) was by those engaging in more cognitive processing in the presence of high levels of compassion fatigue compared to those who were engaging in less cognitive processing (i.e., absence of processing).

Table 11: Systematic Model:

Y : Dollars
X : NewCF_sum (Compassion fatigue score sum)
W : Systematic processing style

	coeff	se	t	p
constant	18.72	.56	33.26	.00
Compassion Fatigue Sum	-.03	.04	-.62	.53
Systematic processing style	3.43	.97	3.53	.00
Interaction	.20	.07	2.71	.01

Table 12: Intuitive Model:

Y : Dollars
X : NewCF_sum (Compassion fatigue score sum)
W : Intuitive processing style

	coeff	se	t	p
constant	18.42	.56	33.18	.00
Compassion Fatigue Sum	-.04	.04	-1.02	.31
Intuitive processing style	2.87	.93	3.10	.00
Interaction	.32	.08	3.98	.00

Graph 7: Donation Difference as a function of cognitive processing style and compassion fatigue

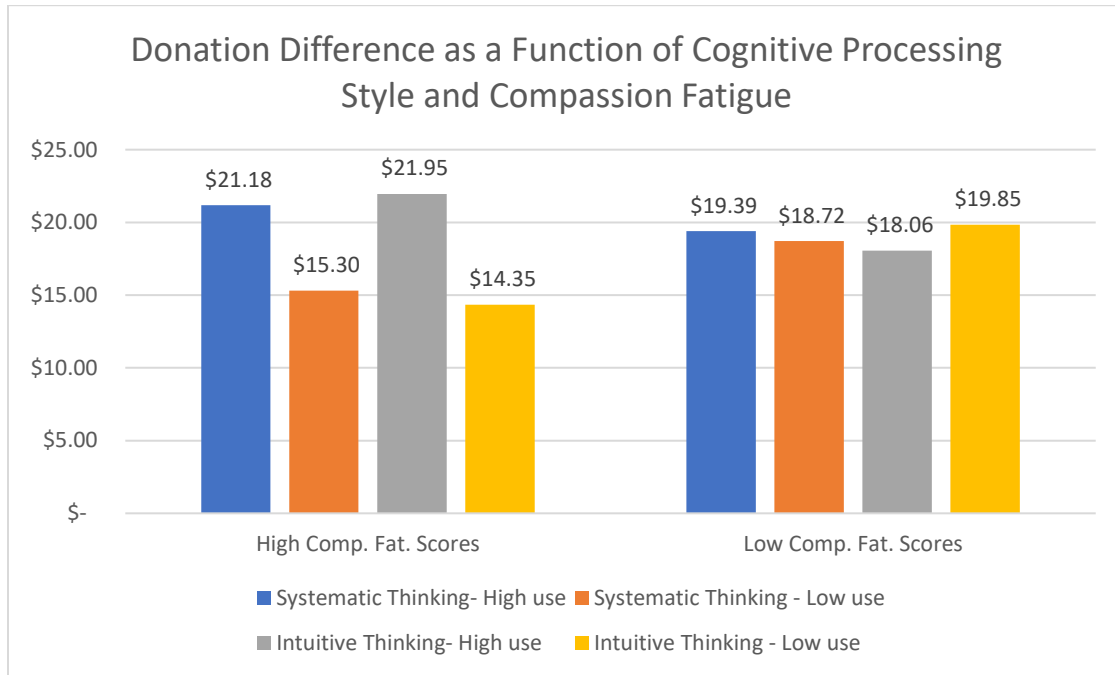


Table 13: Cognition Model:

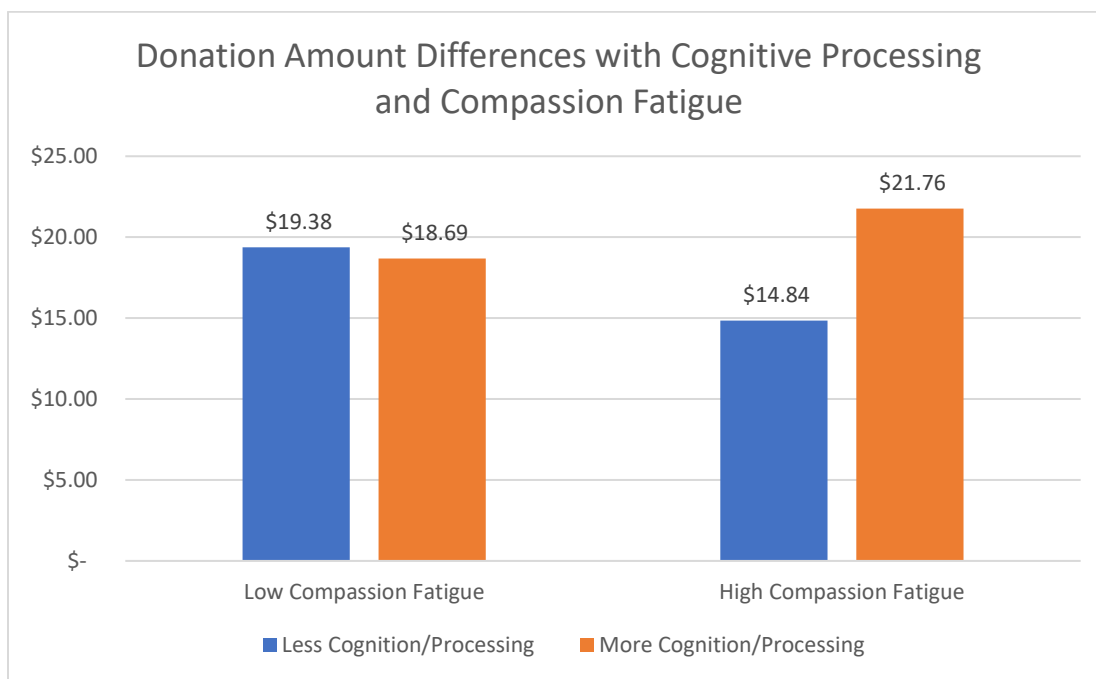
Y : Dollars

X : NewCF_sum (Compassion Fatigue score sum)

