Fall 2022

Reactions to Others with Depression: An Investigation of Responsibility and Deservingness Judgments

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2022

Approval of the Dissertation Committee

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Abstract

Reactions to Others with Depression: An Investigation of Responsibility and Deservingness Judgments

By

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Claremont Graduate University: 2022

Judgments of responsibility and deservingness are two cognitive appraisals that independently predict other-directed moral emotions and helping judgments. The current research integrated theories of responsibility and deservingness to investigate a novel approach for increasing support to individuals with depression. Study 1 used a correlational design to identify patterns of relationships among the variables of interest. Responsibility and deservingness were positively correlated, and both appraisals were positively associated with anger and negatively associated with sympathy and willingness to help. When responsibility and deservingness were considered as simultaneous antecedents of emotional responses in the same model; however, only responsibility predicted lower levels of sympathy and higher levels of anger. By extension, sympathy predicted less willingness to help. Study 2 tested the effects of responsibility (high vs. low) and deservingness (deserved vs. undeserved) experimentally and assessed their differential effects on emotions and helping judgments. Results indicated that low perceived responsibility and *un*deservingness judgments increased sympathy and reduced anger, and sympathy was associated with greater willingness to help. Study 3 expanded on these findings and experimentally varied responsibility and deservingness via the use of depression public service announcements (DPSAs). The method employed by Study 3 enhanced the ecological validity of Study 2 findings and generated insights for future campaigns. Four DPSAs were developed

based on the factorial combination of the two independent variables: lack of responsibility, undeservingness, combination (lack of responsibility and undeservingness), and comparison (absence of both lack of responsibility and undeservingness). The comparison DPSA differed from the other three DPSAs only by two sentences (e.g., “No one deserves to feel this kind of sadness. No one deserves to have depression.”). Findings revealed that emphasizing lack of responsibility did not lead to differences in emotional responses toward others with depression. However, highlighting *un*deservingness in a DPSA elicited more sympathy, which was associated with greater willingness to help. Across all three studies, the responsibility by deservingness interaction did not significantly predict emotional responses. Together, this set of studies provided theoretical clarity concerning two related cognitive appraisals and identified an innovative approach to increase support for individuals with depression (e.g., “no one deserve to have depression”).

Keywords: attributions, responsibility, deservingness, moral emotions, helping judgment

Acknowledgements

I am so fortunate to have the support and encouragement of so many people in my life. None of this would be possible without you all.

To my advisor, Dr. Siegel, words cannot express how grateful I am for your guidance and support throughout the years. I still remember the day you called with news of my acceptance like it was yesterday. Thank you for taking a chance on me. I have learned so much from you and am forever grateful for your mentorship. A very special thank you to my committee members, I am so appreciative of your time and invaluable feedback.

Many thanks to the DAPR lab and all my lab mates, current and former. I have enjoyed coming together and learning from one another. To the greatest co-working buddy, Danielle, thank you for all the study sessions and keeping me motivated. I am so thankful we were able to do this together, but most of all, I am thankful for your friendship!

I would not be where I am today without the endless love and support from my friends and family. Thank you for always checking in on me, motivating me, and so much more. You all have been so influential in my life, and I am lucky beyond measure to have you in my corner.

Lastly, thank you to my Loki boy for always keeping me company while I work (even though you're usually asleep) and making sure I get out for walks regularly. You are the goodest boy!

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Chapter 1: Introduction

Depression is the most common type of mental illness, affecting nearly 300 million people worldwide (World Health Organization [WHO], 2021). Depression is an affective disorder characterized by symptoms such as persistent low mood, loss of interest, decreased energy, difficulty concentrating, and changes in sleep and/or appetite (National Institute of Mental Health [NIMH], 2022). These symptoms lead to functional impairment in various life domains. For example, depression is associated with disengagement from school (Vaughn et al., 2011), poor work performance (Kessler & Bromet, 2014), and low marital quality (Kronmuller et al., 2011). Furthermore, the prevalence of depression has increased by more than threefold in the United States (Ettman et al., 2020), and sevenfold globally (Bueno-Notivol et al., 2020), since the onset of the Coronavirus Disease 2019 (COVID-19) pandemic.

Despite the rising prevalence, and the availability of effective treatments, many individuals with depression have reservations about seeking help (Barney et al., 2006). Research has found that higher depressive symptomology is associated with lower help-seeking intentions (Keeler et al., 2014). There are a multitude of factors that prevent or delay individuals with depression from receiving the care they need, such as beliefs about treatment efficacy (Elwy et al., 2011), low perceived need for treatment (Czyz et al., 2013), and a desire to manage one's own symptoms (Andrade et al., 2014). In addition to these personal barriers, stigma (e.g., prejudice and discrimination of those with depression; Corrigan et al., 2012) often is identified as a key deterrent of help-seeking (Clement et al., 2015; Eisenberg et al., 2009; Schomerus et al., 2009). Stigma negatively affects those with depression by impeding the process of help-seeking (Barney et al., 2006), treatment, and recovery (Sirey et al., 2001). Two complementary areas of research have been conducted to ensure individuals with depression receive the help they need.

One area is focused on persuading individuals to seek help (Lienemann & Siegel, 2018; Siegel et al., 2015) and the other on increasing support to those affected (Marshburn & Siegel, 2022).

Various means have been used to encourage individuals with depression to seek help (e.g., Hollar & Siegel, 2022; Straszewski & Siegel, 2021). For example, thinking of seeking help from a distanced perspective (i.e., object other), compared to an immersive perspective (i.e., one's own) led to greater intentions to engage in the behavior, and this distancing approach was particularly useful for individuals with higher levels of depressive symptomology (Hollar & Siegel, 2020). Researchers also have found success with the use of positive emotion infusions (i.e., induction of positive emotions to temporarily alter one's mindset, Siegel & Thomson, 2016). For example, participants with elevated depressive symptomology who savored a recent positive event reported greater help-seeking intentions relative to their counterparts in a control condition (Straszewski & Siegel, 2018). Similar results also have been found with the use of elevation as a positive emotion infusion (Siegel & Thomson, 2016). Although these attempts have been successful, the negative cognitive schema of individuals with depression (Beck, 1967) has presented a challenge for other persuasive attempts. To illustrate, reflecting on a positive family experience lowered perceived family functioning (Keeler & Siegel, 2016) and positive emotion inductions using gratitude produced iatrogenic effects among individuals with depression (Siegel & Thomson, 2016).

The complementary approach to facilitate help-seeking, while bypassing the challenge of persuading individuals with depression, is to increase support provided to affected individuals. The role of social support is of special importance to individuals with depression. Although family and friends play a key role in encouraging individuals with depression to seek formal help (e.g., Gulliver et al., 2010; Hui et al., 2015), research has found that these individuals have

smaller social networks and report lower perceived social support relative to healthy individuals and those with other types of mental illness (e.g., substance use, anxiety, and adjustment disorders; Visentini et al., 2018). Coyne's (1976) interactional theory of depression explains that individuals with depression may exhibit certain behaviors such as negative mood and excessive reassurance seeking that affect how others perceive and react toward them. These behaviors tend to elicit negative mood, hostility, and rejection from others (Segrin & Dillard, 1992). Together, these findings underscore the importance of increasing support to individuals with depression, a central goal of the current research.

Chapter 2: Literature Review

Attribution Theory

Attribution theory, a prominent social psychological theory of motivation, has guided decades of research in various psychological disciplines (see Muschetto & Siegel, 2021 for a recent review). The theory often is credited to Fritz Heider (1958), who introduced concepts and ideas that were central to the theory's later development in his book, *The Psychology of Interpersonal Relations*. Heider (1958) proposed that humans are intuitive psychologists, motivated to understand their world, and do so by drawing inferences to determine the cause of their own behaviors and those of others. Heider believed causes could be attributed to factors within the person, such as ability, as well as situational factors that may facilitate or impede an outcome, such as task difficulty. These general tenets were foundational for the development of later theories such as Kelley's (1967) covariation model, Jones and Davis's (1965) correspondent inference theory, and most notably, Weiner's (1980) attribution theory.

Building on Heider's foundational ideas, Kelley (1973) proposed that the average person analyzes data patterns using a process analogous to how psychologists conduct analysis of variance (ANOVA). He further posited that an outcome is likely to be attributed to causes with which it covaries over time. According to his covariation model (Kelley, 1973), people use three types of information to make causal judgments: distinctiveness, consensus, and consistency. Distinctiveness refers to whether a given response is unique to the present situation, consensus deals with whether the situation elicits the same response among others, and consistency concerns whether the elicited response is similar across time and formats. The covariance model hypothesizes that external attributions will be formed when distinctiveness, consistency, and consensus are high (Kelley, 1971). When these conditions are not present, an internal ascription

may occur (Kelley, 1967).

Jones and Davis's (1965) correspondent inference theory is another theory that was heavily influenced by Heider's (1958) work. The theory was developed to address how people infer others' dispositions from their actions and primarily focuses on the antecedents of dispositional inferences. Correspondence refers to the degree that a person's underlying attributes (e.g., intentions) match their behavior. Dispositional characteristics are more stable, and therefore, more informative compared to situational factors that do not reveal much about the person exhibiting a behavior (Jones & Davis, 1965). These early attribution theories were concerned with how people form attributions using different types of information, whereas Weiner's (1980) attributional theory examines the consequences of different causal explanations.

Weiner (1980) introduced the most contemporary account of attribution theory. The major contributions of Weiner's theoretical framework are (1) a system for classifying causes based on their underlying properties and (2) linkages between cognition (i.e., attribution), affect, and expectancy. The theory proposes a temporal sequence of thoughts-feelings-action. The way people think influences how they feel, and these feelings motivate subsequent action (Weiner, 1986). There are three attribution dimensions: locus of causality, controllability, and stability. Locus refers to the location of a cause (internal vs. external), controllability deals with the degree of volitional control (controllable vs. uncontrollable), and stability concerns the temporal duration of a cause (temporary vs. permanent). These developments expanded the theory's reach and impact by allowing for the study of infinite causes within the same theoretical framework. Weiner's attribution framework has been used to predict a range of social behaviors (see Weiner, 2006 for a more detailed discussion). The theory's implications for helping behavior are most relevant to the current research.

According to attribution theory, social conduct such as help-giving can be viewed as the result of causal beliefs, particularly those leading to inferences of responsibility, and the resulting emotional responses. The most influential causal dimension in this context is controllability, which invokes perceptions of personal responsibility (Weiner, 1995). People are perceived as responsible for events within, but not outside of, their control. Responsibility and controllability are conceptually distinct in that the latter represents characteristics of a cause, whereas the former connotes a judgment made concerning another person (Weiner, 1995). In instances without mitigating circumstances (e.g., inability to distinguish right from wrong, which may be the case for young children or persons with mental illness; Weiner, 2003), however, controllability and responsibility are equal in value (Weiner et al., 2011). As such, research tends to operationalize controllability as responsibility (e.g., Karasawa, 1991) or use the terms interchangeably.

The theory proposes that controllable causes give rise to responsibility inferences, which lead to less sympathy, more anger, and inhibit helping responses. Uncontrollable causes do not produce ascriptions of responsibility, and thus elicit more sympathy, less anger, and promote helping behavior (see Weiner, 2018 for review). Perceived responsibility is particularly relevant in studies of help-giving as reactions toward others are determined by whether those in need of help are judged as responsible or not responsible (Weiner et al., 2011). Weiner's (1980) seminal work on the attributional analysis of helping judgments demonstrated that drunkenness is perceived as controllable, while illness is viewed as uncontrollable. Therefore, responsibility inferences are made about a person who is drunk but not one who is sick. When help is needed, people feel anger toward and are less willing to help the drunk person (responsible). In contrast, people feel sympathy toward and are more inclined to help the sick person (not responsible).

Findings on the effect of controllability are robust and consistently support the theoretical propositions of attribution theory. In a series of studies, Weiner and colleagues (Weiner et al., 1988) assessed the perceived controllability and responsibility of different physical and mental ailments, as well as the associated emotional and behavioral responses toward a person with the illness. Findings revealed that physical ailments (e.g., blindness) were perceived as less controllable compared to mental ailments (e.g., drug abuse). In support of the theory, persons with physical ailments were perceived as less responsible, less blameworthy, and more well-liked. These individuals also elicited sympathy and were recipients of both personal assistance and charitable donations. The opposite pattern of results emerged for individuals with mental ailments, who were perceived as more responsible, blameworthy, and less likable. These individuals engendered more anger and received less help relative to their counterparts with physical illnesses. The theory serves as a model for understanding stigmatizing attitudes and discrimination toward individuals with mental illness (i.e., Corrigan et al., 2003), such as depression.

Attribution Theory and Help-Giving for Depression

From an attribution theory perspective, people respond more favorably to others with depression (i.e., more sympathy, less anger, greater willingness to help) when the illness is perceived as uncontrollable compared to controllable. As predicted by attribution theory, a correlational study revealed that lower perceived controllability was associated with higher levels of sympathy and increased willingness to provide social support to a loved one with depression. (Siegel et al., 2012). Similarly, a study that experimentally varied perceived controllability found that participants felt more sympathy, less anger, and were more willing to help others (loved ones and acquaintances) with depression when the illness was presented as

uncontrollable (i.e., *could not* have prevented) compared to controllable (i.e., *could* have prevented; Muschetto & Siegel, 2019).

The controllability-affect-helping judgment link also has been detected in a cross-cultural study conducted in the People's Republic of China (Yao & Siegel, 2021). When depression was perceived as uncontrollable, relative to controllable, participants were more sympathetic and more willing to help their loved ones with the illness. The effect of controllability on willingness to help through sympathy was augmented when the person with depression was an acquaintance. These results are consistent with findings from studies of postpartum depression. For example, women received more sympathy, less anger, and more support when their illness was perceived as uncontrollable (i.e., she took her medication as prescribed) than controllable (i.e., she *did not* take her medication as prescribed; Ruybal & Siegel, 2017). Another attribution study of postpartum depression demonstrated that varying perceived controllability to convey that a woman was making effort to overcome her postpartum depression evoked more sympathy, less more anger, and in turn, greater willingness to help (Ruybal & Siegel, 2021).

Large scale media campaigns, though not guided explicitly by theory, have taken the approach of altering perceived controllability. For example, the National Alliance on Mental Illness (2006) launched a campaign that included advertisements reading, "You never hear, 'snap out of it, it's just diabetes.' So why do some say that about depression?" This campaign inspired a study that developed and tested the effectiveness of attribution-framed messages about postpartum depression (Ruybal & Siegel, 2017). Three print advertisements, all designed to reduce perceived controllability of postpartum depression (e.g., "Women need support, not blame") resulted in lower reported anger and greater willingness to help a loved one with the illness when compared to a no-message control condition. There is a consensus in the literature,

generated by both basic and applied research, that presenting depression as uncontrollable (vs. controllable) leads to more favorable responses toward affected individuals.

The current research extends these prior findings by integrating attribution and deservingness theories to examine an alternative approach to increasing favorable responses to individuals with depression. The study of deservingness can help uncover a new method of increasing sympathy and help when altering perceptions of responsibility is less feasible. Additionally, the current research investigated whether highlighting the notion that individuals with depression are *undeserving* of their ailment can complement the extant findings on the effects of reduced responsibility.

Deservingness Theory

Deservingness theory was borne from Feather's (1994, 1996) research on "tall poppies," (e.g., high achievers or individuals with high status). Findings from this work revealed that perceived deservingness was a key determinant of whether people experienced positive or negative affect in response to a poppy's success or failure. A poppy judged as deserving of their initial high status elicited less pleasure and more sympathy following a fall from that high status compared to a poppy judged as undeserving of their initial high status (Feather et al., 1991). As with attribution theory, Feather's (1999) deservingness theory also can be traced back to Heider (1958). Deservingness is defined, based on Heider's work on balance theory, as the relationship between actions and outcomes (Feather, 1999).

According to Feather (1999), congruence between the valence of actions and outcomes produces judgments of deservingness whereas incongruence generates judgments of undeservingness. For example, a student who expends effort (positive action) is judged to be deserving of a high grade (positive outcome) but undeserving of a poor grade (negative

outcome). Similarly, a student who cheats (negative action) is judged as underserving of a high grade (positive outcome) but deserving of a poor grade (negative outcome). People can be judged as deserving or undeserving of positive and negative outcomes (Feather, 1999), though research specific to the influence of negative undeserved outcomes has been limited. Furthermore, this aspect of deservingness theory differs from attribution theory, which tends to focus more on negative events, particularly when they are important and unexpected, as these outcomes are more likely to generate a causal explanation (Weiner, 1986).

Deservingness theory (Feather, 2006) proposes that perceived deservingness or undeservingness leads to different discrete emotions based on how outcomes are evaluated. Deserved positive outcomes (e.g., the student who expends effort and receives a high grade) elicit pleasure while deserved negative outcomes (e.g., the student who expends little effort and receives a poor grade) trigger schadenfreude (e.g., pleasure in another's misfortune). Undeserved positive outcomes (e.g., the student who cheats and receives a high grade) lead to resentment while undeserved negative outcomes (e.g., the student who expends effort and receives a poor grade) engender sympathy, which according to attribution theory (Weiner, 1980) is a key determinant of help-giving. Most relevant to the current research is the relationship between deservingness and affect following a negative undeserved outcome (i.e., depression). Despite these propositions, few empirical investigations have been conducted to test these theoretical tenets.

Deservingness has been found to be associated with variables such as perceived responsibility and affective reactions even though the construct typically is not studied as part of Weiner's (1980) attribution-emotion-action framework. For example, perceived responsibility of an offense (e.g., domestic violence, plagiarism, shoplifting) predicted deservingness of penalty,

which in turn predicted lower levels of sympathy toward to the offender (Feather, 1996). Brigham and colleagues (1997) also found that undeserved misfortunes (i.e., student delaying medical school due to financial setbacks) elicited more sympathy than deserved misfortunes (i.e., student delaying medical school due to participation in an unlawful extortion scheme). A similar pattern of results was found in Feather and colleagues (2011) where reported anger was higher in response to an undeserved positive outcome (i.e., job acquisition following minimal effort) compared to a deserved positive outcome (i.e., job acquisition following high effort). These findings covey that responsibility and deservingness are closely related concepts. Both appraisals are positively related and predictive of emotional reactions to others (e.g., Feather, 1992; Tscharaktschiew & Rudolph, 2016). Examinations of deservingness judgments in relation to perceived responsibility may have the potential to increase the explanatory power of the attribution-emotion-action model.

Responsibility and Deservingness

Deservingness theory assumes that "a person cannot be judged to deserve an outcome for which he or she is not responsible" (Feather, 1999, p. 92). Furthermore, Weiner and colleagues (Weiner et al., 2011) have suggested that both responsibility and deservingness are partly determined by perceived control. As such, there is agreement between the two theories that judgments of responsibility and deservingness are inherently linked. Although both theories suggest that responsibility and deservingness determine affective reactions, attribution research often does not include deservingness judgments.

Research guided by deservingness theory tends to examine how responsibility leads to deservingness, whether directly (Feather, 1996) or indirectly through affect (Feather & Johnstone, 2001). For example, Feather and Johnstone (2001) found that persons with

schizophrenia were viewed as less responsible for their aggressive behavior and therefore more deserving of help than persons with a psychotic illness who were judged as more responsible for and less deserving of help when displaying the same behavior. Another common approach of many deservingness investigations (e.g., Bringham et al., 1997; Feather et al., 2011) involves the experimental manipulation of responsibility (e.g., high vs. low effort) rather than a direct manipulation of deservingness (e.g., deserved vs. undeserved). This method is akin to treating responsibility as a proxy of deservingness.

Despite the existing research that suggests their relatedness, scholars have cautioned against equating responsibility with deservingness as the two constructs are conceptually distinct. According to Feather and colleagues (2011), responsibility may not always lead to deservingness; however, few empirical investigations of this theoretical proposition have been conducted. One possibility to explore is the idea that deservingness may be determined partly by the proportionality between responsibility and severity of the negative outcome, as suggested by the courtroom metaphor, "the punishment must fit the crime" (e.g., Weiner, 2006). For example, a person may be responsible for shoplifting but not deserving of a death sentence as punishment. The current research attempts to expand on Weiner's (1980) attribution-emotion-model by including judgments of deservingness as an additional antecedent of emotion. An integrative approach was taken investigate how perceived responsibility *and* deservingness differentially influence reactions to other individuals with depression.