W : Cognition (Cognitive processing, combination of intuitive and systematic scores)

	coeff	se	t	p
constant	18.6	.55	33.58	.00
Compassion Fatigue Sum	-.03	.04	-.75	.45
Cognition (Cognitive processing)	.21	.06	3.37	.00
Interaction	.02	.01	3.51	.00

Graph 8: Donation amount differences with cognitive processing and compassion fatigue



Hypothesis 4: Amount of money donated and levels of compassion fatigue will be impacted by whether participants were exposed to COVID-19 images, wherein participants who were exposed to the COVID-19 conditions will donate less amounts of money; participants exposed to COVID-19 stimuli (both compassion fatigue inducing and not), will donate less amounts of money than those in the non-COVID conditions (i.e., exposure to any COVID-19 content, whether they are photographs of individuals or groups, will result in overall lower levels of donation).

There were no significant differences detected in terms of compassion fatigue or donation amount as a function of whether participants were randomized into and exposed to COVID-19 pictures (N= 477) versus non-COVID pictures (N=461). Participants that were exposed to COVID-19 pictures elected to donate slightly more (Mean = \$19.80, SE

= .83) than those exposed to non-COVID pictures (e.g., other catastrophes such as refugee crises) (Mean = \$17.70, SE = .81); the p-value for the difference was .07. Interestingly, participants exposed to COVID-19 pictures actually exhibited slightly lower compassion fatigue scores (Mean = 62.07, SE = .60) than those who were exposed to non-COVID pictures (Mean = 63.16, SE = .62); the p-value for this difference was .206 and not significant.

Hypothesis 5: Participants who reported that they contracted COVID-19, due to the identifiable victim effect and resulting lower levels of compassion fatigue, will donate greater amounts of money.

Analyses showed that participants who contracted the novel coronavirus, COVID-19, elected to donate greater amounts of money and had higher scores on both the compassion fatigue total score sum and “pure” compassion fatigue subscale compared to participants that had not contracted COVID-19. Of the participants that contracted COVID-19 (N=217), donation amount was a mean of \$21.15 (SD=18.37, SE mean = 1.247), compared to participants that did not contract COVID-19 (N=217), whose mean donation amount was \$17.84 (SD=17.49, SE mean = .63); these differences were significant ($p = .015$). On compassion fatigue scale sum scores, participants that contracted COVID-19 had higher compassion fatigue scores (Mean = 65.55, SD = 12.35, SE mean = .84) than those that did not contract COVID-19 (Mean = 62.00, SD = 12.67, SE mean = .49); these differences had a p-value less than .001. In isolating solely the “pure” compassion fatigue items from the scale (and eliminating any compassion satisfaction or burnout items), we found that participants who contracted COVID-19 had

a significantly higher compassion fatigue score (Mean = 34.44, SD = 11.19, SE mean = .76) than those who didn't (Mean = 28.68, SD = 8.79, SE mean = .32); p-value was < .001 for these differences.

Table 14: Impact of contraction of COVID-19 on donation and compassion fatigue

	COVID-19 virus contracted	N	Mean	Std. Deviation (SD)	Std. Error Mean (SE mean)
Dollars	No	776	17.84	17.49	.63
	Yes	217	21.15	18.37	1.25
Compassion Fatigue Total Score Sum (NewCF_sum)	No	776	62.00	13.67	.49
	Yes	216	65.66	12.35	.84
"Pure" Compassion Fatigue Subscore (PureCF_sum)	No	776	28.68	8.79	.32
	Yes	216	34.44	11.19	.76

Independent samples test

	t	df	p	Mean difference	Std. error difference	95% CI, Lower	95% CI, Upper
Dollars	-2.44	991	.015	-3.32	1.36	-5.98	-.65
NewCF_sum	-3.55	990	<.001	-3.66	1.03	-5.68	-1.64
PureCF_sum	-8.00	990	<.001	-5.76	.72	-7.39	-4.35

Additional analyses and results:

We also sought to examine how the constructs of regulation and processing moderated the relationship between compassion fatigue from the experimental manipulation (rather than from the rating scale) and donation amount. As a reminder,

compassion fatigue was aimed to be induced by exposing participants to pictures of groups of people experiencing catastrophes; participants in the non-compassion fatigue condition were exposed to pictures of individuals undergoing the same crises. We undertook a series of more nuanced and additional analyses to allow for us to better understand the role of “cognition” and “regulation,” especially with our experimental manipulation and induction of compassion fatigue.