Chapter 3: Rationale and Overview of the Current Studies

Depression is a prevalent, but treatable mental illness; however, many affected individuals are reluctant to seek help (Barney et al., 2006). Research often has identified stigma as a barrier to help-seeking, treatment, and recovery (e.g., Corrigan, 2004). Additionally, stigmatizing beliefs about individuals with depression may lead to discriminatory responses from others such as anger, irritation, and a desire to socially distance from those affected (Angermeyer & Matschinger, 2004). Individuals with depression also can behave in ways that elicit rejection from others (Coyne, 1976) and tend to have lower perceived social support (Visentini et al., 2018). Therefore, continued research on how to increase support for individuals with depression is essential to combat these harmful effects of stigma and ensure that affected individuals receive the support they need.

Attribution theory has provided a useful framework for antistigma efforts designed to increase help for individuals with depression (e.g., Corrigan, 2000; Weiner et al., 1988) by offering insight into the emotional and behavioral responses toward others in need of help. The theory and corresponding research have established that high perceived responsibility for a negative event, relative to low perceived responsibility, produces less favorable responses (e.g., less sympathy, more anger, lower helping judgments). In line with this premise, antistigma research has found success by conveying that individuals with depression are not at fault, or to blame, for their ailment (Muschetto & Siegel, 2020; Ruybal & Siegel, 2017).

The current research extends these findings by investigating a complementary appraisal, deservingness (Feather, 1999), in conjunction with perceived responsibility. Both cognitive appraisals guide subsequent emotions (Feather & McKee, 2009; van Dijk et al., 2005; Weiner, 2006), and studies have demonstrated that perceived responsibility determines judgments of

deservingness (Feather, 1992). However, few investigations have been conducted to examine the unique and combined effects of the two different appraisals. Three studies were conducted to integrate judgments of deservingness into the attributional framework and test a means for increasing support to people with depression. Findings have implications for situations where perceived responsibility may be less amenable and contribute to greater theoretical understanding of the role and utility of deservingness.

Study 1 was a cross-sectional study designed to assess how deservingness relates to attribution variables such as responsibility, anger, sympathy, and willingness to help others with depression. Although attribution theory has been widely applied to the mental health domain, deservingness theory often has not been assessed in this context. Study 1 served as an initial step to establishing the extent people make deservingness judgments about others with depression. In addition to the standard attribution variables (i.e., responsibility, sympathy, anger, helping judgments), Study 1 also explored another moral emotion related to deservingness, but understudied in attribution research: schadenfreude (Feather, 2006).

Study 2 was designed to strengthen findings of Study 1 by testing the individual effects of responsibility and deservingness, as well as their interaction. Perceived responsibility and deservingness were experimentally manipulated using written vignettes. The approach of varying perceived responsibility *and* deservingness is less common in the literature but allows for the study of each construct's independent and combined effects. Some scholars have noted that responsibility is assumed to moderate the effect of deservingness (Feather et al., 2011), and the design of Study 2 allowed for this assessment.

Although Study 2 manipulated responsibility and deservingness, the design has low ecological validity. The purpose of Study 3 was to overcome this limitation and by examining

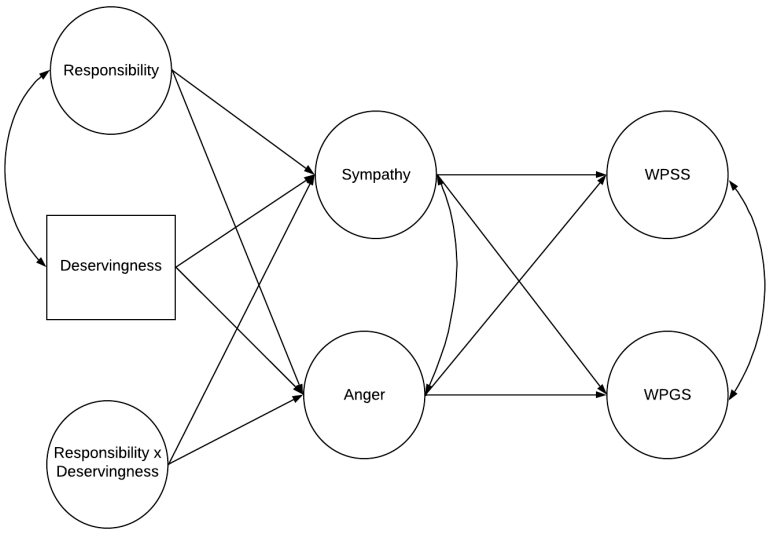
these constructs in a more realistic setting. In Study 3, depression public service announcements (DPSAs) guided by attribution and deservingness theories were developed and tested. This is a novel approach as judgments of deservingness, unlike responsibility, have not been used to develop campaign messages. Collectively, these studies provide theoretical clarity on the relationship between these two cognitive appraisals and determine if the deservingness construct also can be used to increase support for people with depression.

Chapter 4: Study 1

Study 1 assessed the role of deservingness in the cognitive-emotion-action model (Weiner, 1980). Assignment of responsibility, rather than perceived controllability, was investigated in line with Weiner and colleagues' (2011) view that help-giving is determined by whether others are perceived as responsible or not responsible. Structural equation modeling (SEM) was used to test a hypothesized model (see Figure 1) whereby perceived responsibility, judgements of deservingness, and their interaction predict emotional responses (sympathy, anger), and by extension, helping judgments (willingness to provide social [WPSS] and general [WPGS] support). The model also was specified to include bidirectional relationships between responsibility and deservingness, sympathy and anger, as well as WPSS and WPGS (see https://osf.io/kfzae for preregistration). In addition to testing this hypothesized model, Study 1 tested an exploratory model whereby perceived responsibility, deservingness, and their interaction predict schadenfreude, and in turn, willingness to help (WPSS, WPGS). Schadenfreude often is studied in deservingness research (van Dijk et al., 2005, 2008) but has not received the same level of attention in attribution studies.

Figure 1

Study 1 Hypothesized Model



Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support. Manifest variables are depicted in squares and latent variables in circles.

Method

Participants and Procedures

Participants were recruited online from Amazon's Mechanical Turk (MTurk) via the CloudResearch platform (N = 1,226). An estimated sample of 680 participants was determined a priori using the N:q ratio of 20:1 (Kline, 2016). A total of 490 participants were excluded for the following reasons: duplicate IP addresses (n = 8), bot check (n = 29), attention checks (n = 232), elevated depressive symptomology, the rationale for which will be explained shortly (n = 172), univariate (n = 41) and multivariate outliers (n = 8). The final sample included 736 participants, majority of whom identified as White (80%) and ranged in age from 19-79 years old (M = 43.75, SD = 13.26). Approximately half of the participants also identified as women (50.1%).

Upon providing consent to complete the study, participants were presented with general information about depression, asked to name someone they know with the illness, and note their relationship to that individual. Afterwards, they were asked to report on perceived responsibility, judgments of deservingness, sympathy, anger, WPSS, WPGS, and schadenfreude. Measures of cognitive appraisals (responsibility, deservingness) were presented first in counterbalanced order, then participants reported on emotional responses, followed by helping judgments (WPSS, WPGS), also presented in counterbalanced order. Sympathy and anger items were listed in random order within the same scale and therefore, counterbalancing was not used for the emotional response measures. As schadenfreude was included for exploratory purposes, the measure was presented last in the series of measures. At the end of the survey, participants completed a depression inventory and reported their basic demographic information (age, gender, ethnicity) for descriptive purposes. Those who exhibited more than mild depressive symptomology, as determined by a score of ≥ 10 on the Patient Health Questionnaire-8 (PHQ-8; Kroenke et al., 2009), were removed from the final analyses. This decision was made a priori as individuals with elevated depressive symptomology have a tendency process information with a negative bias (Beck, 1967; Wisco, 2009). This convention also is common practice for research in this domain (e.g., Muschetto & Siegel, 2020; Ruybal & Siegel, 2021). Participants were compensated $0.75 for completing the survey.

Measures

Perceived Responsibility

Following conventions of Yao and Siegel (2021), perceived responsibility was measured using an adapted version of Wickens and colleagues' (2011) responsibility scale. Participants were asked to indicate, on a Likert-type scale (1 = *Not at* all, 7 = *Very much*), the extent they

believe others are to blame, at fault, and responsible for having depression. The scale has been associated with measures of controllability and intentionality (Wickens et al., 2011) and is predictive of sympathy and anger (Yao & Siegel, 2021).

Judgments of Deservingness

Five items were used to measure perceived deservingness. Three of the items were from Feather (2003), but reworded for this context (i.e., depression). Participants were asked to indicate, on a 7-point Likert type scale (1 = *Not at* all, 7 = *Very much*), whether depression was deserved, fair, or justified. Measures of deservingness using these items (Feather, 2008) have demonstrated high internal consistency (α = .92) and are associated with schadenfreude (Feather et al., 2013), as theoretically predicted. The remaining two items were written specifically for this research, and as indicated in the preregistration, only a single item deservingness measure will be used in the main analysis. The remaining four items were included for exploratory purposes to inform the construction of a multi-item deservingness scale.

Other-Directed Moral Emotions

Sympathy and anger were measured using a 10-item scale (e.g., Muschetto & Siegel, 2019; Ruybal & Siegel, 2017; Siegel et al., 2012). Participants rated the extent they experienced a series of positive and negative other-directed emotions (sympathy: tenderness, kindness, understanding, warmth, endearment; anger: annoyance, bothered, anger, frustration, impatience) on a feeling thermometer type scale (0 = *Not at all* to 100 = *Very much*). These scales have demonstrated high internal consistency in past research (α_{sympathy}= .87, α_{anger}= .89), are negatively correlated with, and predictive of helping judgments (Yao & Siegel, 2020).

Schadenfreude was measured using three items, following conventions of Feather and colleagues (e.g., Feather et al., 2012). Participants were asked to indicate the extent they feel

happy, pleased, and satisfied when thinking about the person they named experiencing depression (0 = *Not at all,* 100 = *Very much*). An exploratory factor analysis found that these three items loaded on to a single factor and had high internal consistency (α = .84; Feather & Sherman, 2002).

Willingness to Provide Social Support (WPSS)

Participants rated their willingness to provide social support on a six-item scale developed by Siegel and colleagues (2012). This scale also has been used in previous attribution studies of help-giving for depression (e.g., Muschetto & Siegel, 2019, 2020; Ruybal & Siegel, 2017, 2019). Each item presents a different method of providing support (i.e., allow loved one to talk about their private feelings), and participants indicated, on a feeling thermometer type scale (0 = *Strongly disagree*, 100 = *Strongly agree*), the extent they would be willing to provide help in each specified manner. This measure has been found to have high internal consistency (α = .95) and is associated with sympathy and anger (Ruybal & Siegel, 2019).

Willingness to Provide General Support (WPGS)

Participants rated their willingness to provide general support using five items from Muschetto and Siegel (2020). The WPGS scale measures an overall willingness to help (0 = *Strongly disagree*, 100 = *Strongly agree*) without specifying different types of support and was included to account for additional styles of support participants may have considered. This scale has been used in other research on help-giving for depression (Marshburn & Siegel, 2022; Ruybal & Siegel, 2021; Yao & Siegel, 2021). Structural equation modeling revealed these items significantly loaded on to one factor and is positively associated with WPSS. Additionally, sympathy and anger both significantly predicted willingness to help as measured by these items (Muschetto & Siegel, 2020).

Depression Inventory

The eight item Patient Health Questionnaire (Kroenke et al., 2009) was used to assess participants' current depressive symptomology. Participants were asked to select one of four response options that best represents how they have felt during the past two weeks. Total score ranges from 0 to 24 with higher scores indicating greater symptomology. Scores of 10 or greater are indicative of more moderate or severe depressive symptomology. Participants were excluded in accordance with this cutoff score. The PHQ-8 is an established and validated measure that is widely-used for measuring depression severity in large clinical studies (Kroenke et al., 2009).

Demographics

Age, gender, and ethnicity were collected for descriptive purposes.

Results

Main analyses

Structural equation modeling was conducted using SPSS Amos (version 28) with maximum likelihood method of estimation. The following fit indices and cutoffs were used to determine overall model fit: χ^2 to degrees of freedom < 3 (Klien, 1998), comparative fit index (CFI) ≥ 0.95, root mean square error of approximation (RMSEA) < 0.08, and standardized root mean square residual (SRMR) < 0.06 (Hu & Bentler, 1999). Akaike information criterion (AIC) values also were used to determine superiority of model fit between models based on degree of parsimony (Akaike, 1987).

A confirmatory factor analysis (CFA) was conducted on the measurement model prior to testing the hypothesized model to determine the structure of the data. The measurement model included five latent variables comprised of 24 manifest variables (responsibility: 3 items, sympathy: 5 items, anger: 5 items, WPSS: 6 items, WPGS: 5 items). In testing the measurement

model, all latent variables were free to correlate with one another. Results of the CFA indicated that the measurement model was an acceptable fit of the data (see Table 1 for descriptive statistics). All items significantly loaded on to their respective latent factors (0.66-0.97), indicating that the manifest variables adequately conceptualized the latent constructs in this study. All latent factors also were significantly correlated, and the CFA suggested that proceeding to the test the structural model was appropriate.

Table 1

Study 1: *Descriptive Statistics*, *Reliability Estimates, and Correlations*

Variables	1	2	3	4	5	6	7
1. Responsibility	-						
2. Deservingness	.29**	-					
3. Sympathy	-.43**	-.17**	-				
4. Anger	.50**	.18**	-.45**	-			
5. Schadenfreude	.12**	.08*	-.15**	.17**	-		
6. WPSS	-.39**	-.14**	.73**	-.34**	-.19**	-	
7. WPGS	-.33**	-.12**	.74**	-.35**	-.16**	.76**	
M	2.13	1.85	77.03	14.25	0.91	88.17	78.25
SD	1.36	1.48	20.60	16.85	3.42	15.48	21.81
α	.94	-	.92	.88	.91	.94	.95

Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support.

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

Following, a hypothesized model was specified whereby perceived responsibility, deservingness, and their interaction predicted sympathy and anger, and these emotions predicted willingness to provide social and general support. Additionally, the model was specified to include associations between responsibility and deservingness, sympathy and anger, as well as willingness to provide social and general support (see Figure 1). Results indicated that the model was an acceptable fit of the observed data, χ^2 (338, N = 735) = 1,368.87, $p < .001$ (see Table 2

for fit indices). Responsibility was associated with deservingness, $r = .28$, $p < .001$, sympathy was associated with anger, $r = -.35$, $p < .001$, and WPSS was associated with WPGS, $r = .52$, $p < .001$. Responsibility predicted sympathy, $\beta = -.44$, $p < .001$, and anger, $\beta = .54$, $p < .001$, and sympathy subsequently predicted WPSS, $\beta = .79$, $p < .001$, and WPGS, $\beta = .79$, $p < .001$. However, deservingness did not significantly predict sympathy, $\beta = -.04$, $p = .223$, or anger, $\beta = .04$, $p = .257$. The responsibility by deservingness interaction also did not significantly predict sympathy, $\beta = -.04$, $p = .206$, or anger, $\beta = -.02$, $p = .507$, and anger did not predict WPSS, $\beta = .02$, $p = .631$, or WPGS, $\beta = .01$, $p = .730$.

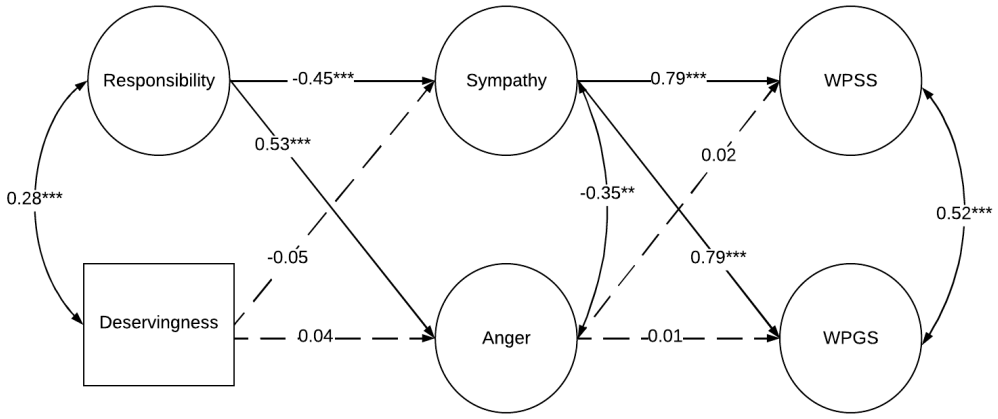
The hypothesized model was respecified by removing non-significant paths from the responsibility by deservingness interaction to sympathy and anger (see Figure 2). Results indicated that the respecified model was a good fit of the observed data, χ^2 (265, $N = 735$) = 1,098.25, $p < .001$ (see Table 2 for model fit indices). Responsibility predicted sympathy, $\beta = -.45$, $p < .001$, and anger, $\beta = .53$, $p < .001$. Sympathy, but not anger, subsequently predicted WPSS, $\beta_{sympathy} = .79$, $p < .001$, $\beta_{anger} = .02$, $p = .646$, and WPGS, $\beta_{sympathy} = .79$, $p < .001$, $\beta_{anger} = .01$, $p = .727$. Correlations between responsibility and deservingness, $r = .28$, $p < .001$, sympathy and anger, $r = -.35$, $p < .001$, and WPSS and WPGS, $r = .52$, $p < .001$, all were statistically significant. The lower AIC value indicates that the respecified model is a more superior fit of the data than the hypothesized model, based on degree of parsimony.

Follow-up analyses were conducted to test the indirect effects of perceived responsibility on helping judgments. Results indicated that perceived responsibility significantly predicted WPSS, $B = -3.64$, 95% CI [-4.72, -2.71], $p < .001$, and WPGS, $B = -5.32$, 95% CI [-6.69, -4.14], $p < .001$, through sympathy. However, the indirect effect of perceived responsibility on WPSS, $B = .08$, 95% CI [-.36, .53], $p = .689$, and WPGS, $B = .09$, 95% CI [-.46, .63], $p = .747$, through

anger, were not statistically significant.

Figure 2

Study 1 Respecified Model



Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support. Solid lines indicate significant paths and dashed lines indicate non-significant paths. Manifest variables are depicted in squares and latent variables in circles.

*** $p < .001$

Table 2

Study 1: *Model Fit Statistics*

Model	χ^2/df	CFI	RMSEA	SRMR	AIC
Measurement	4.39	0.954	.068 [0.64, .072]	0.037	1178.124
Hypothesized	4.14	0.951	.065 [.061, .069]	0.078	1504.872
Respecified	4.14	0.954	.065 [.061, .069]	0.037	1218.254

Note. χ^2/df = model chi-square to degrees of freedom ration; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual; AIC = Akaike information criterion.

Exploratory Analyses

Exploratory analyses were conducted to test a model whereby perceived responsibility, deservingness, and their interaction predicted schadenfreude, which subsequently predicted WPSS and WPGS. CFA was conducted to determine the structure of the data, and findings indicated that all indicator variables loaded onto their respective latent factors (.74-1.02), and all latent factors were significantly correlated. Results from the SEM indicated that the hypothesized model did not satisfy the criteria for a good-fitting model (χ^2/df = 5.03, CFI = .963, RMSEA = .074, SRMR = .136), although some of the paths in the model were significant. Perceived responsibility was associated with deservingness, r = .29, p < .001, and WPSS was associated with WPGS, r = .81, p < .001. Additionally, perceived responsibility predicted schadenfreude, β = .11, p = .004, which subsequently predicted WPSS, β = -.19, p < .001, and WPGS, β = -.17, p < .001. However, neither deservingness, β = -.06, p = .095, nor the responsibility by deservingness interaction predicted schadenfreude. Respecification of the model by removing the non-significant path between the interaction term to schadenfreude did not improve overall model fit. Feather's (1999) model (responsibility-deservingness-emotion-help) also was tested for exploratory purposes, but findings revealed that the model was a poor fit of the observed data (χ^2/df = 6.34, CFI = .905, RMSEA = .085, SRMR = .065).

Discussion

The current study brings together concepts from two different theories to extend the current understanding of how appraisals of another's depression relate to emotional responses and helping judgments. Although perceived responsibility and deservingness both predict affective and behavioral reactions (Feather, 2006; Weiner, 1980), prior research often has not examined the two constructs as dual predictors within the same model. Correlations among the variables of interest in this study indicate that both deservingness and responsibility are

negatively related to sympathy and judgments of help-giving (WPSS/WPGS) and positively associated with anger and schadenfreude. These correlation patterns are consistent with prior research. For example, perceived responsibility for a career-related misfortune was negatively associated with sympathy and positively associated with schadenfreude (van Dijk et al., 2008). Similarly, perceived responsibility for a car accident was positively associated with deservingness and negatively associated with sympathy for the driver (Feather & Deverson, 2000).