While the compassion fatigue manipulation was not significant by itself (e.g., unrelated to how much participants elected to donate), a significant interaction ($p = .04$) was found for compassion fatigue manipulation and “regulation.” The most money (\$23.29) was donated by participants who saw pictures of groups of people and were higher on use of emotion regulation. Regulators elected to donate more money than non-regulators. That effect was found to be reversed as a function of whether participants saw groups or individuals such that if they were exposed to pictures of groups and low on regulation, they donated less (\$15.78) than if they saw an individual and were low on regulating (\$16.50). In the opposite direction, participants who saw groups and were higher in regulating donated more (\$23.29) than those who saw the individuals and were higher in regulating (\$19.84). In this set of results, we replicated Slovic’s findings for the participants who were not engaging in emotion regulation (i.e., those experiencing compassion fatigue were donating less than those who weren’t), but we failed to replicate those findings for individuals that were high on emotion regulation, thus signifying the importance of examining individual differences.

In examining the compassion fatigue manipulation and cognition, we failed to find a significant interaction. In our moderation model, the compassion fatigue

manipulation was not related to donation while cognition was related to donation ($p=.01$); however, there was no interaction found, unlike our analysis of self-reported compassion fatigue from the scale and cognition. This further highlights the difference between compassion fatigue as a function of the experimental manipulation versus compassion fatigue self-reports from the scale.

Table 15: Regulation and Compassion Fatigue Manipulation Model:

Y : Dollars
 X : CF01 (Compassion fatigue randomization conditions, 0 = no compassion fatigue, 1 = compassion fatigue induced)
 W : Regulation (Emotion regulation)

	coeff	se	t	p
constant	18.02	.81	22.11	.00
CF01	1.22	1.14	1.07	.28
Regulation	.20	.09	2.32	.02
Interaction	.25	.12	2.08	.04

Donation amounts by compassion fatigue randomization condition and regulation:

	Compassion Fatigue Induced (pictures of groups)	Non-compassion fatigue (pictures of individuals)
High emotion regulation	\$23.39	\$19.84
Low emotion regulation	\$15.78	\$16.50

Table 16: Cognition and Compassion Fatigue Manipulation Model:

Y : Dollars
 X : CF01 (Compassion fatigue randomization conditions, 0 = no compassion fatigue, 1 = compassion fatigue induced)
 W : Cognition

	coeff	se	t	p
constant	18.04	.82	22.05	.00
CF01	1.12	1.15	.97	.33
Cognition	.23	.08	2.74	.01

Interaction	.14	.12	1.10	.27
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	Compassion Fatigue Induced (pictures of groups)	Non-compassion fatigue (pictures of individuals)
High cognition/processing	\$22.10	\$19.90
Low cognition/processing	\$16.24	\$16.20

Gender differences on donation amount:

On average, men donated more money (\$20.94) than women (\$16.11). This difference was statistically significant ($t=3.72$, $p < .0001$). Preliminary analyses of the distribution and scatter of donation amount showed that women, while donating lower amounts of money on average, were more equitable in their donation distribution than men (i.e., more women donated mid-range amounts like \$25).

Table 17: Gender differences on donation amount

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Dollars	Male	339	\$20.94	18.02	.98
	Female	341	\$16.11	15.81	.86

CHAPTER 3

Discussion:

Overall, our findings seem to reflect the collective emotional response and distress resulting from COVID-19, with majority of individuals reporting high levels of compassion fatigue. The results of tests of our hypotheses are disappointingly easy to summarize. We did not find support for most of our original hypotheses, which were based on earlier studies. Given the conditions under which this study was conducted, this is not entirely surprising. Due to the novel circumstances- a once in a century pandemic- under which this research was conducted, it was difficult to not only replicate previous findings in the domain of compassion fatigue and decision-making, but also compare this data against feasible comparison-points pre-pandemic. All that considered, our research yielded many interesting results that shed light on the collective and individual experiences during COVID-19 as well as the clinical implications for use of certain coping strategies.

Contrary to our expectations and hypotheses, based on Slovic's 2007 study, increased levels of compassion fatigue – represented both by the Compassion Fatigue Scale and the experimental manipulation/induction – were not found to have an impact on donation amount. This which may be a function of COVID-19 but also better explained by other confounding and complicating factors. We were unable to replicate Slovic's findings from his study (showing individuals experiencing compassion fatigue as donating less money), which notably was conducted in a different context wherein the discussed catastrophes and compassion fatigue inducing events were occurring at a distance (both geographically and emotionally). One reason for a lack of replication

could be that the presence of an ongoing, collective, and chronic stressor, experienced from within, skews how compassion fatigue is experienced and perceived, perhaps both amplifying the levels but also causing individuals to habituate to these high levels of fatigue. Without pre-COVID-19 baseline scores for comparison, it is hard to tell whether the increased scores on compassion fatigue and varying amounts of donation are a direct artifact of the ongoing pandemic or byproducts of other factors (e.g., lower donation amounts due to loss of jobs, increased compassion fatigue because of career stress, or higher donation amounts due to proximity to hospitals/survivors). Additionally, one of the questions remains as to whether the increased levels of compassion fatigue are a direct result of the multiple, recurring disasters occurring simultaneously with COVID-19 (e.g., deaths from COVID-19, deaths from international genocides, murders of George Floyd and Breonna Taylor, and deaths from famines) or whether it is a byproduct of the social isolation such that people are working from home and may have more capacity and time to be tuned into world events (whether it is via social media, the internet, or television). The activities and protective factors that would otherwise keep individuals busy and filter out the ability to attend to worldwide news and events are no longer at the forefront of their lives due to social distancing, quarantines, and limited social interactions. Additionally, helplessness and a lack of compassion satisfaction may also be due to the secondary impacts of the pandemic on the economy; with widespread increase in losses of jobs, homelessness, and poverty, individuals may feel even more ineffective with any bids to help others. Simplified, are our current elevated compassion fatigue scores because of more disasters are happening or because we now have more time to process these disasters?