When both cognitive appraisals are considered as predictors in the same model, however, only perceived responsibility was associated with affective responses. Perceived responsibility was related to lower levels of sympathy, higher levels of anger, but only sympathy was associated with greater willingness to provide both social and general support. This finding corroborates Weiner's (2006) position that "help-giving is directly a matter of the heart" and thus, the relationship between sympathy and help often is stronger than that of anger and help. Although the paths from deservingness to sympathy and deservingness to anger were not statistically significant, deservingness was positively associated with perceived responsibility. Attribution theory has been an important framework for understanding stigmatizing responses to individuals with depression (e.g., Corrigan et al., 2000; Weiner et al., 1988), however, deservingness theory rarely has been applied to this context. Consistent with attribution theory (Weiner, 1980), findings indicated an effect of perceived responsibility on willingness to help through sympathy.

It may be plausible that testing both cognitive appraisals as joint predictors in the same model contributed to the non-significant paths from deservingness to sympathy and anger. Further, this non-significant finding is insufficient to conclude that deservingness judgments are

not predictive of emotional responses given that deservingness was significantly correlated to all other variables of interest. Additional studies are needed to assess the experimental effect of both responsibility and deservingness. Experimental manipulation of these appraisals may create greater variance among the conditions and generate further insight on the effect of deservingness.

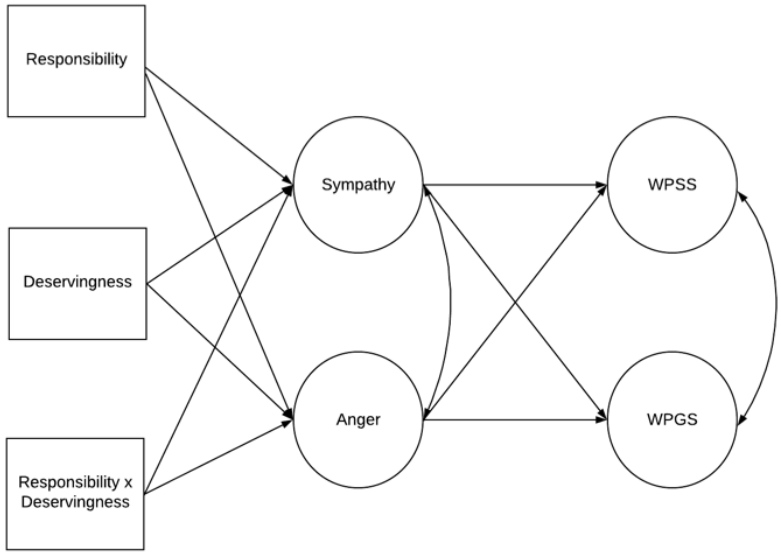
This study represents an attempt to expand on the cognition-emotion-action model by integrating judgments of deservingness. Unlike prior research that have examined responsibility as a determinant of deservingness, the current research treated both responsibility and deservingness as joint antecedents of affective responses. Findings demonstrated a positive relationship between the two appraisals, both of which also were negatively associated with sympathy and positively related to anger. When both appraisals were entered in the structural model, however, deservingness did not significantly predict sympathy or anger. Study 2 employs a manipulation of responsibility and deservingness to overcome limitations of Study 1's correlational design and identify whether the patterns of relationships among cognitive appraisals, emotional responses, and helping judgments differ as a result.

Chapter 5: Study 2

Study 2 expanded on Study 1 by testing the effects of perceived responsibility and deservingness experimentally. Two pilot tests were conducted prior to the main study to test the effects of the experimental stimuli (see https://osf.io/8aus2 for preregistration). For the main study, SEM was used to test a model whereby perceived responsibility, deservingness, and their interaction predicted emotional reactions (sympathy, anger) toward and subsequent willingness to help (WPSS, WPGS) another with depression (see Figure 3). Additionally, the model was specified to include correlations between sympathy and anger, as well as WPSS and WPGS. This model, unlike Study 1, did not include a correlation between responsibility and deservingness as these variables were varied experimentally. This study also included an exploratory test of a model whereby perceived responsibility, deservingness, and their interaction predicted schadenfreude and by extension willingness to help.

Figure 3

Study 2 Hypothesized Model



Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support. Manifest variables are depicted in squares and latent variables in circles.

Pilot 1 & 2 Method

Participants and Procedures

Data were collected online from MTurk using the CloudResearch platform (N_{Pilot1} = 431, n_{Pilot2} = 442). An estimated sample of 352 participants was determined, a priori, using a power analysis for an independent samples *t*-test (Cohen's d = 0.3, α = .05, power = .80). Participants (n_{Pilot1} = 68, n_{Pilot2} = 65) were excluded for the following reasons: duplicate IP address (n_{Pilot1} = 2, n_{Pilot2} = 2), failing bot check (n_{Pilot1} = 6, n_{Pilot2} = 4), attention checks (n_{Pilot1} = 57, n_{Pilot2} = 58), univariate outlier (n_{Pilot2} = 1), and multivariate outlier (n_{Pilot1} = 3). The final sample for Pilot 1 included 363 participants, majority of whom identified as White (81.5%), men (55.4%) and ranged from 19-78 years old (M = 40.10, SD = 11.94). The final sample for Pilot 2 included 377 participants, majority of whom identified as White (78.5%), women (52.3%), and ranged from

19-84 years old (M = 44.29, SD = 14.01).

After providing consent, participants were asked to name someone they know with depression, then randomly assigned to read one of four vignettes based on the factorial combination of the two independent variables (see Appendix A). Names provided were piped into all vignettes, which involved the person discontinuing their antidepressant medication and experiencing a recurrence of depression. Perceived responsibility of action was varied by whether the doctor was explicit (high responsibility) or unclear (low responsibility) with their prescribing information. Undeservingness of the outcome was varied by whether the depression symptoms returned to how it was before (deserved) or more severe than it was before (undeserved). Following, participants reported on measures of perceived responsibility and deservingness, which were presented in counterbalanced order. At the end of the survey, participants provided basic demographic information and were compensated $0.75 for completing the survey.

Measures

Measures of responsibility and deservingness from Study 1 were used in both pilot studies, however, they were adapted slightly to correspond with the vignettes. Participants were asked about perceived responsibility and deservingness of the return of others' depressive symptoms (as opposed to general responsibility and deservingness of having depression).

Perceived Responsibility

Participants indicated, on a Likert-type scale (1 = *Not at* all, 7 = *Very much*), the extent they believe others were to blame, at fault, and responsible for the return of their depressive symptoms. The responsibility scale demonstrated high internal consistency in both pilot studies (α_{Pilot1} = .98, α_{Pilot2} = .97).

Judgments of Deservingness

In Pilot 1, participants indicated, on a 7-point Likert type scale (1 = *Not at* all, 7 = *Very much*), whether the return of others' depressive symptoms was deserved, fair, or justified. Additionally, participants indicated the extent they believed others brought their depressive symptoms on themselves, or had their symptoms coming. In Pilot 2, the deservingness measure was further adapted to more closely align with the intent of the manipulation (i.e., whether depression returned to the same level as before or more severe than before). The deservingness scale demonstrated high internal consistency in both pilot studies ($\alpha_{\text{Pilot1}} = .94$, $\alpha_{\text{Pilot2}} = .91$).

Results and Discussion

In Pilot 1, participants in the high and low responsibility conditions significantly differed in perceived responsibility, t (361) = -4.99, $p < .001$, Cohen's $d = .52$. Participants in the high responsibility condition reported higher levels of responsibility ($M = 4.50$, $SD = 1.77$) compared to those in the low responsibility condition ($M = 3.57$, $SD = 1.81$). Similarly, participants in the deserved and undeserved conditions significantly differed in deservingness judgments, t (361) = 2.93, $p = .004$, Cohen's $d = .31$. Those in the deserved condition reported higher levels of deservingness ($M = 3.31$, $SD = 1.66$) compared to those in the undeserved condition ($M = 2.80$, $SD = 1.67$).

Findings from Pilot 2 replicated those of Pilot 1. There were significant differences in perceived responsibility between participants in the high and low responsibility conditions, $t(375) = -4.46$, $p < .001$, Cohen's $d = .46$, as well as significant differences in deservingness judgments between participants in the deserved and undeserved conditions, $t(375) = 6.38$, $p < .001$, Cohen's $d = .66$. Participants in the high responsibility condition reported higher levels of responsibility ($M = 4.30$, $SD = 1.79$) compared to those in the low responsibility condition ($M =$

3.48, *SD* = 1.77), and those in the deserved condition reported higher levels of deservingness (*M* = 3.11, *SD* = 1.67) compared to those in undeserved condition (*M* = 2.17, *SD* = 1.15). These results demonstrate that the manipulations of responsibility and deservingness were successful.

Study 2 Method

Participants and Procedures

As with Study 1, data were collected online from MTurk using the CloudResearch platform (*N* = 947). An estimated sample of 580 participants was determined, a priori, using the N:q ratio of 20:1 (Klien, 2006). A total of 352 participants were excluded for the following reasons: duplicate IP address (*n* = 6), failing bot (*n* = 9) and attention checks (*n* = 135), elevated depressive symptomology (*n* = 179), univariate (*n* = 18), and multivariate outliers (*n* = 5). The final sample included 595 participants, majority of whom identified as White (80.3%) and were between the ages of 19-79 years old (*M* = 43.86, *SD* = 13.95). Most participants also identified as women (60.8%).

After providing consent, participants were asked to think of and name a person with depression and indicate their relationship to that individual. Participants also could imagine someone they know has depression, if they did not know anyone with the illness. Then, participants were randomly assigned to one of four vignette conditions based on the factorial combination of the two independent variables. After reading the assigned vignette, participants completed measures of sympathy, anger, willingness to provide social and general support, and schadenfreude. Participants also completed a depression inventory, provided basic demographic information, and were compensated $0.75 at the end of the study. Following conventions of Study 1, participants who exhibited elevated depressive symptomology based on the PHQ-8 were removed from the final analyses.

Measures

The following measures from Study 1 also were used in Study 2: sympathy, anger, schadenfreude, willingness to provide social and general support, PHQ-8, and demographic information. Perceived responsibility and judgments of deservingness were experimentally manipulated instead of measured in this study.

Results

Structural equation modeling was conducted using SPSS Amos (version 28) with maximum likelihood method of estimation. The same fit indices and cutoffs used in Study 1 also were used to determine overall model fit in Study 2. A CFA was conducted on the measurement model prior to testing the structural model to determine the structure of the data. The measurement model included four latent variables comprised of 21 manifest variables (sympathy: 5 items, anger: 5 items, WPSS: 6 items, WPGS: 5 items). Results of the CFA indicated that the measurement model was an acceptable fit of the data (see Table 3 for descriptive statistics). All latent factors also were significantly correlated and all items significantly loaded on to their respective latent factors (0.73-0.93). These CFA results indicated that the manifest variables adequately conceptualized the latent constructs in this study and proceeding to the test the structural model was appropriate.

Table 3

Study 2: *Descriptive Statistics, Reliability Estimates, and Correlations*

Variables	1	2	3	4	5
1. Sympathy	-				
2. Anger	-.56**				
3. Schadenfreude	-.18**	.20**			
4. WPSS	.52**	-.24**	-.24**		
5. WPGS	.55**	-.20**	-.21**	.68**	
M	70.85	28.45	1.49	90.20	81.24
SD	23.53	24.74	4.26	12.73	18.24
α	.94	.91	.88	.94	.94

Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support.

**$p < .01$

Next, a hypothesized model was specified whereby perceived responsibility, undeservingness, and their interaction predicted sympathy and anger, and these emotions predicted willingness to provide social and general support. Additionally, the model was specified to include associations between sympathy and anger, as well as willingness to provide social and general support. Results indicated that the model was a poor fit of the observed data despite the presence of significant paths (see Table 4 for model fit indices). Sympathy was associated with anger, $r = -.59$, $p < .001$, and WPSS was associated with WPGS, $r = .61$, $p < .001$. Responsibility predicted sympathy, $\beta = -.19$, $p < .001$, and anger, $\beta = .30$, $p < .001$. Deservingness also predicted sympathy, $\beta = .13$, $p = .002$, and anger, $\beta = -.08$, $p = .049$. Both emotions subsequently predicted WPSS, $\beta_{sympathy} = .65$, $p < .001$, $\beta_{anger} = .14$, $p = .005$, and WPGS, $\beta_{sympathy} = .70$, $p < .001$, $\beta_{anger} = .19$, $p < .001$. However, the responsibility by deservingness interaction did not significantly predict sympathy, $\beta = .04$, $p = .283$, or anger, $\beta = -.06$, $p = .163$.

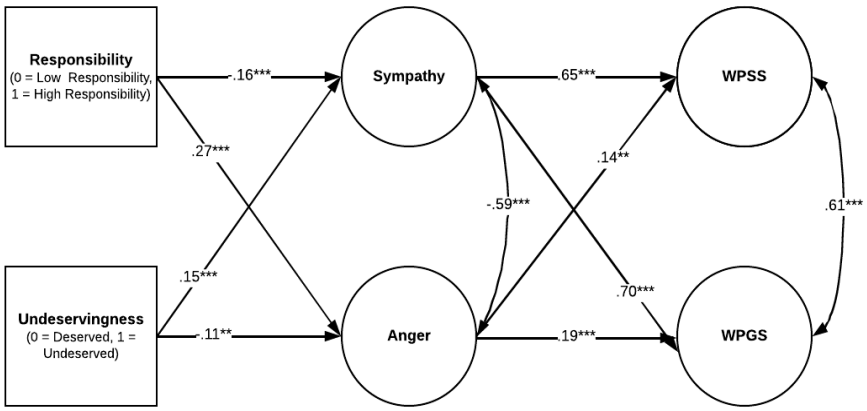
To improve overall model fit, the model was respecified by removing the non-significant

paths between the responsibility by undeservingness interaction and sympathy as well as anger (see Figure 4). The respecified model was a good fit of the observed data, χ^2 (222, N = 595) = 841.95, p < .001. Perceived responsibility and undeservingness predicted sympathy, $\beta_{responsibility}$ = -.16, p < .001, $\beta_{undeservingness}$ = .14, p < .001, and anger, $\beta_{responsibility}$ = .23, p < .001, $\beta_{undeservingness}$ = -.11, p = .006, and both emotions predicted WPSS, $\beta_{sympathy}$ = .65, p < .001, β_{anger} = .14, p = .005, and WPGS, $\beta_{sympathy}$ = .70, p < .001, β_{anger} = .19, p < .001. However, the path from anger to WPSS and WPGS was in the opposite direction and inconsistent with bivariate correlations, $r_{(anger, WPSS)}$ = -.28, p < .001, $r_{(anger, WPGS)}$ = -.26, p < .001. Comparison of the fit indices between the hypothesized and respecified model indicate that the respecified model is a superior fit of the observed data (see Table 4 for model fit indices).

Follow-up analyses were conducted to test the indirect effect of perceived responsibility and undeservingness on willingness to help through sympathy and anger. Results indicated that responsibility significantly predicted WPSS, B = -2.51, p < .001, and WPGS, B = -3.71, p < .001, through sympathy. Responsibility also significantly predicted WPSS, B = .87, p = .011, and WPGS, B = 1.63, p = < .001, through anger. Similarly, undeservingness predicted WPSS, $B_{sympathy}$ = 2.38, p < .001, B_{anger} = -.37, p = .011, and WPGS through sympathy and anger, $B_{sympathy}$ = 3.52, p < .001, B_{anger} = -.69, p = .003.

Figure 4

Study 2 Respecified SEM Model



Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support. Solid lines indicate significant paths and dashed lines indicate non-significant paths. Manifest variables are depicted in squares and latent variables in circles.

*** $p < .001$

Table 4

Study 2: *Model Fit Statistics*

Model	χ^2/df	CFI	RMSEA	SRMR	AIC
Measurement	4.28	.950	.074 [.069, .080]	.042	879.254
Hypothesized	6.20	.900	.094 [.089, .098]	.064	1620.532
Respecified	3.79	.949	.069 [.064, .074]	.041	949.952

Note. χ^2/df = model chi-square to degrees of freedom ration; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual; AIC = Akaike information criterion.

Multivariate analysis of variance (MANOVA) was conducted, in accordance with the preregistration, to probe the interaction between responsibility and undeservingness. Consistent

with the SEM findings, results indicated significant main effects for responsibility, F (2, 590) = 21.84, $p < .001$, $\eta_p^2 = .069$, and undeservingness, F (2, 590) = 7.67, $p < .001$, $\eta_p^2 = .025$, but the overall effect of the interaction term was not significant, F (2, 590) = .36, $p = .696$, $\eta_p^2 = .001$. The effect of responsibility was significant for sympathy, F (1, 591) = 19.76, $p < .001$, $\eta_p^2 = .032$, and anger, F (1, 591) = 42.45, $p < .001$, $\eta_p^2 = .067$. Participants in the high responsibility condition reported less sympathy ($M = 66.68$, $SE = 1.33$) and more anger ($M = 34.84$, $SE = 1.39$) compared those in the low responsibility condition ($M_{sympathy} = 75.03$, $SE_{sympathy} = 1.32$; $M_{anger} = 22.12$, $SE_{anger} = 1.38$). The effect of undeservingness also was significant for sympathy, F (1, 591) = 14.89, $p < .001$, $\eta_p^2 = .025$, and anger, F (1, 591) = 6.95, $p = .001$, $\eta_p^2 = .012$. Participants in the undeserved condition reported more sympathy ($M = 74.48$, $SE = 1.33$) and less anger ($M = 25.90$, $SE = 1.39$) compared to those in the deserved condition ($M_{sympathy} = 67.23$, $SE_{sympathy} = 1.32$; $M_{anger} = 31.05$, $SE_{anger} = 1.38$). The responsibility by deservingness interaction did not lead to significant differences in sympathy, F (1, 591) = .46, $p = .497$, $\eta_p^2 = .001$, or anger, F (1, 591) = .64, $p = .426$, $\eta_p^2 = .001$.

Exploratory Analyses

Exploratory analyses were conducted to test a model whereby perceived responsibility, undeservingness, and their interaction predicted schadenfreude, which subsequently predicted WPSS and WPGS. The model also was specified to include a bidirectional relationship between WPSS and WPGS. CFA findings indicated that all indicator variables loaded onto their respective latent factors (.73-.98), all latent factors were significantly correlated, and proceeding to test the structural model was appropriate.

SEM results indicated that the hypothesized model was a poor fit of the observed data ($\chi^2/df = 8.371$, CFI = .974, RMSEA = .069, SRMR = .0361), although some of the paths in the

model were significant. Perceived responsibility, β = .08, p = .047, and the interaction between perceived responsibility and deservingness, β = -.15, p < .001, significantly predicted schadenfreude. In turn, schadenfreude predicted WPSS, β = -.28, p < .0013, and WPGS, β = -.24, p < .001. There also was a positive correlation between WPSS and WPGS, r = .73, p < .001. However, these estimates are likely unreliable as the model was a poor fit of the data. Analysis of variance (ANOVA) was conducted as a follow-up to probe the interaction effect of responsibility and deservingness on schadenfreude. However, results indicated that neither the main effect of responsibility, F (1, 591) = .01, p = .930, nor the interaction effect between responsibility and deservingness were statistically significant, F (1, 591) = 2.41, p = .121.

Discussion

Study 2 was designed to examine the causal effects of perceived responsibility and deservingness. Data from the two pilot studies demonstrated that the vignettes led to differences in perceived responsibility and deservingness. Further, results from the main study indicated a significant effect of perceived responsibility on emotional responses. Participants who read a vignette where the prescribing doctor was unclear (vs. explicit) about medication instructions felt more sympathy and less anger. Sympathy, in turn, predicted greater willingness to provide social and general support to others with depression. The significant paths from responsibility to sympathy and anger align with theoretical propositions (Weiner, 1980), replicate findings from Study 1 and those of prior research (Ruybal & Siegel, 2017; Yao & Siegel, 2021). These results provide further support for the robustness of the effect of perceived responsibility (see Weiner, 2018 for further evidence of replicability).

Results also revealed a significant effect of deservingness on emotional responses. Participants who read a vignette about another's depression returning worse than before (vs. the

same as before) experienced more sympathy and less anger. Sympathy, in turn, predicted greater willingness to help others with depression. Findings from the pilot studies established that this experimental manipulation produced differences in deservingness judgments. A recurrence of depression that was more severe than before was judged as less deserving than a recurrence of depression that was the same level as before. This experimental manipulation likely made the concept more salient, ultimately leading to significant differences in sympathy and anger that were not detected in Study 1.

Exploratory analyses revealed that the model whereby perceived responsibility and undeservingness predicted schadenfreude was a poor fit of the observed data, and follow up analyses revealed that neither responsibility nor deservingness had a significant effect on schadenfreude. This finding is consistent with those of Study 1 and may indicate that schadenfreude is not an emotion people tend to experience in response to others' depression, or perhaps it is not an emotion participants feel comfortable expressing. Some scholars suggest that schadenfreude is difficult to measure because it is a socially undesirable emotion (Smith et al., 2009). Schadenfreude also is less likely to be experienced when a negative outcome is too extreme (Weiner, 2006), which also may explain the nonsignificant effect of responsibility and deservingness in this context.

Findings on the independent effects of responsibility and deservingness are consistent with theoretical predictions (Feather, 2006; Weiner, 1995) and demonstrate that low perceived responsibility *and* judgments of undeservingness lead to more favorable responses. However, few empirical studies have experimentally manipulated both responsibility and deservingness, and investigated their effects in relation to and in combination with one another. The approach typically used in prior deservingness studies involves varying perceived responsibility and

measuring deservingness and emotional responses (e.g., Feather & Dawson, 1998; Tscharaktschiew & Rudolph, 2016; van Dijk et al., 2005). This method has demonstrated that perceived responsibility partly determines deservingness judgments, however, does not address how these appraisals may differentially influence subsequent responses.

Feather (1999, 2006) has noted that a person can be judged as underserving of outcomes for which they are responsible, yet empirical investigations of this premise rarely have been conducted. This experiment tested this notion by manipulating both responsibility and deservingness. Further, the written manipulations of deservingness did not rely on altering perceived responsibility. Although the interaction between responsibility and deservingness was not significant, findings demonstrated that both appraisals are linked to emotional responses toward others with depression. This preliminary finding revealed an alternative approach for increasing support to individuals with depression, one that can be used when altering perceptions of responsibility may not be as feasible.

Of note, the paths between anger and helping judgments were in the opposite direction, though follow-up analyses revealed that anger was *negatively* associated with willingness to provide social and general support when sympathy was removed from the model. This negative relationship is consistent with the bivariate correlations among the three variables (anger, WPSS, WPGS). As such, the *positive* relationship between anger and helping judgments in the structural model may be a statistical artifact of including both affective mediators in the model when sympathy accounted for such a large proportion of the variance in both help-giving outcomes (see Muschetto & Siegel, 2020 for a similar pattern of results).

Overall, this study represents an attempt to disentangle the effects of responsibility and deservingness while offering a new approach to increase helping judgments. Based on these

findings, changing perceptions of deservingness from deserved to undeserved can increase support to individuals with depression (i.e., via sympathy and anger) in the same manner as altering perceived responsibility. Other researchers have made similar attempts to integrate additional cognitive appraisals into the attribution framework. For example, Yao and Siegel (2021) found that controllability and intentionality both predicted responsibility, though intentionality has been an understudied construct in attribution research. Findings from the current study also have practical implications, particularly for campaign development. Study 3 tested whether highlighting undeservingness in an advertisement is an area of untapped potential.

Chapter 6: Study 3

The purpose of Study 3 was to assess the utility of depression public service announcements (DPSAs) focused on undeservingness. The approach used in this study differed from that of Study 2, where vignettes were used to create maximum variance between two contrasting conditions (e.g., deserved vs. undeserved). The prior method was vital to understanding the direct effect of responsibility and deservingness on emotional responses at a theoretical level. However, comparing a message stating that depression is deserved to one that conveys depression is undeserved would be of limited value in this context, as the former would not be used in a campaign. Following conventions of Ruybal and Siegel (2021), the current study did not include a contrasting condition (e.g., deserved vs. undeserved) as a comparison condition.

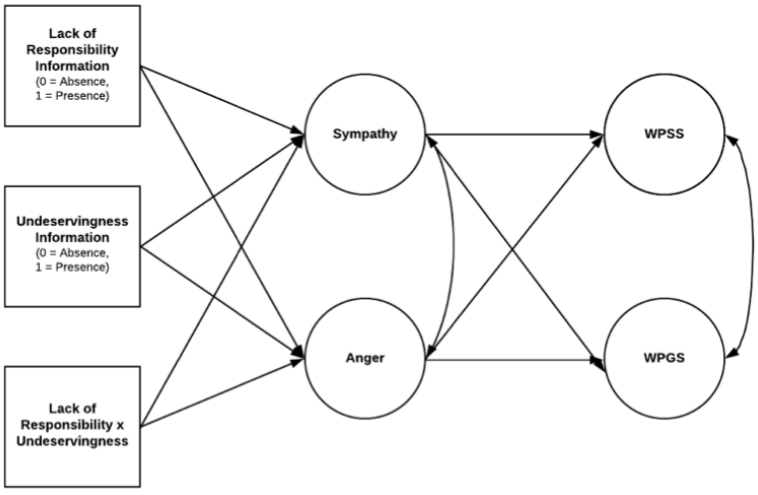
Four DPSAs were created based on the factorial combination of the two independent variables: lack of responsibility information (presence, absence) and undeservingness information (presence, absence). The DPSAs only differed from one another by two sentences based on the condition (see Appendix B). Prior studies have indicated that this method, relative to using opposing conditions, may not lead to significant differences in affective responses (Muschetto & Siegel, 2020; Ruybal & Siegel, 2021). Therefore, it was imperative to test whether the effect of responsibility and deservingness on sympathy and anger from Study 2 would be replicated when forgoing the opposing conditions (high responsibility, deserved). The focus of Study 3 was on deservingness DPSAs, though messages about responsibility also were included for comparison as the effect of these constructs have been difficult to distinguish in prior research.

SEM was used to test whether lack of responsibility, undeservingness, and their interaction, predict emotional responses (sympathy, anger) and subsequent helping judgments

(WPSS, WPGS; see Figure 5 for hypothesized model). Complementing these efforts, Study 3 explored the influence of the DPSAs on help-seeking attitudes and intentions among individuals with depression. This assessment was particularly relevant for and is unique to Study 3 as prior campaigns have led to untoward effects among individuals with depression (e.g., Klimes-Dougan et al., 2010; Siegel et al., 2019). There is a possibility that participants with elevated depressive symptomology would perceive these messages differently because the negative schema associated with the illness (Beck, 1967). Therefore, the dual outcome approach provided insight on whether the DPSAs lead to unintended negative consequences (i.e., more negative attitudes or lower help-seeking tendencies). No specific hypotheses were proposed, and all analyses involving individuals with elevated depressive symptoms were conducted for exploratory purposes.

Figure 5

Study 3 Hypothesized Model



Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support. Solid lines indicate significant paths and dashed lines indicate non-significant paths. Manifest variables are depicted in squares and latent variables in circles.

Pilot 1 & 2 Method

In line with Study 2, two pilot studies also were conducted for Study 3 to examine the effects of the DPSAs on perceived responsibility and deservingness (see osf.io/ypsdc for preregistration). In addition to testing their effect on emotional responses in the main study, these pilot tests examined whether conveying lack of responsibility, undeservingness, or both lack of responsibility and undeservingness produced differences in perceived responsibility and deservingness relative to a comparison DPSA that did not mention either responsibility or deservingness.

Participants and Procedures

Data were collected online from MTurk using the CloudResearch platform (N_{Pilot1} = 358, n_{Pilot2} = 385). An estimated sample of 296 participants was determined, a priori, using a power analysis for multivariate analysis of variance with four groups and two response variables (f^2 = 0.03, α = .05, power = .90). Participants (n_{Pilot1} = 83, n_{Pilot2} = 87) were excluded for the following reasons: duplicate IP address (n_{Pilot1} = 2), failing bot check (n_{Pilot1} = 1, n_{Pilot2} = 1), audio check (n_{Pilot1} = 10, n_{Pilot2} = 18), attention checks (n_{Pilot1} = 61, n_{Pilot2} = 51), univariate outlier (n_{Pilot1} = 8, n_{Pilot2} = 12), multivariate outlier (n_{Pilot1} = 1, n_{Pilot2} = 5). The final sample for Pilot 1 included 275 participants, majority of whom identified as White (72.7%), women (53.4%) and ranged from 20-78 years old (M = 42.83, SD = 12.87). The final sample for Pilot 2 included 298 participants, majority of whom identified as White (79.2%), women (51.7%), and ranged from 19-71 years old (M = 42.05, SD = 11.57).

After providing consent, participants in Pilot 1 were asked to think of and name a person they know with depression. In Pilot 2, participants were asked to provide the name of a *loved one* with depression. Pilot 1 data revealed that participants thought of a range of others from friends and family to coworkers and acquaintances. This instruction was altered slightly for Pilot 2 to provide greater specification and reduce within group variance of relational closeness. Following, participants were randomly assigned to view one of four DPSAs based on the factorial combination of the two independent variables: 2 (lack of responsibility: presence, absence) x 2 (undeservingness: presence, absence). After viewing the video, participants reported on measures of perceived responsibility and deservingness, which were presented in counterbalanced order. At the end of the survey, participants provided basic demographic information and were compensated $0.75 for completing the survey.

Experimental stimuli

All four DPSAs included the following text, "Are you concerned your loved one may have depression? Depression is more than just sadness. It is a mental illness that affects how people think, feel, and act. Please consider reaching out to your loved one with depression. For more information: Call 1-800-622-HELP or text 435748." This also was the text for the comparison video (i.e., absence of lack of responsibility/absence of undeservingness). The remaining three DPSAs included two sentences in addition to this text. The lack of responsibility DPSA read, "Your loved one is not responsible for their illness. It is not their fault they have depression." The undeservingness DPSA read, "No one deserves to feel this kind of sadness. No one deserves to have depression," and the combination DPSA read, "No one deserves to feel this kind of sadness. It is not their fault they have depression."

Measures

Measures of responsibility and deservingness used in Study 2 pilot tests also were used in Pilot 1 of Study 3. However, the response scales were changed to 100-point sliders in Pilot 2 to allow for more variation in the response options. Both measures demonstrated acceptable levels of internal consistency across the two pilot studies (Pilot 1: $\alpha_{\text{Responsibility}} = .77$, $\alpha_{\text{Deservingness}} = .67$; Pilot 2: $\alpha_{\text{Responsibility}} = .84$, $\alpha_{\text{Deservingness}} = .77$)

Results

MANOVA was conducted to compare the effects of the DPSAs on perceived responsibility and deservingness. Pilot 1 results indicated no significant overall effect of DPSAs, $F(6, 6{,}542) = .80$, $p = .571$. Participants who viewed the control video (absence of both lack of responsibility and undeservingness) did not differ in perceived responsibility ($M = 1.42$, $SE = .08$) compared to those who viewed the lack of responsibility ($M = 1.32$, $SE = .08$), undeservingness ($M = 1.47$, $SE = .07$), or combination (lack or responsibility and undeservingness) videos ($M = 1.37$, $SE = .08$) Participants who viewed the control video ($M = 1.48$, $SE = .08$) also did not differ in deservingness judgments relative to those who saw the lack of responsibility ($M = 1.34$, $SE = .08$), undeservingness ($M = 1.36$, $SE = .07$), and combination videos ($M = 1.35$, $SE = .08$).

Pilot 2 used a 100-point slider to measure responsibility and deservingness, and results were consistent with those of Pilot 1. There was no significant overall effect of DPSAs, $F(6, 588) = 1.54$, $p = .163$. Participants who viewed the control video ($M = 6.38$, $SE = 1.69$) did not differ in perceived responsibility compared to those who viewed the lack of responsibility ($M = 9.12$, $SE = 1.70$), undeservingness ($M = 11.85$, $SE = 1.68$), and combination videos ($M = 8.12$, $SE = 1.67$). Those who viewed the control video ($M = 5.67$, $SE = 1.41$) also did not differ in deservingness judgments relative to others who viewed the lack of responsibility ($M = 8.15$, $SE =$

1.42), undeservingness (M = 7.60, SE = 1.40), and combination videos (M = 5.97, SE = 1.39).

Discussion

Results of the pilot tests revealed that the DPSAs did not influence perceived responsibility and deservingness. The divergence of these findings from those of Study 2 pilot tests is likely due to a change in the experimental approach. In Study 2 pilots, participants were assigned to high or low responsibility and deserved or undeserved conditions to maximize between group variance. This controlled manipulation provided clarity on the independent effects of perceived responsibility and deservingness. However, concerns with ecological validity and applicability of this concept to a campaign setting prompted the decision to remove the high responsibility and deserved conditions.

Between group variance likely was minimized without these opposition conditions. The data indicated that participants generally do not believe others to be responsible (M = 1.39, SD = .64) for or deserving of depression (M = 1.38, SD = .63). Therefore, those in the experimental condition did not differ from those in the control condition in terms of perceived responsibility and deservingness. Although the DPSAs did not lead to differences in these cognitive appraisals, this approach still may hold value for increasing support to individuals with depression. That is, increasing the salience of these existing beliefs could lead to differences in emotional responses. Therefore, Study 3 tested the effect of the DPSAs on sympathy, anger, and subsequent helping judgments.

Study 3 Method

Study 3 tested the potential utility of the DPSAs despite their non-significant effect on perceived responsibility and deservingness. Although the DPSAs did not influence perceived responsibility or deservingness, they may have increased the salience of these variables, which

could lead to differences in emotional responses and subsequent helping judgments. Further, people may have been less willing to disclose they perceive their loved ones as responsible for or deserving of depression but could be more agreeable to express their emotional reactions. This rationale also may explain how prior works detected an effect of attribution DPSAs despite lower ratings on the attribution variable. For example, Muschetto and Siegel (2020) found that an attribution DPSA that presented depression as temporary increased social support outcome expectations even though most people already view depression as temporary (see Ruybal & Siegel, 2021 for similar results with postpartum depression). Therefore, the current study proceeded with the use of these DPSAs and assessed their influence on reactions toward others with depression.

Participants and Procedures

Participants were recruited online from MTurk using the CloudResearch platform (N = 757). An estimated sample of 580 participants was determined a priori using the N:q ratio of 20:1 (Kline, 2016). Participants (n = 142) were excluded for the following reasons: duplicate IP address (n = 2), audio check (n = 44), attention checks (n = 68), univariate outlier (n = 24), multivariate outlier (n = 4). The final sample included 615 participants, majority of whom identified as White (80.3%), men (55.1%) and ranged from 19-84 years old (M = 44.09, SD = 12.59). The final sample of participants with elevated depressive symptomology, for the exploratory subgroup analyses, included 85 participants, majority of whom identified as White (67.1%), men (55.3%), and were between the ages of 23-64 (M = 37.07, SD = 8.72).

After consenting to the study, participants completed a measure of depression severity and were randomly assigned to view one of the four DPSAs described earlier. After viewing their assigned DPSA, participants with elevated depressive symptomology completed measures

of attitudes and intentions toward help-seeking while those without elevated depressive symptomology completed measures of other-directed emotions (sympathy, anger) and helping judgments (WPSS, WPGS). Individuals with elevated depressive symptomology completed separate outcomes to allow for an assessment of whether the DPSAs backfired. For example, a message stating, "no one deserves to feel depressed" may lead individuals with depression, unintentionally, to believe they are deservingness of their illness. Therefore, this approach is imperative to detecting any potential iatrogenic effects. All participants were compensated $0.75 for their participation.

Measures

In keeping with Studies 1 and 2, Study 3 used the following measures: sympathy, anger, WPSS, WPGS, PHQ-8, and demographic information. Responsibility and deservingness were not measured in this study as the DPSAs served as an experimental prime of these variables. Given that the DPSAs highlighted *lack of* responsibility and *un*deservingness, schadenfreude was not measured in Study 3. Three measures in the current study that were not used in the prior two studies are help-seeking attitudes and intentions (general and global).

Help-Seeking Attitudes

General attitudes toward help-seeking were measured using a five-item semantic differential scale (Hollar & Siegel, 2022). Participants rated on a 7-point scale the extent help-seeking for depression would be *negative/positive, harmful/helpful, bad/good, worthless/valuable, foolish/wise*.

Help-Seeking Intentions (General)

The general help-seeking questionnaire (GHSQ; Wilson et al., 2015) was used to measure intentions to seek help for depression. Participants were asked to indicate on a 7-point scale (1 =

Extremely Unlikely, 7 = *Extremely likely*) the extent they would seek help from seven different sources (i.e., romantic partner, close friend, parent, other family member, mental health professional, national mental health organization website, primary care doctor).

Help-Seeking Intentions (Global)

Participants also were asked to indicate the extent they would be willing to seek help from at least one source as a global measure of help-seeking. This approach accounts for participants for whom the listed sources may not be applicable (e.g., not having romantic partner or living parents), which could contribute to a lower GHSQ score (Hollar & Siegel, 2022; Straszewski & Siegel, 2018).

Results (Individuals without Elevated Depressive Symptoms)

SEM was conducted using SPSS Amos (version 28) with maximum likelihood method of estimation. The same fit indices and cutoffs used in Studies 1 and 2 also were used to determine overall model fit in Study 3. First, a CFA was conducted on the measurement model prior to testing the structural model to determine the structure of the data. As with Study 2, the measurement model included four latent variables comprised of 21 manifest variables (sympathy: 5 items, anger: 5 items, WPSS: 6 items, WPGS: 5 items). The CFA results indicated all manifest variables significantly loaded on to their respective latent factors (0.59-0.94), all latent variables were correlated with one another, and the measurement model was an acceptable fit of the data (see Table 5 for descriptive statistics). These results indicate that the manifest variables adequately conceptualized the latent constructs in this study and suggest appropriateness of testing the structural model.

Table 5

Study 3: *Descriptive Statistics, Reliability Estimates, and Correlations*

Variables		1	2	3	4
1. Sympathy		-			
2. Anger		-.41**	-		
3. WPSS		.70**	-.39**	-	
4. WPGS		.66**	-.35**	.73**	-
	M	81.26	8.75	90.86	82.47
	SD	16.21	11.30	12.28	17.48
	α	.91	.83	.95	.95

Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support.

***p* < .01

After testing the measurement model, a hypothesized model was specified whereby lack of responsibility, undeservingness, and their interaction predicted sympathy and anger, and these emotions predicted willingness to provide social and general support. The model also was specified to include associations between sympathy and anger, as well as willingness to provide social and general support. Results indicated that despite the presence of some significant paths, the hypothesized model was a poor fit of the observed data (see Table 6 for model fit indices). Sympathy was associated with anger, $r = -.55$, $p < .001$, and WPSS was associated with WPGS, $r = .48$, $p < .001$. Lack of responsibility did not predict sympathy, $\beta = .004$, $p = .915$, or anger, $\beta = -.06$, $p = .178$. Undeservingness predicted sympathy, $\beta = .17$, $p < .001$, but not anger, $\beta = .02$, $p = .581$. Sympathy subsequently predicted WPSS, $\beta = .75$, $p < .001$, and WPGS $\beta = .74$, $p < .001$. The lack of responsibility by undeservingness interaction did not significantly predict sympathy, $\beta = -.06$, $p = .169$, or anger, $\beta = .002$, $p = .955$. Anger did not significantly predict WPSS, $\beta = -.04$, $p = .264$, or WPGS, $\beta = -.01$, $p = .749$.

Table 6

Study 3: *Model Fit Statistics*

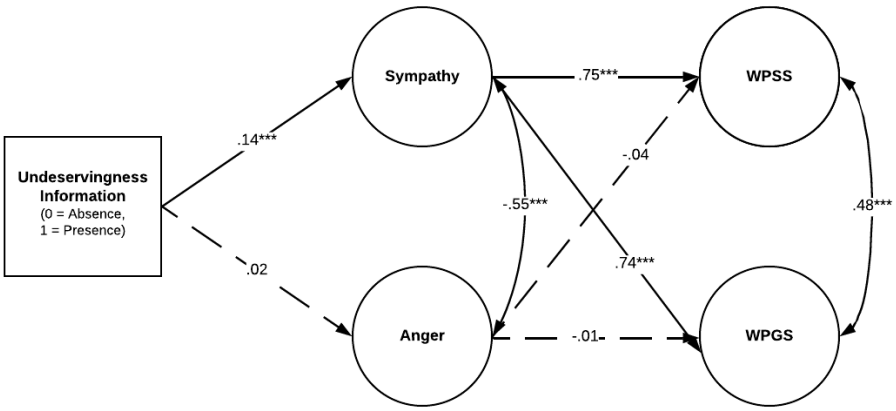
Model	χ^2/df	CFI	RMSEA	SRMR	AIC
Measurement	3.83	0.958	.068 [.063, .073]	0.034	796.231
Hypothesized	5.92	0.907	.090 [.085, .094]	0.060	1552.437
Respecified	3.55	0.958	.064 [.059, .070]	0.033	818.935

Note. χ^2/df = model chi-square to degrees of freedom ration; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean residual; AIC = Akaike information criterion.