Another possible confounding factor seems to be a ceiling effect of compassion fatigue given increased levels of stress, anxiety, depression, and burnout wherein any manipulations or attempts to induce compassion fatigue may have been “washed out” due to pre-existing burnout and emotional exhaustion. Our manipulations and prompts for use of strategies may not have been effective if the compassion fatigue levels are already past the threshold at which we can sensitively measure any change from manipulation. This was evident by our discovery that our compassion fatigue inducing manipulation (exposing participants to pictures of groups of people) did not replicate the results reported in the previous literature: participants in the compassion fatigue inducing condition did not report higher levels of compassion fatigue on the self-report scale (in terms of compassion fatigue items, compassion satisfaction items, and the sum score). Because we’re still amidst a global catastrophe, we are not finding a significant compassion fatigue effect in the manipulation nor impacted in their scores because, perhaps, *everyone* is very compassion-fatigued.

In summation of our main findings, although compassion fatigue mean scores were elevated for our participants, we did not find a significant effect on how these elevated scores predicted amount of donations, with the exception of when they were moderated by emotion regulation or cognitive processing styles. So, although there may not be a direct connection between high levels of compassion fatigue and donations, there are differences in how compassion fatigue impacts donations as a function of how individuals cope with the emotions and compassion fatigue (e.g., engaging in emotion regulation more often and cognitively processing more often). Our initial hypotheses focused on differences in emotion regulation strategies and cognitive processing styles

with the idea that individuals may employ one strategy or style more often than the other. Were individuals who reappraised their thoughts or suppressed emotions the ones that experienced lower levels of compassion fatigue and donated more? Were individuals who were more likely to engage in systematic thinking (versus intuitive thinking) the ones that experienced lower levels of compassion fatigue and thus donated more? Upon conducting preliminary analyses comparing these facets and not finding substantial or significant effects on the outcomes, we pulled back on our lens and asked a broader question about whether the important piece to examine was the use of the coping strategy itself (e.g., ability to regulate or cognitively process more often as opposed to less often) rather than which *kind* of coping strategy (e.g., cognitive reappraisal versus emotion suppression or systematic versus intuitive thinking). Taking into consideration, again, that emotion regulation strategies and cognitive processing styles are not dichotomous constructs, such that use of one strategy/style does not exist in the absence of the other and individuals can employ both to varying degrees, our research questions and analyses took on a new direction. Our results showed that, in the face of chronic and elevated stress, it may not matter what specific emotion regulation strategy or cognitive processing style you're using to cope with the compassion fatigue, as long as you are using *something*.

In examining self-reported use of emotion regulation strategies, our results showed that the highest amounts of donations were made by individuals who were experiencing high levels of compassion fatigue and reported engaging in cognitive reappraisal strategies more often. Individuals donating lower amounts of money were ones who were experiencing the same level of compassion fatigue as the former group, but engaging in cognitive reappraisal strategies less often. Individuals who reported

engaging in emotion suppression followed a similar pattern to those who engage in cognitive reappraisal (e.g., the highest amounts of donation were by individuals experiencing high levels of compassion fatigue and frequent use of emotion suppression), which further substantiates the notion that effective emotion regulation is a fluid combination of both suppression and reappraisal strategies, rather than one or the other. It also reinforces the approach in which both strategies are combined to create one construct of “emotion regulation.” Interestingly, in examining suppression, it was observed that individuals high on compassion fatigue, but not using suppression strategies as often were the ones who were donating substantially less compared to other groups. One rationale for this could be that active emotion suppression may be adaptive during chronic stress, and that this adaptive component is what mediates the connection between compassion fatigue and donation/altruism. When the combined construct of “emotion regulation” was analyzed against compassion fatigue and donations, a significant interaction was found such that individuals that engaged in more emotion regulation – regardless of which strategy- in the face of high compassion fatigue elected to donate more money to those in need.

In similarly examining cognitive processing styles, according to self-report measures, we found that individuals who more often engage in systematic thinking are the ones who have lower compassion fatigue scores; this is consistent with the idea that slow, cold, rationale, and systematic thinking styles can protect from being overwhelmed by numbers, which can often result in helplessness and compassion fatigue. Much like our findings for emotion regulation strategies, we saw that individuals with high levels of compassion fatigue elected to donate more when they were engaging in systematic

thinking more often (than not) and engaging in intuitive thinking more often (than not). Rather than comparing the two subgroups to each other (which was no longer meaningful to interpret), intuitive and systematic thinking scores were combined to create a “cognition” score that conveyed an individual’s tendency to process and think about the situation on a higher level. Once again, when “cognition” was analyzed as a moderator for compassion fatigue and donations, we found a significant interaction that showed individuals who engage in cognitive processing as a coping strategy under high levels of compassion fatigue elect to donate more.

To encapsulate, compassion fatigue, measured by the Compassion Fatigue scale, was not universally related to giving more money. Compassion fatigue as induced by the experimental manipulations was also not related to higher donation amounts. Compassion fatigue was only related to donation amount, in our moderation models, depending on whether individuals were regulating or engaging in cognitive processing or not. If they were low on use of “cognition” or “regulating” to cope with high compassion fatigue, then they donated the least; if they were high on use of “cognition” or “regulating” to cope with compassion fatigue, they donated more. So, compassion fatigue is not related to donation amounts on the surface, but it seemingly depends on whether individuals are engaging in coping strategies of regulation or processing.