Respecifications were made to the hypothesized model by removing the non-significant paths from lack of responsibility and the interaction term to sympathy and anger (see Figure 6). Results indicated that the respecified model was a good fit of the observed data, χ^2 (202, N = 615) = 716.94, $p < .001$. Undeservingness predicted sympathy, $\beta = .14$, $p < .001$, but not anger, $\beta = .02$, $p = .579$. In turn, sympathy predicted WPSS, $\beta = .75$, $p < .001$, and WPGS, $\beta = .74$, $p < .001$. Anger did not significantly predict WPSS, $\beta = -.04$, $p = .248$, or WPGS, $\beta = -.01$, $p = .731$. Comparison of the fit indices between the hypothesized and respecified model indicates that the respecified model is more parsimonious and a more superior fit of the observed data (see Table 6 for model fit indices). Follow-up analyses also revealed that undeservingness had a significant indirect effect on WPSS, $B = 2.41$, $p = .001$, and WPGS, $B = 3.43$, $p = .001$ through sympathy.

Figure 6

Study 3 Respecified SEM Model



Note. WPSS = willingness to provide social support; WPGS = willingness to provide general support. Solid lines indicate significant paths and dashed lines indicate non-significant paths. Manifest variables are depicted in squares and latent variables in circles. Significant paths are marked with solid lines and non-significant paths are marked with dashed lines.

Follow-up analyses, though not pre-registered, were conducted with DPSA as a single, multicategorical variable (comparison, responsibility, deservingness, combination) to assess the effect of each DPSA, relative to one another, on sympathy and anger. Results indicated an overall effect of DPSA, $F(6, 1222) = 3.00$, $p = .006$, $\eta_p^2 = .015$. There was a significant main effect of DPSA on sympathy, $F(3,611) = 3.94$, $p = .008$, $\eta_p^2 = .019$, but not anger, $F(3, 611), = .67$, $p = .573$, $\eta_p^2 = .003$. Participants who viewed the undeservingness ($M = 84.20$, $SD = 14.13$) and combination DPSAs ($M = 82.72$, $SD = 15.91$) reported more sympathy compared to those who viewed the lack of responsibility ($M = 79.10$, $SD = 17.16$) and control DPSAs ($M = 79.10$, $SD = 16.89$).

Results (Individuals with Elevated Depressive Symptoms)

Exploratory analyses were conducted to examine the effect of lack of responsibility, undeservingness, and their interaction, on help-seeking attitudes and intentions among individuals with elevated depressive symptomology. No covariates were used in the analyses. Results indicated that emphasizing lack of responsibility in a DPSA did not have a significant effect on attitudes, $F(1, 81) = .06$, $p = .810$, general help-seeking intentions, $F(1, 81) = .57$ $p = .453$, or global help-seeking intentions, $F(1, 81) = 2.74$, $p = .102$. Those who viewed the lack of responsibility DPSA reported similar levels of attitudes ($M = 5.45$, $SD = .23$), general help-seeking intentions ($M = 4.07$, $SD = .20$), and global help-seeking intentions ($M = 3.77$, $SD = .27$), compared to those who viewed a video that did not mention lack of responsibility ($M_{attitudes} = 5.38$, $SD_{attitudes} = .21$; $M_{general} = 3.87$, $SD_{general} = .18$; $M_{global} = 4.37$, $SD_{global} = .24$).

Emphasis on undeservingness also did not lead to differences in attitudes, $F(1, 81) = .01$, $p = .926$, general help-seeking intentions, $F(1, 81) = .74$, $p = .393$, or global help-seeking intentions, $F(1, 81) = 2.29$, $p = .134$. Those who viewed a DSPA that mentioned undeservingness reported similar levels of attitudes ($M = 5.40$, $SE = .22$), general help-seeking intentions ($M = 3.85$, $SE = .19$), and global help-seeking intentions ($M = 3.80$, $SD = .25$) as those who viewed a DPSA that did not mention undeservingness ($M_{attitudes} = 5.43$, $SD_{attitudes} = .22$; $M_{general} = 4.09$, $SD_{general} = .20$; $M_{global} = 4.34$, $SD_{global} = .26$). Similarly, the lack of responsibility by undeservingness interaction did not have a significant effect on attitudes, $F(1, 81) = 1.50$, $p = .225$, general help-seeking intentions, $F(1, 81) = .001$, $p = .972$, or global help-seeking intentions, $F(1, 81) = .45$, $p = .506$.

Discussion

Study 3 tested whether emphasizing lack of responsibility and undeservingness in DPSAs

could produce more favorable responses toward people with depression. Results demonstrated that DPSAs proffering that individuals with depression are not responsible for their illness did not lead to differences in feelings of sympathy or anger. This finding replicates those reported in Ruybal and Siegel (2021) where a DPSA about the controllability of postpartum depression did not lead to differences in emotional responses toward a loved one with the illness. These non-significant results, however, do not indicate a lack of support for theoretical propositions of attribution theory.

Several studies have demonstrated that presenting depression as uncontrollable, relative to controllable, produces more favorable responses (e.g., Yao & Siegel, 2020). This notion also has been supported consistently in other contexts (see Rudolph et al., 2004 for a meta-analytic review), and there are some notable reasons for why the effect of responsibility may not have been significant in the current study. For example, people generally do not perceive others as responsible for their depression, as indicated by Study 1 findings. Further, highlighting this belief via a DPSA was insufficient to alter people's emotional reactions. The current study also did not use a comparison condition where depression is presented as controllable (and thus, the individual with the illness is responsible) because campaigns would not communicate such a message. It is likely that studies involving more controllable behaviors or a contrasting condition would yield different results. The current study underscores the importance of testing theoretical constructs without the use of a contrasting condition (e.g., controllable vs. uncontrollable), when appropriate, to avoid creating a false dichotomy (see Muschetto & Siegel, 2020 and Ruybal & Siegel, 2021 for additional tests of this method).

Results from the pilot tests also suggested that people do not believe others are deserving of their illness. Nevertheless, emphasizing this belief in a DPSA led to more sympathy, which

was associated with greater willingness to help. The undeservingness DPSA likely made this belief more salient than they otherwise would have been, which motivated more favorable responses. This reasoning aligns with agenda setting theory (McCombs & Shaw, 1972), which proposes that mass media can influence the salience of attitudes toward an issue. Follow-up analyses also revealed that the undeservingness and combination DPSAs increased sympathy relative to the lack of responsibility and comparison DPSAs. This finding further conveys the value of deservingness as a campaign approach. The undeservingness message can be a successful appeal on its own, or used to enhance the effects of other messages (i.e., lack of responsibility, which only differed from the combination DPSA by six words).

In the current study, anger did not significantly predict willingness to provide social or general support. The non-significant relationship between anger and helping judgments also has been revealed in prior studies (Muschetto & Siegel, 2020; Ruybal & Siegel, 2021). One plausible explanation of this finding is that people are less willing to express anger toward a loved one with depression. Alternatively, anger may be less predictive of helping judgments than sympathy, as Weiner (2014) has noted that, "the positive relation between sympathy and help exceeds the association between anger and lack of help; that is, pro-social behavior is more promoted by a pro-social emotion than it is inhibited by an antisocial emotion" (p. 24).

The effect of undeservingness identified in this study is consistent with deservingness theory's (Feather, 1999) proposition that undeserved negative outcomes (i.e., depression) elicit sympathy. Although the design of prior studies has made it a challenge to determine the effect of deservingness on emotional responses, independent of the effect of responsibility (e.g., Feather & Dawson, 1998), this study demonstrated the effectiveness of a deservingness manipulation using DPSAs. The deservingness ad differed from the control ad only by two sentences, yet this

minor difference was significant to produce differences in sympathy and subsequent helping judgments. Follow-up analyses also indicated that the undeservingness and combination DPSAs led to more sympathy than the lack of responsibility and comparison DPSAs, indicating that the addition of undeservingness information can augment the effect of lack of responsibility ads.

Rather than follow the standard convention of excluding participants with depressive symptomology (e.g., Muschetto & Siegel, 2020; Ruybal & Siegel, 2021), the current study maximized the utility of the collected data by having these participants complete a separate set of outcome measures. This approach was taken out of concern for any potentially negative effects on individuals with depression who may process the DPSAs with a negative bias (Wisco, 2009). That is, viewing an ad that states, "no one deserves to feel depressed" may have the opposite effect and prompt individuals with depression to think they are deserving of their illness. Given that well-intended campaigns have produced untoward effects among individuals with depression (e.g., Siegel et al., 2019), the current study also assessed the effect of the DPSAs among individuals with elevated depressive symptomology for assurance that the messages did not cause undue harm. Results of these exploratory analyses indicated that the DPSAs did not have a significant effect on help-seeking attitudes or intentions. These findings indicate that messages about undeservingness were influential among individuals *without* elevated depressive symptomology but did not have mirroring effects among those with elevated symptomology. The non-significant findings among individuals with depression further highlights the challenge of persuading this population to seek help (Straszewski & Siegel, 2021), but also suggest that the DPSAs used in the current study did not lead to iatrogenic effects.

Overall, findings from Study 3 provided insight on the utility of deservingness in an applied setting. Results from the pilot tests indicated that the undeservingness DPSA did not lead

to lower judgments of deservingness, yet results from the main study provided evidence that this message led to more sympathy and in turn, greater willingness to help. Furthermore, the undeservingness DPSA ad only differed from the control ad by two sentences. This construct has been studied in a variety of social justice contexts (Feather, 2005) but has rarely been investigated in the context of mental illness. Prior investigations also have been limited to vignette manipulations using opposing conditions (deserved vs. undeserved; Feather et al., 2011), but the current study tested a new application of this construct (i.e., DPSAs) without the use of a contrasting condition. Additionally, the design of the study did not rely on manipulating perceived responsibility to alter judgments of deservingness. The fact that the undeservingness DSPA, but not the lack of responsibility DPSA, led to more sympathy suggests the value of manipulating the construct of deservingness directly as opposed to using responsibility manipulations as a proxy. Findings from this study helped enhance the ecological validity of Study 2 results and provided theoretical guidance for the development of future antistigma campaigns designed to increase support to people with depression.

Chapter 7: General Discussion

The current research, guided by two theoretical perspectives, investigated a potential avenue for increasing support to individuals with depression. Attribution theory (Weiner, 1980) has been highly influential in the study of mental health stigma (Corrigan et al., 2000; Corrigan et al., 2003), and based on this framework, shifting beliefs about mental illness (i.e., depression) from controllable to uncontrollable reduces perceived responsibility and increases prosocial responses (e.g., sympathy and help-giving; Weiner, 2012). Applications of deservingness theory have been less common in comparison, though the theory also proposes that deservingness is related to sympathy. Therefore, understanding how deservingness judgments influence emotional responses to others' misfortunes could have implications for antistigma research. According to deservingness theory (Feather, 1994), judging others as deserving of their misfortune elicits feelings of pleasure whereas undeservingness judgments produce feelings of sympathy. Following this theoretical rationale, emphasizing the undeservingness of others' depression is expected to increase sympathy, and by extension, help-giving tendencies (Weiner, 1980). The current research tested this premise across three studies while attempting to disentangle the effects of deservingness from that of responsibility. These efforts have not been undertaken in the past and represent key contributions to the field.

Three studies were conducted to assess how beliefs about deservingness relate to emotional responses toward and willingness to help others with depression. Deservingness judgments often have been conflated with perceived responsibility in prior studies, and some scholars have speculated that the effect of deservingness may be moderated by perceptions of responsibility (e.g., Lupfer & Gingrich, 1999). Therefore, the current research assessed the effect of both cognitive appraisals to establish their unique and combined effect on emotional responses

and helping judgments. Study 1 was a correlational study to examine the relatedness of all outcome variables in the context of depression. Research has found that some people hold others responsible for their illness (e.g, Corrigan & Miller, 2004; Yokoya et al., 2018); however, relatively little is known about the extent people judge others as deserving of their illness and how this belief relates to emotional reactions and helping judgments. Study 2 varied the extent others are perceived as responsible and deserving of their depression via the use of vignettes and examined the differential effects on emotional reactions and helping judgments. A more stringent test was conducted in Study 3 using DPSAs that did or did not mention lack of responsibility and undeserving as opposed to using contrasting conditions (deserved vs. undeserved). The study also evaluated the effectiveness of these DPSAs for individuals with and without elevated depressive symptomology. Study 3 increased the ecological validity of Study 2 by testing the potential value of deservingness as a campaign approach.

Study 1 measured deservingness, responsibility, affective responses and helping judgments. Findings revealed that deservingness did not have a significant effect on sympathy or anger when tested as a dual predictor alongside responsibility. However, there was a positive relationship between perceived responsibility and deservingness, a replication of prior deservingness research (Feather, 1992). Additionally, the simple correlations among deservingness, emotional responses, and helping judgments mirrored that of perceived responsibility. The similar patterns of relationships identified in the current study are line with literature that suggests perceived responsibility and judgments of deservingness are co-occurring appraisals (Feather, 1999). That is, people tend to be judged as deserving of outcomes for which they are responsible.

Both deservingness and responsibility were negatively associated with sympathy and

willingness to help, but positively associated with anger and schadenfreude. Past studies have indicated a similar pattern of relationships among these variables. For example, Feather (2008) found that perceived responsibility for and deservingness of failure were negatively associated with sympathy. Deservingness of failure also was positively correlated with schadenfreude. Similarly, Feather (1996) found that perceived responsibility for an offense (e.g., plagiarism, shoplifting) was positively associated with deservingness of penalty, and both appraisals were negatively associated with sympathy toward the offender. This research extended the study of deservingness to a new domain (i.e., depression), and findings are consistent with studies from other research contexts, revealing that people have a propensity to form deservingness judgments in a range of situations.

By establishing how deservingness relates to the range of attribution-related variables, Study 1 provided the necessary foundation for subsequent experimental manipulations of the two cognitive appraisals. Study 2 experimentally varied perceived responsibility of action (i.e., decision to stop taking antidepressants) and deservingness of outcomes (degree to which depressive symptoms returned) to examine the causal effect of these appraisals on emotional responses and subsequent helping judgments. This approach is relatively uncommon as prior studies tend to manipulate deservingness by varying perceived responsibility or other attribution-related constructs (e.g., Feather & Deverson, 2000; Feather & Sherman, 2002). For example, vignettes used in Feather and Sherman varied whether a high or average achiever expended high or low effort in class and failed the year-end exam because they partied the night before or because the exam questions were difficult. Another set of vignettes (Feather & Deverson, 2000) varied whether a car accident was caused by a driver traveling at high speed or slippery road conditions caused by heavy rain. The use of these manipulations is methodically sound given the

empirical evidence for the effect of responsibility on deservingness. One drawback of this approach, however, is the inability to tease apart the effects of deservingness from that of responsibility. Other scholars have recognized this limitation and called for additional research to disentangle the effects of these two constructs (Lupfer & Gingrich, 1999).

In service of answering this call, Study 2 manipulated both responsibility and deservingness using vignettes. This procedure was one of the first known method of manipulating responsibility and deservingness separately in the same study, which generated clarity about the effect of deservingness. Responsibility of action was varied using information about the clarity of the doctor's instructions, and deservingness of outcome was varied with information about the severity of symptoms that returned. Prior research has examined the concept of deservingness in many ways (e.g., deservingness of help, deservingness of penalty). The decision to use deservingness of outcome in Study 2 vignettes was guided by the courtroom metaphor "the punishment must fit the crime" (Weiner, 2006), suggesting that beliefs in proportionality may be an important determinant of deservingness judgments. Therefore, a person who stops their medication and experiences the same symptoms as they did before (proportional) is likely to be judged as more deserving of that outcome compared to a person who experiences symptoms that are significantly more severe than they were before (disproportional) who is judged as less deserving.

Findings revealed that responsibility and deservingness judgments are antecedents of emotional responses to others with depression. In line with attribution theory (Weiner, 1980) participants felt more sympathy, less anger and by extension were more willing to help when others were perceived as less (vs. more) responsible for the return of their depressive symptoms. The responsibility-emotion-help link has been found consistently in prior research (see Rudolph

et al., 2004 for meta-analysis of attribution theory and help-giving studies). Study 2 findings also demonstrated that people responded with more sympathy, less anger, and subsequently greater willingness to help when others were perceived as undeserving (vs. deserving) of the return of their depressive symptoms. These findings align with predictions of deservingness theory (Feather, 1999), and were identified with a direct manipulation of deservingness rather than through changing ascriptions of responsibility. The first two studies contributed to the literature by extending deservingness theory to a new domain and demonstrating that deservingness, influences emotional reactions and subsequent helping judgments independent of perceived responsibility.

Study 3 applied responsibility and deservingness principles to the development of DPSAs designed to increase support for people experiencing depression. Findings from the first two studies revealed that *lack of* responsibility and *un*deservingness judgments produce more favorable responses (more sympathy, less anger, greater willingness to help) relative to responsible and deserved judgments. These findings provided initial evidence that conveying that depression is undeserved may be a valuable campaign approach. However, it was imperative to extend this finding and determine whether this approach is superior to an existing approach (e.g., emphasis on lack of responsibility) or no approach (e.g., comparison message that did not mention lack of responsibility or undeservingness). Therefore, Study 3 was conducted to assess the presence and absence of lack of responsibility and undeservingness information on emotional responses and helping judgments.

The procedures employed in Study 3 enhanced the ecological validity of prior findings and yielded implications for the use of contrasting conditions. The common practice of prior research has been to create opposing conditions (deserved vs. undeserved) and assess their

differential effects on a range of outcomes (e.g., Feather & Deverson, 2000; Feather & Sherman, 2002). This method is most appropriate for theory testing and proof of concept studies such as Study 2 but is less suitable for applied settings. For example, it would be of limited value to know that a message that presents depression as undeserved is more effective than one that conveys depression is deserved. The use of opposing conditions creates a false comparison group in this context as campaigns would not implement such an approach. A true comparison group would be the general public and their pre-existing beliefs rather than a group of people primed to think depression is deserving (e.g., Ruybal & Siegel, 2021). Therefore, Study 3 compared the presence of lack of responsibility and undeservingness information to the absence of such information.

Data from the two pilot tests indicated that the DPSAs did not lead to differences in perceived responsibility or deservingness. Further, results of the main study revealed that messages stating people are not responsible for their depression (vs. absence of lack of responsibility information) did not alter feelings of sympathy and anger. This finding replicates that of Ruybal and Siegel (2021) where an uncontrollable DPSA, compared to a control DPSA (i.e., no mention of uncontrollability), did not significantly predict sympathy or anger toward a loved one with postpartum depression. However, it is unclear whether these DPSAs led to differences in perceived responsibility as this effect was not assessed. These results communicate the importance of using a true comparison, when appropriate, as opposed to a contrasting condition, which may lead to misleading results. Though unconventional, this method represents a more rigorous test that is likely to produce more reliable findings.

The effect of deservingness was detected using a contrasting condition in Study 2 and a comparison condition in Study 3. The presence (vs. absence) of undeservingness information

increased sympathy, which was associated with greater willingness to provide social and general support. This finding is noteworthy given that results from the pilot tests indicated that people generally do not believe others are deserving of their depression. The DPSA likely made this existing belief more salient, thus resulting in more favorable responses. Unlike Study 2, Study 3 represents a more stringent test of deservingness by not using opposing conditions. The method was essential for theory testing in Study 2, however, lacks the realism required in Study 3. Results demonstrated that including two sentences about how others do not deserve to feel depressed was a successful approach to increase support to individuals with the illness.

This study also explored how individuals with depression respond to these DPSAs, an important component as previous campaigns have produced iatrogenic effects (see Siegel et al., 2019). Findings revealed that the DPSAs did not lead to differences in help-seeking attitudes or intentions. This is an important finding that suggests the messages tested did not have a negative effect on individuals with depression who tend to process messages differently (Beck, 1967). Individuals with depression may not be the intended audience of some DPSAs, but nonetheless, there is a great likelihood they also will be exposed to the message. Given that there is no method of preventing individuals with depression from seeing ads for which they are not the intended recipient, it is imperative to assess and determine that these messages will not lead to any unintended adverse effects.

In summary, this set of studies integrated two theoretical frameworks to identify an avenue for increasing support for individuals with depression. The current research contributed to the literature by disentangling the effects of responsibility and deservingness and revealed that deservingness judgments influence emotional responses independent of perceived responsibility. This is a rare finding given that prior studies often vary deservingness by manipulating perceived

responsibility (e.g., Feather, 1996; Feather et al., 2011). The current research also tested two forms of manipulations (i.e., written vignettes and DPSAs), both of which produced significant effects of deservingness on emotional responses. Altogether, the current studies yielded theoretical clarity on the construct of deservingness, revealed the potential value of deservingness as a novel campaign approach, and shed light on several important methodological considerations.

Limitations

Findings from the current studies should be interpreted with consideration of some research limitations. First, this research focused exclusively on negative outcomes because according to attribution theory, these events are more likely to elicit a causal search (Weiner, 1986). Future researchers may be interested in studying perceived responsibility, deservingness judgments, and emotional responses to positive outcomes. The current research also is specific to depression and how to increase favorable responses to people with the illness. Although attribution theory has been highly influential in this field (Corrigan et al., 2000; Weiner et al., 1998), deservingness has rarely been studied in this context. Additional research would be necessary to determine whether these findings are generalizable to other negative outcomes (e.g., physical ailments, failure) or other mental illness conditions.

There also are methodological areas of this research that could be enhanced by future studies. For example, the lack of responsibility/undeserving DPSA presented messages about undeservingness before that of lack of responsibility. It may be worthwhile to investigate whether the effect of deservingness would have been attenuated if the lack of responsibility message preceded the undeservingness message. Data for this research were obtained exclusively online using MTurk. Although this platform is a useful tool for efficient data collection

(Buhrmester et al., 2011), research in other settings are necessary to demonstrate the reliability of the current findings. Based on Weiner's (1980) cognitive-emotion-action model, deservingness was investigated as an antecedent of emotional responses in conjunction with perceived responsibility. However, the role of deservingness has been unclear prior studies. Deservingness has been investigated as an outcome of responsibility (Feather, 2006) as well as an outcome of both responsibility and sympathy (Tscharaktschiew & Rudolph, 2016). As such, additional research is needed to clarity the role of deservingness in relation to these variables.

Lastly, prior research has found some moderators of the effect of deservingness. For example, well-liked people are judged as less deserving of negative outcomes compared to those who are disliked (Feather & Dawson, 1998). The current study only tested responsibility as a potential moderator of deservingness, but other moderators worthwhile of consideration include moral character (Feather & Atchinson, 1998) and in-group/out-group status (Feather, 1996). Prior studies may have been limited to investigations of deservingness as an outcome of responsibility because the nature their research paradigms (i.e., responsibility manipulations). However, future research can continue to explore new ways of manipulating deservingness that does not involve altering perceived responsibility. Applications of the deservingness appeal in a campaign setting also may be a fruitful area for future research.

Conclusion

The current research integrated two theoretical perspectives to generate clarity about the concept of deservingness and test a relatively innovative approach for increasing support to individuals with depression. Findings provided empirical support for the position that responsibility and deservingness are distinct constructs despite their inherent relatedness. The paradigm of prior research has created a challenge for teasing apart the effect of deservingness

from that of responsibility. However, the current studies revealed two successful manipulations of deservingness using two different modes of experimental stimuli that did not rely on changing ascriptions of responsibility. Results demonstrated that judgments of deservingness, much like that of responsibility, are predictive of emotional responses and subsequent helping tendencies.

The current research represents one of the first known applications of deservingness theory to the context of depression with practical implications for deservingness as a campaign approach. Findings revealed that highlighting that people are undeserving of their depression increased sympathy while emphasis on lack of responsibility did not. This is a critical finding as changing ascriptions of responsibility has been used as a campaign approach (NAMI, 2006), though findings from the current study suggest this may not be the most beneficial strategy. The current research demonstrated that a minimal manipulation using two sentences to convey that no one deserves to feel depressed was successful at increasing favorable responses toward others with depression, even though most people already held this belief. This strategy also may help to augment the effects of existing campaigns focused on lack of responsibility. Additionally, there was no evidence that this approach led to untoward effects among individuals with depression, an area of important consideration as well-intended campaign efforts have backfired. Findings from these studies can be used to guide future basic research on deservingness theory and applied research on campaign development.

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Appendix A

Written Vignettes

High Responsibility/Deserved

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor emphasized how important it was to take the medication every day and told ${Name/ChoiceTextEntryValue} several times not to stop taking the medication for any reason. The doctor also warned that if ${Name/ChoiceTextEntryValue} stopped their medication, the depression may come back to the same level as they were before. ${Name/ChoiceTextEntryValue} confirmed that they fully understood these instructions and would follow them.

${Name/ChoiceTextEntryValue}'s symptoms improved at first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned to how they were before**.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **The doctor felt they were very clear with their instructions and did not know what more they could have said to make sure ${Name/ChoiceTextEntryValue} took their medication**.

High Responsibility/Undeserved

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor emphasized how important it was to take the medication every day and told ${Name/ChoiceTextEntryValue} several times not to stop taking the medication for any reason. The doctor also warned that if ${Name/ChoiceTextEntryValue} stopped their medication, the depression may come back to the same level as they were before. ${Name/ChoiceTextEntryValue} confirmed that they fully understood these instructions and would follow them.

${Name/ChoiceTextEntryValue}'s symptoms improved at first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned and were so much worse**

than they were before. ${Name/ChoiceTextEntryValue} was overwhelmed with sadness, could not eat or sleep, and often wished they were no longer alive.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **Even though the doctor was very clear with their instructions, they never could have imagined ${Name/ChoiceTextEntryValue}'s depression would become this bad**. **In the doctor's opinion, these symptoms were beyond severe and more debilitating than what anyone would have anticipated**.

Low Responsibility/Deserved

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor gave ${Name/ChoiceTextEntryValue} the medication before leaving the room and **quickly mentioned that ${Name/ChoiceTextEntryValue} should not stop taking the medication**.

${Name/ChoiceTextEntryValue}'s symptoms improved at
first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned to how they were before**.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **The doctor felt they were not as clear with their instructions. They should have taken more time to explain the importance of taking the medication every day and should have confirmed that ${Name/ChoiceTextEntryValue} fully understood the instructions**.

Low Responsibility/Undeserved

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor gave ${Name/ChoiceTextEntryValue} the medication before leaving the room and **quickly mentioned that ${Name/ChoiceTextEntryValue} should not stop taking the medication**.

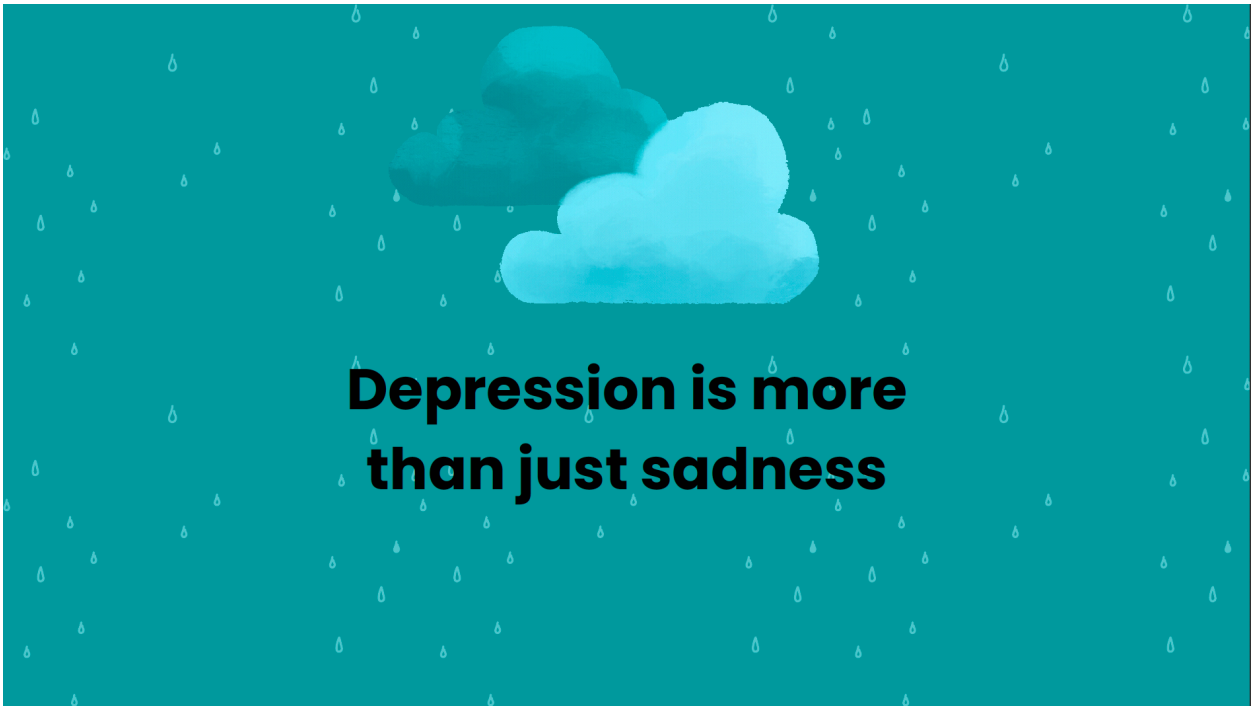
${Name/ChoiceTextEntryValue}'s symptoms improved at first.
${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then

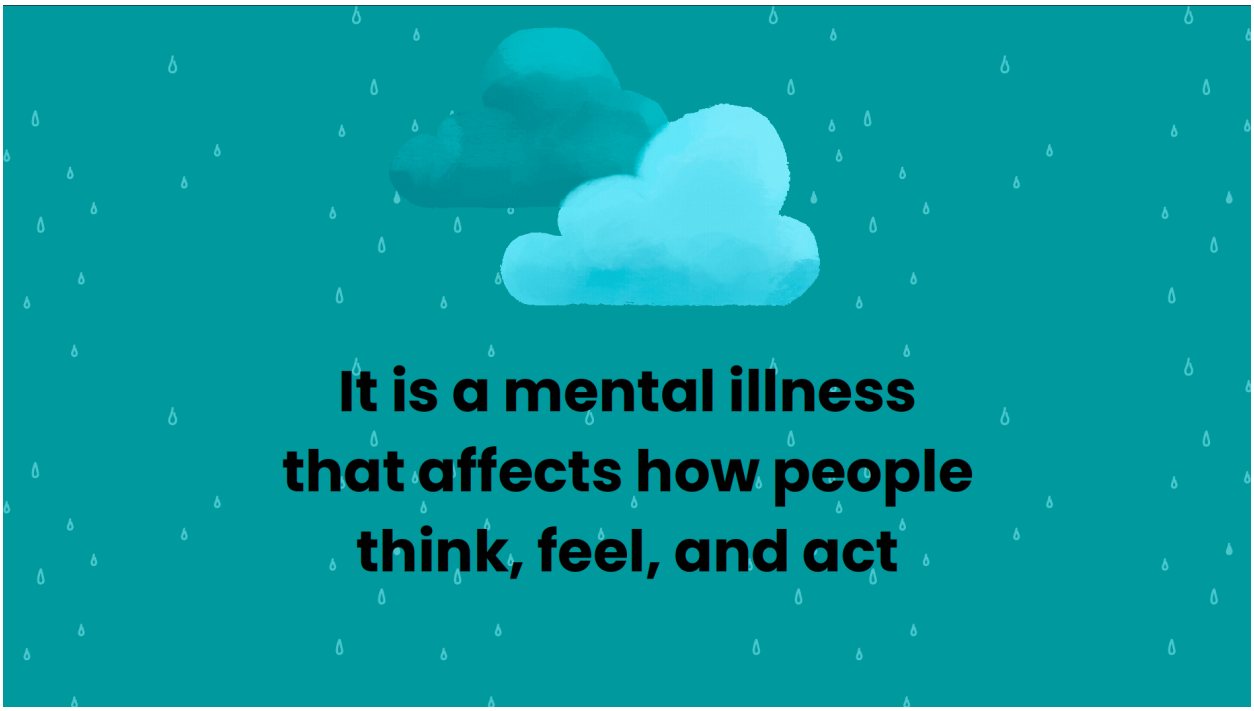
${Name/ChoiceTextEntryValue}'s depression symptoms returned and were so much worse than they were before. ${Name/ChoiceTextEntryValue} was overwhelmed with sadness, could not eat or sleep, and often wished they were no longer alive.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **The doctor felt they were not as clear with their instructions. They should have taken more time to explain the importance of taking the medication every day and should have confirmed that ${Name/ChoiceTextEntryValue} fully understood the instructions. The doctor also never could have imagined ${Name/ChoiceTextEntryValue}'s depression would become this bad. In the doctor's opinion, these symptoms were beyond severe and more debilitating than what anyone would have anticipated**.

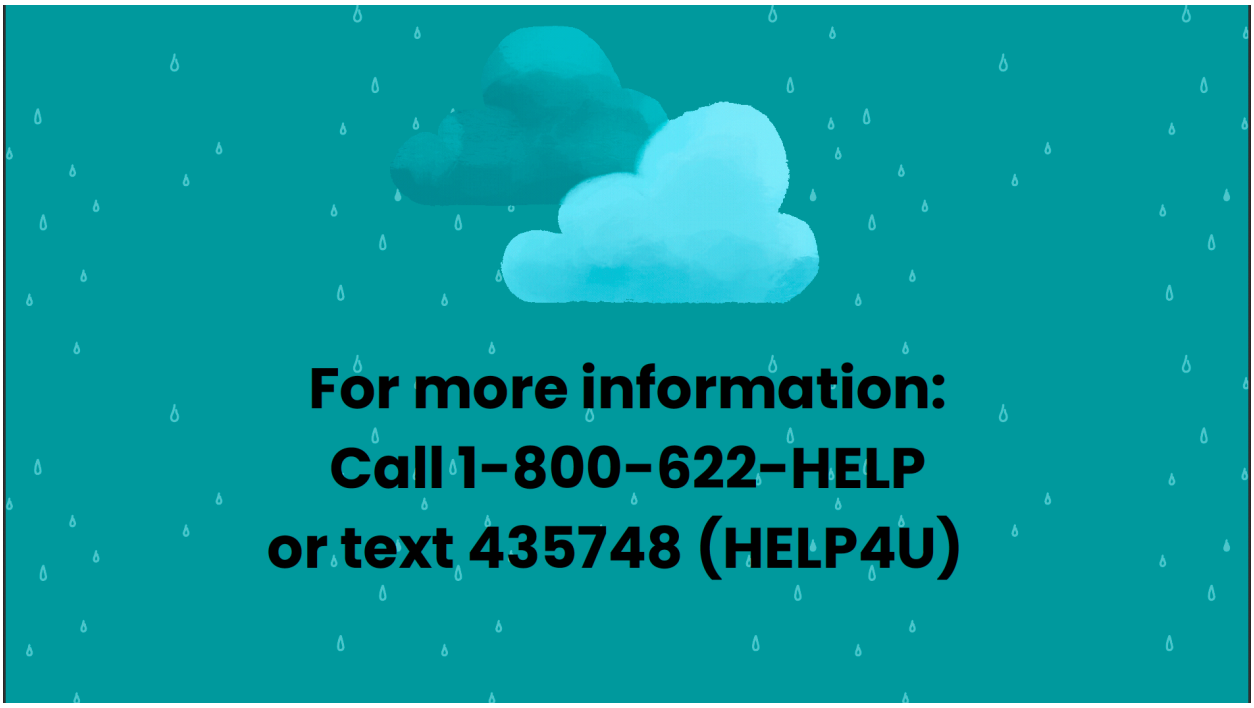
Appendix B

Text of DPSAs

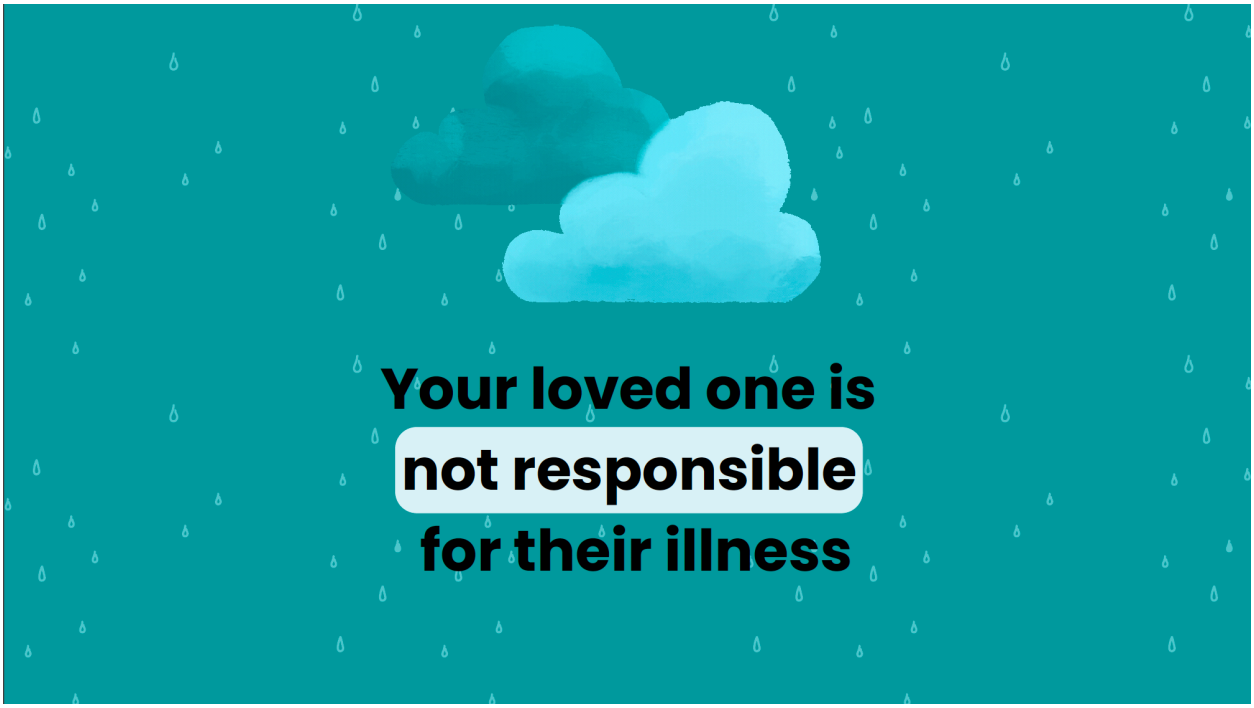



It is a mental illness
that affects how people
think, feel, and act


Please consider reaching
out to your loved one
with depression


For more information:
Call 1-800-622-HELP
or text 435748 (HELP4U)

Responsibility



Deservingness

Combination (Presence of Lack of Responsibility/Presence of Undeservingness)

Appendix C

Study 1 Data Collection Tool

Start of Block: ICF

AGREEMENT TO PARTICIPATE IN REACTIONS TO ANOTHER'S MISFORTUNES SURVEY (IRB # 4195)

You are invited to volunteer for a research project. Volunteering will not benefit you directly. If you volunteer, you will be asked to complete a survey. This will take approximately ten minutes your time. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason. Please continue reading for more information about the study.

Study Leadership: This research project is led by Tara Parnitvithikul, a doctoral student of psychology at Claremont Graduate University (CGU), and supervised by Jason T. Siegel, a professor of psychology at CGU.

Purpose: The purpose of this research is to study how people react to others' misfortunes.

Eligibility: To be in this study, you must be 18 years of age or older, residing in the United States, and registered on Amazon's Mechanical Turk (MTurk).

Participation: During the study, you will be asked to read some information about depression and complete a survey about how you may respond to an individual with the illness. For example, "How responsible are people for having depression?" You also will be asked about how you have been feeling in the past two weeks and basic demographic information. The average completion time for this survey is between eight to ten minutes.

Risks of Participation: The risks that you run by taking part in this study are minimal. The risks include possible discomfort from answering sensitive questions about depression.

Benefits of Participation: We **do not** expect the study to benefit you personally. This study will benefit the researchers by advancing knowledge about how people react toward others with depression.

Compensation: You will be compensated $0.75 for your participation and will be paid within 3 days of completing the survey.

Voluntary Participation: Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU.

Confidentiality: Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but we will not reveal your identity with it. In order to protect the confidentiality of your responses, we will store all data files securely on a password-protected computer, use random ID codes for your responses, and only report group level statistics.

Further Information: If you have any questions or would like additional information about this study, please contact Tara Parnitvithikul at Tara.Parnitvithikul@cgu.edu. You may also contact Jason T. Siegel at Jason.Siegel@cgu.edu. If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at irb@cgu.edu. You may print and keep a copy of this consent form.