The clinical implications for these specific findings are very important as our results provide some perspective on the utility of reframing/reappraising thoughts and emotion suppression as effective strategies for addressing compassion fatigue and increasing the likelihood of helping others, especially when individuals are still experiencing and undergoing a chronic trauma. However, it is difficult to truly assess the

benefit of the use of these strategies as the impact may be minimized in the presence of recurring, elevated, and acute stress. The literature on clinical practice of trauma often references similar reasons as to why clinicians do not begin trauma-focused interventions or diagnose Post-Traumatic Stress Disorder until after the trauma has passed.

One finding on individual differences, showing that women were found to donate less than men, could potentially be explained by the impact of COVID-19 on women, especially working mothers. Reports by women beginning at the onset of COVID-19 provided insight on how both physical and emotional labor has increased for women, resulting in far more women leaving the workforce. With an unequal division of responsibilities and the brunt of household and child-rearing duties, including cleaning, cooking, and home-schooling, falling on women, who are simultaneously also juggling full-time work with increasing demands and decreased boundaries, many women reported feeling burnt out, exhausted, depression, and exceeding their emotional bandwidth. Under such circumstances, where budgeting and restricting expenses, become priority, it is not a surprise that women may feel a greater burden to preserve finances for themselves/their families rather than give the entire amount to charity.

In terms of whether identifiable victim effect played a role in the connection between compassion fatigue and altruism (i.e., were people that were directly impacted by COVID-19 and had contracted the virus the ones who were more likely to exhibit compassion and donate or not), it was found that individuals that contracted the virus did, indeed, elect to donate greater amounts of money than those who did not. For the participants that were directly impacted by COVID-19, they may have first-hand experience with the impact of the virus and better understand the gravity of such an

impact on a large scale and the magnitude of the loss. Interestingly, individuals that contracted COVID-19 reported higher levels of compassion fatigue than those that did not contract the virus, but still had higher donation amounts, which may further provide evidence for the power of the identifiable victim effect. When the trauma is personal, and not a distanced, foreign, and inconceivable idea, people are more likely to want to help the cause behind it, perhaps with the idea that it could directly benefit them; when the trauma is personal, perhaps there is an increase in empathy as a pathway towards an increase in altruism.

One of the questions posed and theories presented is around whether the geographical proximity of catastrophes also plays a role in compassion fatigue and psychic numbing (i.e., atrocities that occur on the other side of the world are less close to home, less applicable, and less identifiable). The theories around geographical proximity and identifiable victim effect may no longer hold as much weight as we observed that geographical location or socioeconomic status (SES) was not directly predictive of the impact of COVID-19; a virus and global pandemic does not discriminate based on country, creed, or wealth. Individuals experienced psychic numbing regardless of whether COVID-19 was peaking in their own country or affecting them directly. Slovic (2007) had posited that psychic numbing may also be a function of people assigning negative traits to “others” or outgroups that are geographically far from the observers. With COVID-19, at the peak of contagion in the United States, it was observed that some far distanced countries with lower SES suffered less casualties compared to countries with higher SES. This may have dislodged ideas and beliefs around the low probability and likelihood of mass atrocities occurring in the United States (i.e., “a first world

country,") which may have up until recently served as a protective factor against compassion fatigue and psychic numbing.

While one set of our research questions was devoted to exploring traits (e.g., emotion regulation strategies and cognitive processing styles that individuals typically engage in as traits), another focus was on examining states by attempting to experimentally manipulate and induce compassion fatigue through exposing participants to certain images and prompting use of specific emotion regulation strategies. Our analyses, unfortunately, did not yield any significant connections between our manipulations for compassion fatigue or emotion regulation and the outcome of donation. Our inductions and manipulations may not have been effective for a multitude of reasons: 1) already elevated levels of compassion fatigue and the presence of an ongoing stressor may have rendered our compassion fatigue inducing images as ineffective 2) individuals may have already been desensitized to some of these highly publicized images 3) prompting the use of emotion regulation strategies (even if conveyed in layman's terms) may not be an effective intervention without properly orienting participants to what each strategy means. As researchers and clinicians who are well-oriented to concepts of reframing thoughts and suppressing emotions, these concepts may be easier for us to apply to everyday situations than the population sampled by the Qualtrics panel. Notwithstanding, we did see an interaction with compassion fatigue manipulations and emotion regulation for donations; the most money was elected to be donated by individuals who saw pictures of groups of people (i.e., had compassion fatigue induced) and were higher on use of emotion regulation. In general, again, regulators were electing to give more money than non-regulators. However, this effect was reversed as a function

of whether they saw groups or individuals (e.g., if they saw groups and were low on regulating, they donated less than if they saw an individual and were low on regulating). In the opposite direction, if individuals saw groups and were high regulators, they were donating more than those who saw individuals and were high regulators. Thus, in a show of appreciation for individual differences, we were able to replicate Slovic's findings for individuals who are low on use of emotion regulation, but failed to replicate for those who are engaging in more emotion regulation strategies.