Consent: Clicking the "Yes" entry below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

- ○ Yes, I consent to participate.
- ○ No, I do not consent to participate.

End of Block: ICF

Start of Block: Welcome-Depression

Please complete the captcha below before proceeding to the survey.

Page Break

Thank you in advance for taking time to complete the following survey. Please answer each question as **truthfully** as possible. There are no right or wrong answers, and your responses will be kept **confidential**. The most important aspect of this survey is your **honesty**.

Page Break

Please take a moment to read about what someone with depression may experience:
Someone with depression feels sad or empty for most of the day, nearly everyday. A person with depression may also have difficulties making decisions, concentrating, and/or sleeping too much or too little. Someone with depression is likely to experience a loss of interest in things

that were once enjoyable. They may also experience feelings of guilt and hopelessness. These symptoms can interfere with work, home, and social life.

End of Block: Welcome-Depression

Start of Block: Responsibility

People have different beliefs about whether others are at fault for feeling depressed. We are curious about your thoughts. Remember, your responses are confidential.

I think it is the person's own fault that they feel depressed.

- ○ Not at all at fault (1)
- ○ (2)
- ○ (3)
- ○ (4)
- ○ (5)
- ○ (6)
- ○ Very much at fault (7)

How *uncontrollable* or *controllable* is the cause of someone feeling depressed?

- Completely uncontrollable (1)
- (2)
- (3)
- (4)
- (5)
- (6)
- Completely controllable (7)

How responsible is someone for feeling depressed?

- Not at all responsible (1)
- (2)
- (3)
- (4)
- (5)
- (6)
- responsible (7)

End of Block: Responsibility

Start of Block: Deservingness

People have different beliefs about whether others deserve to feel depressed. We are curious

about your thoughts. Remember, your responses are confidential.

Please indicate the extent you believe someone deserves to feel depressed.

- ○ Not at all deserved (1)
- ○ (2)
- ○ (3)
- ○ (4)
- ○ (5)
- ○ (6)
- ○ Very much deserved (7)

Please indicate the extent you believe it is justified for someone to feel depressed.

- ○ Not at all justified (1)
- ○ (2)
- ○ (3)
- ○ (4)
- ○ (5)
- ○ (6)
- ○ Very much justified (7)

Please indicate the extent you believe it is fair for someone to feel depressed.

- ○ Not at all fair (1)
- ○ (2)
- ○ (3)
- ○ (4)
- ○ (5)
- ○ (6)
- ○ Very much fair 7

End of Block: Deservingness

Start of Block: Sympathy & Anger

Imagine you have just spent an extensive amount of time with someone who feels depressed. Please tell us the extent you would feel the following emotions toward them.

	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100

Tenderness	
Endearment	
Understanding	
Annoyance	
Bothered	
Impatient	
Kindness	
Anger	
Warmth	
Frustration	

End of Block: Sympathy & Anger

Start of Block: Schadenfreude

Some people may experience pleasure at another's misfortune while others do not. Please indicate the extent you would feel the following emotions about someone having depression. Remember, your responses are confidential.

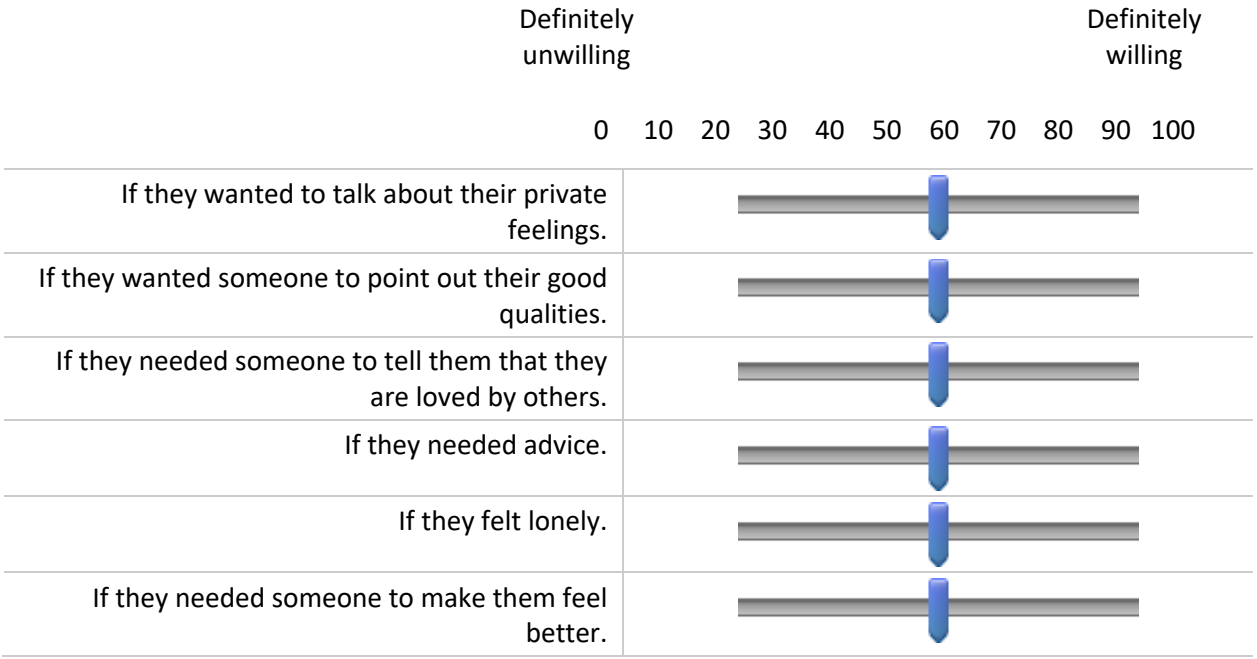
	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100
Pleasure											
Happy											
Satisfied											

End of Block: Schadenfreude

Start of Block: WPSS

Please indicate the extent you would be *unwilling* or *willing* to provide help in the following ways.

I would be willing to help someone with depression …

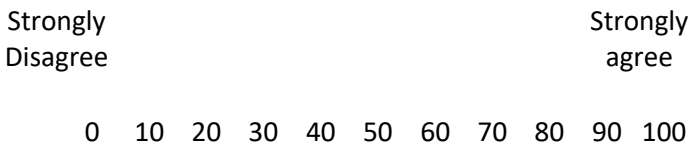


End of Block: WPSS

Start of Block: WPGS

We are interested in how little or how much you would be willing to help someone with depression.

Please indicate the extent you *disagree* or *agree* with the following statements.



I would be there for someone with depression no matter what they needed.	
I would make helping someone with depression one of my priorities.	
I would help someone with depression before I help others who need my help.	
I would help someone with depression for as long as they needed help.	
A person with depression would always be able to count on me.	

End of Block: WPGS

Start of Block: FITB

On the following page, there will be a question with a fill-in-the-blank response asking about your favorite beverage. Rather than answer the question, we would like you to copy and paste the following phrase into the text box: no ifs, ands, or buts.

Page Break

What is your favorite beverage?

_____

End of Block: FITB

Start of Block: PHQ

Over the last two weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
Little interest or pleasure in doing things	○	○	○	○
Feeling down, depressed, or hopeless	○	○	○	○
Trouble falling or staying asleep, or sleeping too much	○	○	○	○
Feeling tired or having little energy	○	○	○	○
Poor appetite or overeating	○	○	○	○
Feeling bad about yourself - or that you are a failure or have let yourself or your family down	○	○	○	○
Trouble concentrating on things, such as reading the newspaper or watching television	○	○	○	○
Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual	○	○	○	○

End of Block: PHQ

Start of Block: Demos

*

Please tell us a bit about yourself to help us organize your answers. Remember, all of your responses will be kept confidential.

What is your age?

_____

X→

How do you identify?

- ○ Man
- ○ Woman
- ○ Non-Binary
- ○ Prefer to self-describe: _____
- ○ Prefer not to answer

What is your ethnicity?

- ☐ African American
- ☐ Asian/ Pacific Islander
- ☐ Caucasian
- ☐ Hispanic/ Latino
- ☐ Native American
- ☐ Other _____

Page Break

Please answer honestly when responding to the questions below. You will still be compensated regardless of how you respond.

Complete this sentence by selecting the most appropriate response: "I gave this study _____."

- ○ almost none of my attention
- ○ very little of my attention
- ○ some of my attention
- ○ most of my attention
- ○ all of my attention

Please think about your response above. In your honest opinion, should we use your data in our analyses?

- ○ No
- ○ Yes

Did you have any other issues or concerns while answering the questions (e.g., technical difficulty)? Feel free to include your comments in the space below.

_____

End of Block: Demos

Start of Block: Debrief

Thank you for participating in this study! We hope you enjoyed the experience. This form provides background about our research to help you learn more about why we conducted this study. Please feel free to ask any questions or comment on any aspect of the study.

This research will help us understand how to increase support for people with depression. In most cases, social support can be a critical component in the recovery process. If you know someone with depression, please consider reaching out to them. If you are experiencing depression, please consider seeking help.

We are aware that some of the questions on this survey asked you to think about sensitive topics. Below are a series of resources for your reference. We encourage you to contact one of these services for support should you feel discomfort or indicate feelings of depression.

National Suicide Prevention Lifeline
1-800-273-8255

Crisis Textline
Text HOME to 741741 / http://crisistextline.org

National Alliance on Mental Illness
https://www.nami.org

Depression and Bipolar Support Alliance
https://dbsalliance.org

The Trevor Project
Text START to 678678 / https://www.thetrevorproject.org

Page Break

Your MTurk Completion Code is:

MANY ${rand://int/1000000:9999999} THANKS

Please click the >> button to submit your survey!

End of Block: Debrief

Appendix D

Study 2 Data Collection Tool

Start of Block: Consent

AGREEMENT TO PARTICIPATE IN REACTIONS TO ANOTHER'S MISFORTUNES SURVEY
(IRB # 4323)

You are invited to volunteer for a research project. Volunteering will not benefit you directly. If you volunteer, you will be asked to complete a survey. This will take approximately 10 minutes of your time. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason. Please continue reading for more information about the study.

Study Leadership: This research project is led by Tara Parnitvithikul, a doctoral student of psychology at Claremont Graduate University (CGU), and supervised by Jason T. Siegel, a professor of psychology at CGU.

Purpose: The purpose of this research is to study how people react to others' misfortunes.

Eligibility: To be in this study, you must be 18 years of age or older, residing in the United States, and registered on Amazon's Mechanical Turk (MTurk).

Participation: During the study, you will be asked to read some information about depression and complete a survey about how you may respond to an individual with the illness. For example, "I would be willing to help if they wanted to talk about their private feelings?" The average completion time for this survey is approximately 10 minutes.

Risks of Participation: The risks that you run by taking part in this study are minimal. The risks include possible discomfort from answering sensitive questions about depression.

Benefits of Participation: We **do not** expect the study to benefit you personally. This study will benefit the researchers by advancing knowledge about how people react toward others with depression.

Compensation: You will be compensated $0.75 for your participation and will be paid within 3 days of completing the survey.

Voluntary Participation: Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU.

Confidentiality: Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but we will not reveal your identity with it. In order to protect the confidentiality of your responses, we will store all data files securely on a password-protected computer, use random ID codes for your responses, and only report group level statistics.

Further Information: If you have any questions or would like additional information about this study, please contact Tara Parnitvithikul at Tara.Parnitvithikul@cgu.edu or (909) 291-9129. You may also contact Jason T. Siegel at Jason.Siegel@cgu.edu or (520) 975-6264. The CGU IRB has certified this study as exempt. If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at irb@cgu.edu. You may print and keep a copy of this consent form.

Consent: Clicking the "Yes" entry below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

- ○ Yes, I consent to participate. (1)
- ○ No, I do not consent to participate. (2)

End of Block: Consent

Start of Block: BotCheck

Please complete the captcha below to begin.

Page Break

Please complete the following task before proceeding to the survey.

1. Please drag and drop **Thor** into **Avengers**
2. Please drag and drop **Flash** into **Justice League**
3. Please drag and drop **Aquaman** into **Justice League**
4. Please drag and drop **Hulk** into **Avengers**

Avengers	Justice League
_____ Thor (1)	_____ Thor (1)
_____ Flash (2)	_____ Flash (2)
_____ Aquaman (3)	_____ Aquaman (3)
_____ Hulk (4)	_____ Hulk (4)

End of Block: BotCheck

Start of Block: Name

Thank you in advance for taking time to complete the following survey. Please answer each question as truthfully as possible.

There are no right or wrong answers, and your responses will be kept confidential. The most important aspect of this survey is your honesty.

Page Break

Do you know someone who has depression?

- ○ No (1)
- ○ Yes (2)

Display This Question:

If Do you know someone who has depression? = No

We understand that not everyone will know someone who has depression. For this survey, please think of someone you know and imagine they have depression.

Page Break

*

Please tell us the first name of this person with depression:

_____

Page Break

*

Please also tell us your relationship with ${Name/ChoiceTextEntryValue}.

${Name/ChoiceTextEntryValue} is my:

_____

End of Block: Name

Start of Block: HR_NUD

Please read the information below carefully and imagine ${Name/ChoiceTextEntryValue} is going through this situation. You will be asked questions about this information.

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor emphasized how important it was to take the medication every day and told ${Name/ChoiceTextEntryValue} several times not to stop taking the medication for any reason. The doctor also warned that if ${Name/ChoiceTextEntryValue} stopped their medication, the depression may come back to the same level as they were before. ${Name/ChoiceTextEntryValue} confirmed that they fully understood these instructions and would follow them.

${Name/ChoiceTextEntryValue}'s symptoms improved at first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned to how they were before**.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their

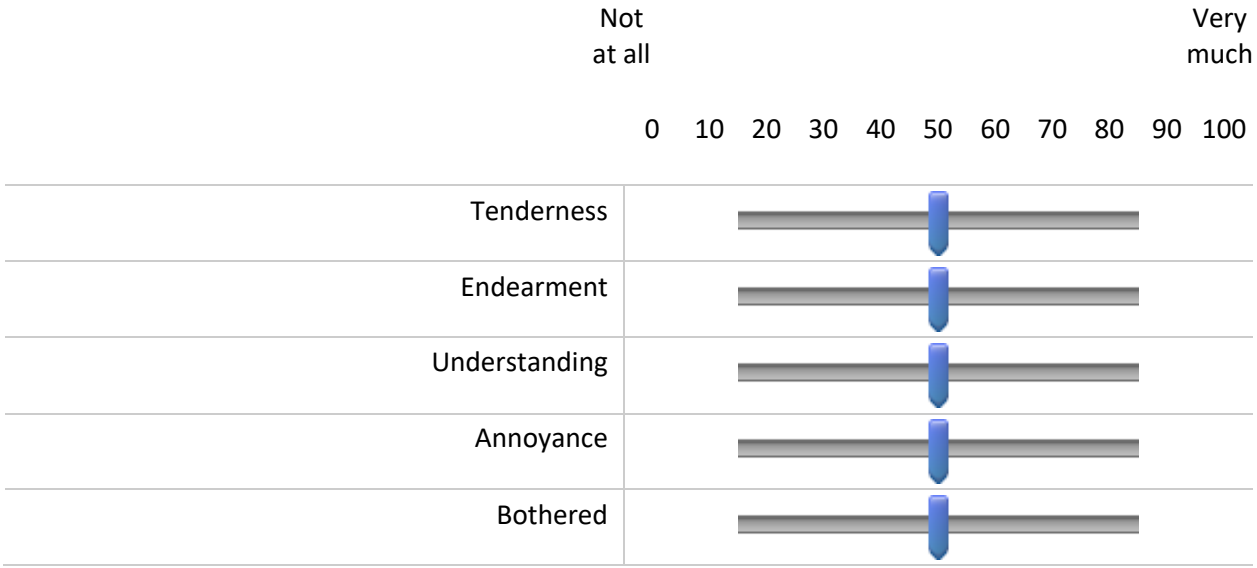
system. **The doctor felt they were very clear with their instructions and did not know what more they could have said to make sure ${Name/ChoiceTextEntryValue} took their medication**.

End of Block: HR_NUD

Start of Block: Sympathy & Anger_HR_NUD

Please think of the story you read. Recall that ${Name/ChoiceTextEntryValue} stopped their medication even though the doctor told them not to stop.
Now ${Name/ChoiceTextEntryValue}'s symptoms have returned to how they were before.

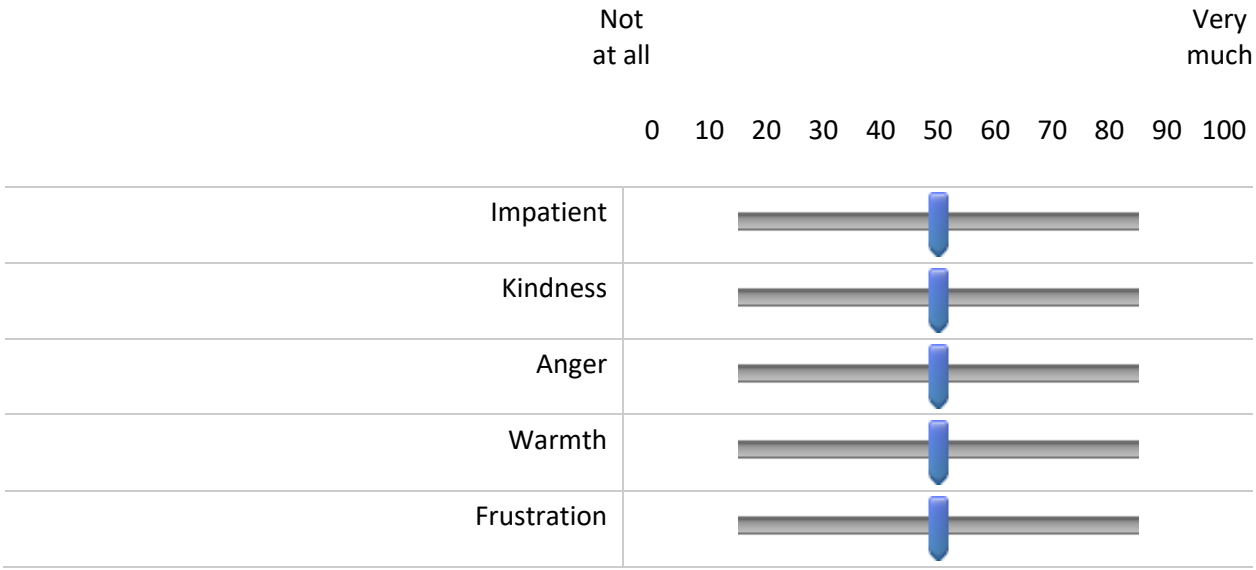
Now, please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.



Page Break

Please continue to recall that ${Name/ChoiceTextEntryValue} stopped their medication even though the doctor told them not to stop. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned to how they were before.

Please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.



End of Block: Sympathy & Anger_HR_NUD

Start of Block: HR_UD

Please read the information below carefully and imagine ${Name/ChoiceTextEntryValue} is going through this situation. You will be asked questions about this information.

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor emphasized how important it was to take the medication every day and told ${Name/ChoiceTextEntryValue} several times not to stop taking the medication for any reason. The doctor also warned that if ${Name/ChoiceTextEntryValue} stopped their medication, the depression may come back to the same level as they were before. ${Name/ChoiceTextEntryValue} confirmed that they fully understood these instructions and would follow them.

${Name/ChoiceTextEntryValue}'s symptoms improved at first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned and were so much worse than they were before**. ${Name/ChoiceTextEntryValue} was overwhelmed with sadness, could not eat or sleep, and often wished they were no longer alive.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **Even though the doctor was very clear with their instructions, they never could have imagined ${Name/ChoiceTextEntryValue}'s depression would become this bad**. **In the doctor's opinion, these symptoms were beyond severe and more debilitating than what anyone would have anticipated**.

End of Block: HR_UD

Start of Block: Sympathy & Anger_HR_UD

Please think of the story you read. Recall that ${Name/ChoiceTextEntryValue} stopped their medication even though the doctor told them not to stop. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned and are so much more severe than they were before.

Now, please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.

	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100

Tenderness	
Endearment	
Understanding	
Annoyance	
Bothered	

Page Break

Please continue to recall that ${Name/ChoiceTextEntryValue} stopped their medication even though the doctor told them not to stop. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned and are so much more severe than they were before.

Please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.