To derive a meaningful interpretation of our findings, or lack thereof, it would be helpful to compare our scores to norms that were obtained before COVID-19. One approach is comparing our results to those from Maier, Slovic, & Mayorga's 2017 study, which occurred before COVID-19. Respondents in their study designated, on average, \$17.70 USD, of their potential \$50 prize money, towards a charity linked to a humanitarian effort (e.g., Doctors without Borders); to note the donation amount varied and was either lower or higher based on whether respondents viewed statistics paired with pictures. This donation amount is lower than the mean donation amount from our study (\$18.43), but is not statistically significant ($p=.13$). Unfortunately, Maier, Slovic, and Mayorga's study did not directly collect or assess for compassion fatigue scores as in relation to donation amounts. In fact, there is very limited research examining mean compassion fatigue scores, especially in the general population and as compared to the clinical cutoffs provided. The major focus of the compassion fatigue literature, of recent, has been devoted to examining the construct in healthcare providers, understandably. However, a study conducted by Craig and Sprang (2010) looking at compassion fatigue, compassion satisfaction, and burnout in a sample of trauma treatment therapists provided

some salient comparison points. While the authors did not report the compassion fatigue mean or sum scores in their sample, they did report that only 5-6% of participants (i.e., trauma therapists) reported compassion fatigue scores that were elevated beyond the clinical cutoffs. A sample of trauma therapists is not representative of a broader population, but we would expect their frequency and ratings of compassion fatigue to be higher as a function of their work. Comparatively, 94% of our participants reported a compassion fatigue sum score over the clinical cutoff of 41. It is difficult to draw meaningful and accurate conclusions from this limited information due to many factors, one of which includes that the authors used a different scale for measurement, the Professional Quality of Life Scale (Stamm, 2005). Because our average compassion fatigue sum score (62.616) was far higher than the clinical cutoffs presented by the authors (41 or higher), and because we used subscales and sums of specific items, we prorated sum scores to mean scores, thus deriving more meaningful ratings, comparisons, and interpretations. As a reminder, sum scores of 26 or below indicate extremely low risk, between 27 and 30 indicate low risk, between 31 and 35 indicate moderate risk, between 36-40 indicate high risk, and scores of 41 or more indicate extremely high risk of compassion fatigue (Figley, 1995; Gentry et al., 2002). Participants respond on each time based on a 6-point Likert scale of 0=Never, 1=Rarely, 2=A Few Times, 3=Somewhat Often, 4=Often, 5=Very Often. Based on proration of our sample's compassion fatigue sum score, their mean level of response to the response scale would fall between 2 ("A Few Times") and 3 ("Somewhat Often"). Comparatively, the clinical cutoff score of 41 (or higher) would result in a mean response that would fall between 1 ("Rarely") and 2 ("A Few Times"). This gives us a more meaningful interpretation of

compassion status such that our study's participants, on average, rated a higher mean response than the group upon which the scale was normed. Nonetheless, this points us in the direction of making an argument that our effects, as compared to pre-COVID data, may be a function of being within the ongoing catastrophe of a pandemic. Another important facet to consider is proximity to the catastrophe that causes psychic numbing: had Slovic and his team conducted their research on the refugees in the refugee camps or survivors of a famine, it is possible that their results would have been similar to ours.

It has been both jarring and unsurprising to witness compassion fatigue and psychic numbing occurring in real time since the onset of COVID-19, whether it was watching the world's initial blunted response to rising numbers of infections and deaths in Asia and Europe or hearing reports of mask refusal or lack of socially distanced gatherings despite surging numbers of cases and hospitalizations in the United States. Anecdotally, it often appeared that most people, unless directly affected by COVID-19 or caring for an afflicted family member, were not fully cognizant or struck by the emotional gravity of the rising numbers and mass casualties, with many holiday gatherings and travel continuing despite reports of death rates and intensive care units being at capacity. As news sources showed graphs and flashed statistics across our screens in incessant and sensationalized manners, the numbers scrolling past everyone's eyes became just that...solely numbers. Humans were, in a time of great divisiveness, all united, across many walks of life, on one front: the inability to weigh out the cost of a life.

During a time of crisis, looking at Maslow's hierarchy of needs (1987), altruism and self-actualization are secondary to survival needs and behaviors, such as

physiological needs and safety. In fact, given the context of an ongoing catastrophe and trauma, psychic numbing and compassion fatigue, as survival behaviors, appear to serve adaptive functions that preserve people from emotional suffering and allow them to continue meeting the many demands that have continued through work, childcare, and family life. Because of the increasing competing demands – physically, emotionally, psychologically, and professionally- desensitization and emotional numbing of the magnitude of loss from COVID-19 appears to be somewhat skillful, adaptive, protective, and functional. This dissertation and this writer’s clinical internship year may not have been completed, perhaps, without it.

Limitations:

The biggest limitations of this study were due to COVID-19 in terms of data collection barriers and the presence of a confounding, extended, and collectively experienced catastrophe which may have impacted baseline levels of compassion fatigue. As the pandemic has stretched through the duration of this study, it is hard to tell whether our findings are artifacts of COVID-19 and whether they would change post-pandemic, once people have had an opportunity to return to pre-pandemic/baseline levels of compassion fatigue and psychological health. Because our data collection began during the peak of pandemic, we did not have pre-pandemic compassion fatigue scores for comparison. Thus, it is difficult to interpret and determine how meaningful the increased compassion fatigue scores are, in context of COVID-19, and whether our lack of replication is a result of a ceiling effect/a high threshold of compassion fatigue washing out other effects or other factors.

The Compassion Fatigue scale used in this research appeared to examine multiple constructs within the umbrella of compassion fatigue, including compassion fatigue, compassion satisfaction, and burnout. However, the compassion fatigue subscale also contained items, confirmed by a factor analysis that fell on two distinct and separate factors. Upon exploration and examination of the items, it may be that the subscale takes into account both compassion fatigue and compassion satisfaction. As the two constructs are conceptually opposite and would thus be measured in opposite directions, it was surprising that the creators of the scale did not instruct reverse scoring of compassion satisfaction items. Steps were taken to reverse score the items and also distill a “pure” compassion fatigue score, but the lack of clarity and measurement specificity is a limitation of this research.

Furthermore, because it appears that our compassion fatigue inductions were not very effective, this may be a result of desensitization to these images due to being inundated with them by the media. Since the onset of COVID-19, media outlets and the Internet have been replete with images and headlines highlighting the mass atrocities occurring around the world. It may be that, coupled with an already higher level and threshold for compassion fatigue, seeing potentially previously viewed images may not have had the same emotional impact on participants.

Future Directions:

One of our future goals include examining these differences after the recurring trauma of the COVID-19 pandemic has passed. It is hard to tell as we are still, at the time of writing this dissertation, undergoing an extended, chronic and collective catastrophe and trauma. Despite the collective nature of this experience (and how it unifies us

globally), individual differences are still expected and worth examining. For example, how did compassion fatigue and emotion regulation differ for healthcare providers as opposed to individuals who worked in other fields? Were individuals of lower SES further impacted than those of a higher SES? Furthermore, Slovic's studies examined psychic numbing and compassion fatigue in situations and catastrophes that were a foreign or distant idea for Americans, but how do individuals respond from within a collective trauma that is occurring at home?

Another direction worth examining is in terms of effective interventions for compassion fatigue for healthcare providers. One of the implications of this research is how compassion fatigue and burnout can impact healthcare providers, especially psychologists who have seen growing caseloads and decreasing resources/capacity in the face of the mental health crisis brought on by COVID-19. The short and long-term impacts of repeated exposure to catastrophes and the resulting vicarious traumatization and burnout has been widely discussed in context of COVID-19, with various medical physicians and psychologists reporting struggling to compensate for high levels of burnout compassion fatigue. There are now growing surveys and studies exploring the scope or level of this burnout amongst clinicians, with the most recent report by the APA stating that 4 in 10 psychologists report feeling burned out and 45% of them describing having difficulties maintaining an appropriate work-life balance (Ferenz et al., 2021). For many low-income and low-resource areas, the limited availability and number of clinicians has become an additional barrier to access to care, with many hospital systems and individual clinicians referring patients out or building lengthy wait-lists.

Additional analyses will also be conducted looking at individual differences and exploring the impact of various other variables and factors on donation amount and compassion fatigue, including gender, age cohort, ethnicity, political affiliation, education level, socioeconomic status, and news sources. The goals and purpose of future research should not only aim to address and explore clinical interventions, but also to understand the impact of individual differences on compassion fatigue and psychic numbing, and, in the future, to perhaps begin to develop n of 1 interventions based on those individual differences to help people overcome compassion fatigue.

APPENDICES

Appendix A: Adapted Measure of Compassion Fatigue

Compassion Fatigue and Satisfaction Self-Test for Helpers

Helping others puts you in direct contact with other people's lives. As you probably have experienced, your compassion for those you help has both positive and negative aspects. This self-test helps you estimate your compassion status: How much at risk you are of burnout and compassion fatigue and also the degree of satisfaction with your helping others. Consider each of the following characteristics about you and your current situation. Print a copy of this test so that you can fill out the numbers and keep them for your use. Using a pen or pencil, write in the number that honestly reflects how frequently you experienced these characteristics in the last week. Then follow the scoring directions at the end of the self-test.

0=Never 1=Rarely 2=A Few Times 3=Somewhat Often 4=Often 5=Very Often

Items About You

- _____ 1. I am happy.
- _____ 2. I find my life satisfying.
- _____ 3. I have beliefs that sustain me.
- _____ 4. I feel estranged from others.
- _____ 5. I find that I learn new things from those I care for.
- _____ 6. I force myself avoiding certain activities or situations because they remind me of a frightening experience.
- _____ 7. I find myself to avoid certain thoughts or feelings that remind me of a frightening experience.
- _____ 8. I have gaps in my memory about frightening events.
- _____ 9. I feel connected to others.
- _____ 10. I feel calm.
- _____ 11. I believe that I have a good balance between my work and my free time.
- _____ 12. I have difficulty falling or staying asleep.
- _____ 13. I have outburst of anger or irritability with little provocation.
- _____ 14. I am the person I always wanted to be.
- _____ 15. I startle easily.
- _____ 16. While working with a victim, I thought about violence against the perpetrator.
- _____ 17. I am a sensitive person.
- _____ 18. I have flashbacks connected to those I help.
- _____ 19. I have good peer support when I need to work through a highly stressful experience.
- _____ 20. I have had first hand experience with traumatic events in my adult life.
- _____ 21. I have had first hand experience with traumatic events in my childhood.
- _____ 22. I think that I need to "work through" a traumatic experience in my life.
- _____ 23. I think that I need more close friends.
- _____ 24. I think that there is no one to talk with about highly stressful experiences.

- _____ 25. I have concluded that I work too hard for my own good.
_____ 26. Working with those I help brings me a great deal of satisfaction.
_____ 27. I feel invigorated after working with those I help.
_____ 28. I am frightened of things a person I helped has said or done to me.

Appendix A: Adapted Measure of Compassion Fatigue

- _____ 29. I experience troubling dreams similar to those I help.
_____ 30. I have happy thoughts about those I help and how I could help them.
_____ 31. I have experienced intrusive thoughts of times with especially difficult people I helped. _____ 32. I have suddenly and involuntarily recalled a frightening experience while working with a person I helped.
_____ 33. I am pre-occupied with more than one person I help.
_____ 34. I am losing sleep over a person I help's traumatic experiences.
_____ 35. I have joyful feelings about how I can help the victims I work with.
_____ 36. I think that I might have been "infected" by the traumatic stress of those I help. _____ 37. I think that I might be positively "inoculated" by the traumatic stress of those I help. _____ 38. I remind myself to be less concerned about the well being of those I help.
_____ 39. I have felt trapped by my work as a helper.
_____ 40. I have a sense of hopelessness associated with working with those I help.
_____ 41. I have felt "on edge" about various things and I attribute this to working with certain people I help.
_____ 42. I wish that I could avoid working with some people I help.
_____ 43. Some people I help are particularly enjoyable to work with.
_____ 44. I have been in danger working with people I help.
_____ 45. I feel that some people I help dislike me personally.

Appendix B: Measure of Cognitive Processing Style

THE COGNITIVE-STYLE INVENTORY

Lorna P. Martin

Instructions: For each of the statements in this inventory, refer to the following scale and decide which number corresponds to your level of agreement with the statement; then write that number in the blank to the left of the statement.

- 1 2 3 4 5
Strongly Disagree Disagree Undecided Agree Strongly Agree
- _____ A. I get a “feel” for a problem or try to “see” it before I attempt a solution.
_____ B. I analyze a problem or situation to determine whether or not the facts add up.
_____ C. I create pictorial diagrams/visual images while problem solving.
_____ D. I have a classification system (“pigeon holes”) where I store information as I solve a problem.
_____ E. I catch myself talking out loud as I work on problems.
_____ F. I solve a problem by first “spotlighting” or focusing on the critical issues.
_____ G. I solve a problem by first “floodlighting” or broadening the scope of the problem.
_____ H. I attack a problem in a step-by-step, sequential, and orderly fashion.
_____ I. I attack a problem by examining it in its entirety before I look at its parts.
_____ J. The most efficient and effective way to deal with a problem is logically and rationally.
_____ K. The most efficient and effective way to deal with a problem is to follow one’s “gut” instincts.
_____ L. I carefully solve a problem by ordering, combining, or building its parts in order to generate a solution for the whole problem.
_____ M. I carefully solve a problem by examining it in its entirety, in relationship to its parts, before I proceed.
_____ N. All problems have predetermined, “best or right” answers in a given set of circumstances.
_____ O. All problems are open ended by nature, allowing for many possible answers or solutions.
_____ P. I store volumes of data in my memory, much like a computer, by compartmentalizing each entry for easy recall.
_____ Q. I store a lot of data in my memory by adding to the image that is already there and then determining how the information “fits” (like the relationship between a jigsaw puzzle and its individual pieces).
_____ R. Before solving a problem, I tend to look for a plan or method of solving it.
_____ S. I generally rely on “hunches,” gut feelings, and other nonverbal cues to help me in the problem-solving process.
_____ T. I generally rely on facts and data when problem solving.
_____ U. I create and discard alternatives quickly.
_____ V. I generally conduct an ordered search for additional information and carefully select the sources of data.
_____ W. I consider a number of alternatives and options simultaneously.
_____ X. I tend to define the specific constraints of a problem early in the problemsolving process.
_____ Y. When analyzing a problem, I seem to jump from one step to another and

back again.

_____ Z. When analyzing a problem, I seem to progress from one step to another in a sequential way.

_____ AA. I generally examine many sources of data, letting my eyes “play” over the information while searching for guiding clues.

_____ BB. When I work on a problem involving a complex situation, I break it into a series of smaller, more manageable blocks.

_____ CC. I seem to return to the same source of data several times, deriving different insights each time.

_____ DD. I gather data methodically, at a chosen level of detail, and in a logical sequence.

_____ EE. I generally sense the size and scope of a problem to produce the “whole picture.”

_____ FF. When I solve a problem, my approach is detailed and organized; as a result, arriving at a solution is generally a time-consuming process.

_____ GG. I am able to solve a problem quickly and effectively; I do not spend a great deal of time on the problem-solving process.

_____ HH. I have an excellent memory and a good aptitude for mathematics.

_____ II. I am comfortable with uncertainty and ambiguity.

_____ JJ. I would describe myself—and so would others—as predictable and reliable.

_____ KK. I have an abundance of ideas and an inquisitive nature.

_____ LL. It is my nature to avoid “making waves” with change.

_____ MM. I would describe myself—as would others—as a risk taker.

_____ NN. I am comfortable with the status quo; “new ways” are not always better ways.

Appendix C: Measure of Emotion Regulation

EMOTION REGULATION QUESTIONNAIRE (ERQ)

Instructions and Items: We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways.

For each item, please answer using the following scale:

1 2 3 4 5 6 7
strongly disagree neutral strongly agree

1. ____ When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.
2. ____ I keep my emotions to myself.
3. ____ When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.
4. ____ When I am feeling positive emotions, I am careful not to express them.
5. ____ When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.
6. ____ I control my emotions by not expressing them.
7. ____ When I want to feel more positive emotion, I change the way I'm thinking about the situation.
8. ____ I control my emotions by changing the way I think about the situation I'm in.
9. ____ When I am feeling negative emotions, I make sure not to express them.
10. ____ When I want to feel less negative emotion, I change the way I'm thinking about the situation.

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