	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100
Impatient											
Kindness											
Anger											
Warmth											
Frustration											

End of Block: Sympathy & Anger_HR_UD

Start of Block: LR_NUD

Please read the information below carefully and imagine ${Name/ChoiceTextEntryValue} is going through this situation. You will be asked questions about this information.

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor gave ${Name/ChoiceTextEntryValue} the medication before leaving the room and **quickly mentioned that ${Name/ChoiceTextEntryValue} should not stop taking the medication**.

${Name/ChoiceTextEntryValue}'s symptoms improved at first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned to how they were before**.

The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **The doctor felt they were not as clear with their instructions. They should have taken more time to explain the importance of taking the medication every day and should have confirmed that ${Name/ChoiceTextEntryValue} fully understood the instructions**.

End of Block: LR_NUD

Start of Block: Sympathy & Anger_LR_NUD

Please think of the story you read. Recall that ${Name/ChoiceTextEntryValue} stopped their medication but the doctor was unclear with their instructions. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned to how they were before.

Now, please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.

	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100

Tenderness	
Endearment	
Understanding	
Annoyance	
Bothered	

Page Break

Please continue to recall that ${Name/ChoiceTextEntryValue} stopped their medication but the doctor was unclear with their instructions. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned to how they were before.

Please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.

	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100
Impatient											
Kindness											
Anger											
Warmth											
Frustration											

End of Block: Sympathy & Anger_LR_NUD

Start of Block: LR_UD

Please read the information below carefully and imagine ${Name/ChoiceTextEntryValue} is going through this situation. You will be asked questions about this information.

${Name/ChoiceTextEntryValue} has been feeling sad and empty, has little interest, trouble sleeping, difficulty concentrating and making decisions. ${Name/ChoiceTextEntryValue} also feels guilty and hopeless. ${Name/ChoiceTextEntryValue} was diagnosed with mild to moderate depression and prescribed antidepressants for treatment of their symptoms.

The doctor gave ${Name/ChoiceTextEntryValue} the medication before leaving the room and **quickly mentioned that ${Name/ChoiceTextEntryValue} should not stop taking the medication**.

${Name/ChoiceTextEntryValue}'s symptoms improved at first. ${Name/ChoiceTextEntryValue} started feeling happier, sleeping better, and spending more time with friends. Things were this way for a couple of months, but then **${Name/ChoiceTextEntryValue}'s depression symptoms returned and were so much worse than they were before**. ${Name/ChoiceTextEntryValue} was overwhelmed with sadness, could not eat or sleep, and often wished they were no longer alive.

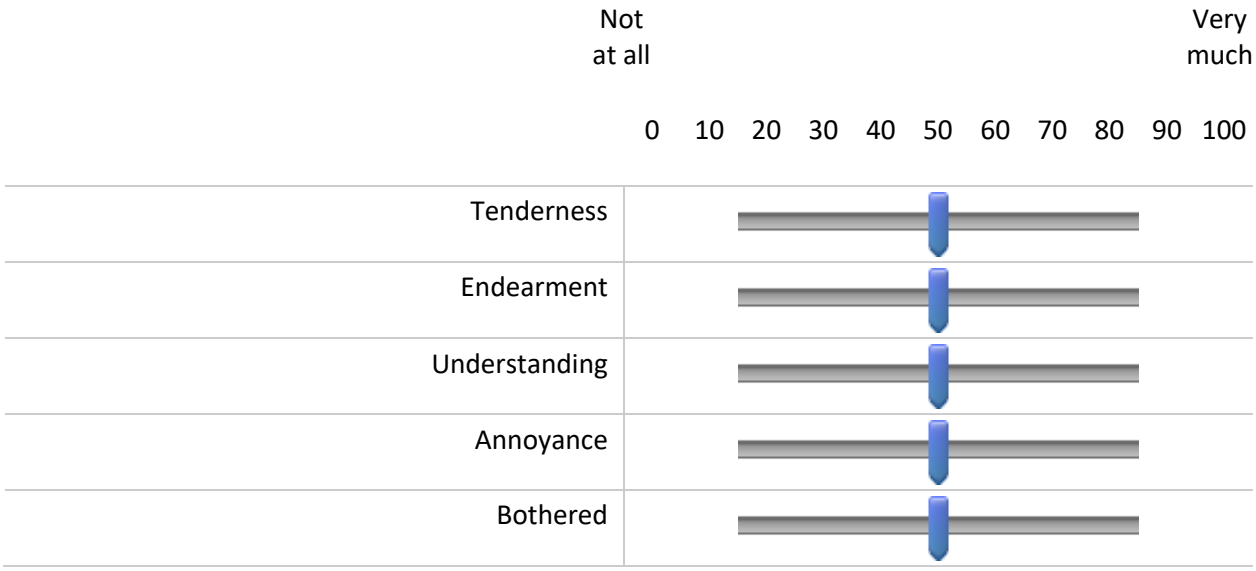
The doctor ran a blood test and realized that ${Name/ChoiceTextEntryValue} must have stopped taking their medicine because the test showed that they had no medication in their system. **The doctor felt they were not as clear with their instructions. They should have taken more time to explain the importance of taking the medication every day and should have confirmed that ${Name/ChoiceTextEntryValue} fully understood the instructions. The doctor also never could have imagined ${Name/ChoiceTextEntryValue}'s depression would become this bad. In the doctor's opinion, these symptoms were beyond severe and more debilitating than what anyone would have anticipated**.

End of Block: LR_UD

Start of Block: Sympathy & Anger_LR_UD

Please think of the story you read. Recall that ${Name/ChoiceTextEntryValue} stopped their medication but the doctor was unclear with their instructions. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned and are so much more severe than they were before.

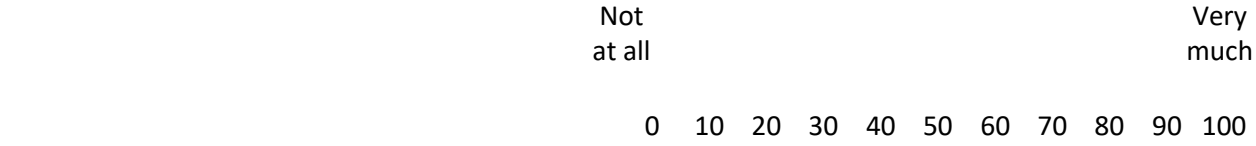
Now, please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.



Page Break

Please continue to recall that ${Name/ChoiceTextEntryValue} stopped their medication but the doctor was unclear with their instructions. Now ${Name/ChoiceTextEntryValue}'s symptoms have returned and are so much more severe than they were before.

Please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue}.



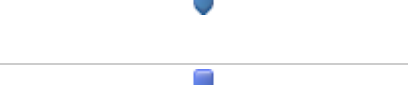
Impatient	
Kindness	
Anger	
Warmth	
Frustration	

End of Block: Sympathy & Anger_LR_UD

Start of Block: WPSS

Please indicate the extent you would be *unwilling* or *willing* to provide help in the following ways.

I would be willing to help ${Name/ChoiceTextEntryValue} …

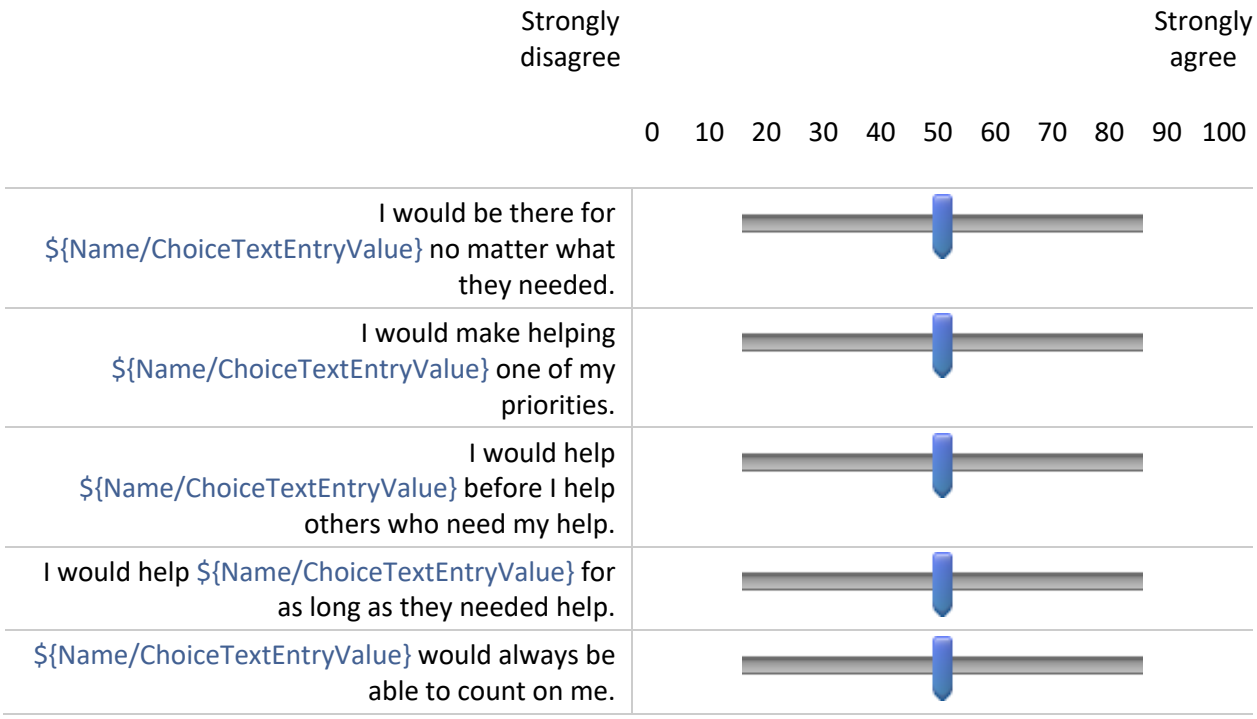
	Definitely unwilling										Definitely willing
	0	10	20	30	40	50	60	70	80	90	100
…if ${Name/ChoiceTextEntryValue} wanted to talk about their private feelings.											
…if ${Name/ChoiceTextEntryValue} wanted someone to point out their good qualities.											
…if ${Name/ChoiceTextEntryValue} needed someone to tell them that they are loved by others.											
…if ${Name/ChoiceTextEntryValue} needed advice.											
…if ${Name/ChoiceTextEntryValue} felt lonely.											
…if ${Name/ChoiceTextEntryValue} needed someone to make them feel better.											

End of Block: WPSS

Start of Block: WPGS

We are interested in how little or how much you would be willing to help ${Name/ChoiceTextEntryValue}.

Please indicate the extent you *disagree* or *agree* with the following statements.



End of Block: WPGS

Start of Block: Schadenfreude

Please read these instructions carefully before proceeding to the next set of questions.

People experience different emotional reactions to others' misfortunes. Although some misfortunes give rise to feelings of sympathy, others can bring about feelings of pleasure. For example, think of a corrupt politician who lost an election or an overachieving student who is caught cheating. In these situations, people may experience satisfaction in response to these outcomes, and psychological research has shown that these types of emotions are quite normal.

Page Break

Now, please think about ${Name/ChoiceTextEntryValue}, whose depression symptoms have returned, and tell us the extent you would feel the following emotions. Remember, your responses are confidential.

When I think of how ${Name/ChoiceTextEntryValue}'s depression symptoms returned, I feel …

End of Block: Schadenfreude

Start of Block: FITB

On the following page, there will be a question with a fill-in-the-blank response asking about your favorite beverage. Rather than answer the question, we would like you to copy and paste or type the following phrase into the text box: cool as a cucumber

Page Break

What is your favorite beverage?

_____

End of Block: FITB

Start of Block: PHQ

Thank you for all your responses so far, you are nearing the end of the survey.

We know you have been thinking about ${Name/ChoiceTextEntryValue} while answering questions but now, we would like to ask some questions about you. Please answer the remaining questions about yourself.

Page Break

Over the last two weeks, how often have you been bothered by any of the following problems?

	Not at all (0)	Several days (1)	More than half the days (2)	Nearly every day (3)
Little interest or pleasure in doing things (PHQ_1)	○	○	○	○
Feeling down, depressed, or hopeless (PHQ_2)	○	○	○	○
Trouble falling or staying asleep, or sleeping too much (PHQ_3)	○	○	○	○
Feeling tired or having little energy (PHQ_4)	○	○	○	○
Poor appetite or overeating (PHQ_5)	○	○	○	○
Feeling bad about yourself - or that you are a failure or have let yourself or your family down (PHQ_6)	○	○	○	○
Trouble concentrating on things, such as reading the newspaper or watching television (PHQ_7)	○	○	○	○
Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual (PHQ_8)	○	○	○	○

End of Block: PHQ

Start of Block: Demos

*

Please tell us a bit about yourself to help us organize your answers. Remember, all of your responses will be kept confidential.

What is your age?

_____

What do you identify as?

- ○ Man (1)
- ○ Woman (2)
- ○ Non-Binary (5)
- ○ Prefer to self-describe: (3) _____
- ○ Prefer not to answer (4)

What is your ethnicity?

- ☐ African American (1)
- ☐ Asian/ Pacific Islander (2)
- ☐ Caucasian (3)
- ☐ Hispanic/ Latino (4)
- ☐ Native American (5)
- ☐ Other (6) _____

Page Break

Please answer honestly when responding to the questions below. You will still be compensated regardless of how you respond.

Complete this sentence by selecting the most appropriate response:

"I gave this study _____ ."

- ○ almost none of my attention (1)
- ○ very little of my attention (2)
- ○ some of my attention (3)
- ○ most of my attention (4)
- ○ all of my attention (5)

Please think about your response above. In your honest opinion, should we use your data in our analyses?

- ○ No (1)
- ○ Yes (2)

Did you have any other issues or concerns while answering the questions (e.g., technical difficulty)? Feel free to include your comments in the space below.

_____

End of Block: Demos

Start of Block: Debrief

THANK YOU for participating in this study! We hope you enjoyed the experience. This form provides background about our research to help you learn more about why we conducted this study. Please feel free to ask any questions or comment on any aspect of the study.

This research will help us understand how to increase support for people with depression. In most cases, social support can be a critical component in the recovery process. If you know someone with depression, please consider reaching out to them. If you are experiencing depression, please consider seeking help.

We are aware that some of the questions on this survey asked you to think about sensitive topics including state of emotions, depression, and suicidality. Below are a series of resources for your reference. We encourage you to contact one of these services for support should you feel discomfort or indicate feelings of depression or suicidal ideation.

National Suicide Prevention Lifeline
988 / https://988lifeline.org

Crisis Textline
Text HOME to 741741 / http://crisistextline.org

National Alliance on Mental Illness
https://www.nami.org

Depression and Bipolar Support Alliance
https://dbsalliance.org

The Trevor Project
Text START to 678678 / https://www.thetrevorproject.org

Page Break

Your MTurk Completion Code is:

MerciBeaucoup${rand://int/1000000:9999999}

Please click the >> button to submit your survey!

End of Block: Debrief

Appendix E

Study 3 Data Collection Tools

AGREEMENT TO PARTICIPATE IN REACTIONS TO ANOTHER'S MISFORTUNES SURVEY
(IRB # 4345)

You are invited to volunteer for a research project. Volunteering will not benefit you directly. If you volunteer, you will be asked to complete a survey. This will take approximately 10 minutes of your time. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason. Please continue reading for more information about the study.

Study Leadership: This research project is led by Tara Parnitvithikul, a doctoral student of psychology at Claremont Graduate University (CGU), and supervised by Jason T. Siegel, a professor of psychology at CGU.

Purpose: The purpose of this research is to study how people react to others' misfortunes.

Eligibility: To be in this study, you must be 18 years of age or older, residing in the United States, and registered on Amazon's Mechanical Turk (MTurk).

Participation: During the study, you will be asked to view a video about depression and complete a survey about how you may respond to an individual with the illness, or whether you would seek help if you had depression. For example, "I would be willing to help if they wanted to talk about their private feelings?" or "If you were experiencing symptoms of depression, how unlikely or likely is it that you would seek help?" The average completion time for this survey is approximately 10 minutes.

Risks of Participation: The risks that you run by taking part in this study are minimal. The risks include possible discomfort from answering sensitive questions about depression.

Benefits of Participation: We **do not** expect the study to benefit you personally. This study will benefit the researchers by advancing knowledge about how people react toward others with depression.

Compensation: You will be compensated $0.75 for your participation and will be paid within 3 days of completing the survey.

Voluntary Participation: Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at CGU.

Confidentiality: Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but

we will not reveal your identity with it. In order to protect the confidentiality of your responses, we will store all data files securely on a password-protected computer, use random ID codes for your responses, and only report group level statistics.

Further Information: If you have any questions or would like additional information about this study, please contact Tara Parnitvithikul at Tara.Parnitvithikul@cgu.edu or (909) 291-9129. You may also contact Jason T. Siegel at Jason.Siegel@cgu.edu or (520) 975-6264. The CGU IRB has certified this study as exempt. If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at irb@cgu.edu. You may print and keep a copy of this consent form.

Consent: Clicking the "Yes" entry below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

- ○ Yes, I consent to participate. (1)
- ○ No, I do not consent to participate. (2)

End of Block: Consent

Start of Block: BotCheck

Please complete the captcha below to begin.

Page Break

Please complete the following task before proceeding to the survey.

1. Please drag and drop **Thor** into **Avengers**
2. Please drag and drop **Flash** into **Justice League**
3. Please drag and drop **Aquaman** into **Justice League**
4. Please drag and drop **Hulk** into **Avengers**

Avengers	Justice League
_____ Thor (1)	_____ Thor (1)
_____ Flash (2)	_____ Flash (2)
_____ Aquaman (3)	_____ Aquaman (3)
_____ Hulk (4)	_____ Hulk (4)

End of Block: BotCheck

Start of Block: PHQ

Thank you in advance for taking time to complete this survey. We would like to start by asking about how you have been feeling recently.

Please answer questions on the following page as truthfully as possible. There are no right or wrong answers, and your responses will be kept confidential. The most important aspect of this survey is your honesty.

Page Break

X→

Over the last two weeks, how often have you been bothered by any of the following problems?

Little interest or pleasure in doing things

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

X→

Feeling down, depressed, or hopeless

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

X→

Trouble falling or staying asleep, or sleeping too much

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

Feeling tired or having little energy

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

Page Break

Over the last two weeks, how often have you been bothered by any of the following problems?

Poor appetite or overeating

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

Feeling bad about yourself - or that you are a failure or have let yourself or your family down

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

Trouble concentrating on things, such as reading the newspaper or watching television

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual

- ○ Not at all (0)
- ○ Several days (1)
- ○ More than half the days (2)
- ○ Nearly every day (3)

End of Block: PHQ

Start of Block: Name

Do you know someone who has depression?

- ○ No (1)
- ○ Yes (2)

Display This Question:

If Do you know someone who has depression? = No

We understand that not everyone will know someone who has depression. For this survey, please think of someone you know (other thank yourself) and imagine they have depression.

Page Break

*

Please tell us the first name of this person with depression:

_____

Page Break

*

Please also tell us your relationship with ${Name/ChoiceTextEntryValue}.

${Name/ChoiceTextEntryValue} is my:

_____

End of Block: Name

Start of Block: VideoCheck

We will be asking you to watch a short video and want to make sure you are able to see and hear. This video has sound, so please make sure your speakers or headphones are working!

Please watch the entire clip. You will be asked questions about this video.

Page Break

What did you see in the video?

- ○ Food (0)
- ○ Wildlife (1)
- ○ Children (0)
- ○ Traffic (0)
- ○ There was no video (0)

What did you hear in the video?

- ○ Nature Sounds (0)
- ○ Music (1)
- ○ Car Noises (0)
- ○ Laughter (0)
- ○ There was no audio (0)
- ○ A narrator talking about climate change (0)

End of Block: VideoCheck

Start of Block: VideoInstructions

Next, we would like you to watch a short video about depression. We kindly ask that you watch the full video all at once.

Please pay close attention, as you will be asked questions about the video.

When you are ready, please advance to the next page and hit play to start the video. Thank you in advance for your attention!

End of Block: VideoInstructions

Start of Block: Control

End of Block: Control

Start of Block: Responsibility

End of Block: Responsibility

Start of Block: Deservingness

End of Block: Deservingness

Start of Block: Combo

End of Block: Combo

Start of Block: Sympathy & Anger

Now, please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue} if they were depressed.

	Not at all										Very much
	0	10	20	30	40	50	60	70	80	90	100

Tenderness	
Endearment	
Understanding	
Annoyance	
Bothered	

Page Break

Please tell us the extent you would feel the following emotions toward ${Name/ChoiceTextEntryValue} if they were depressed.

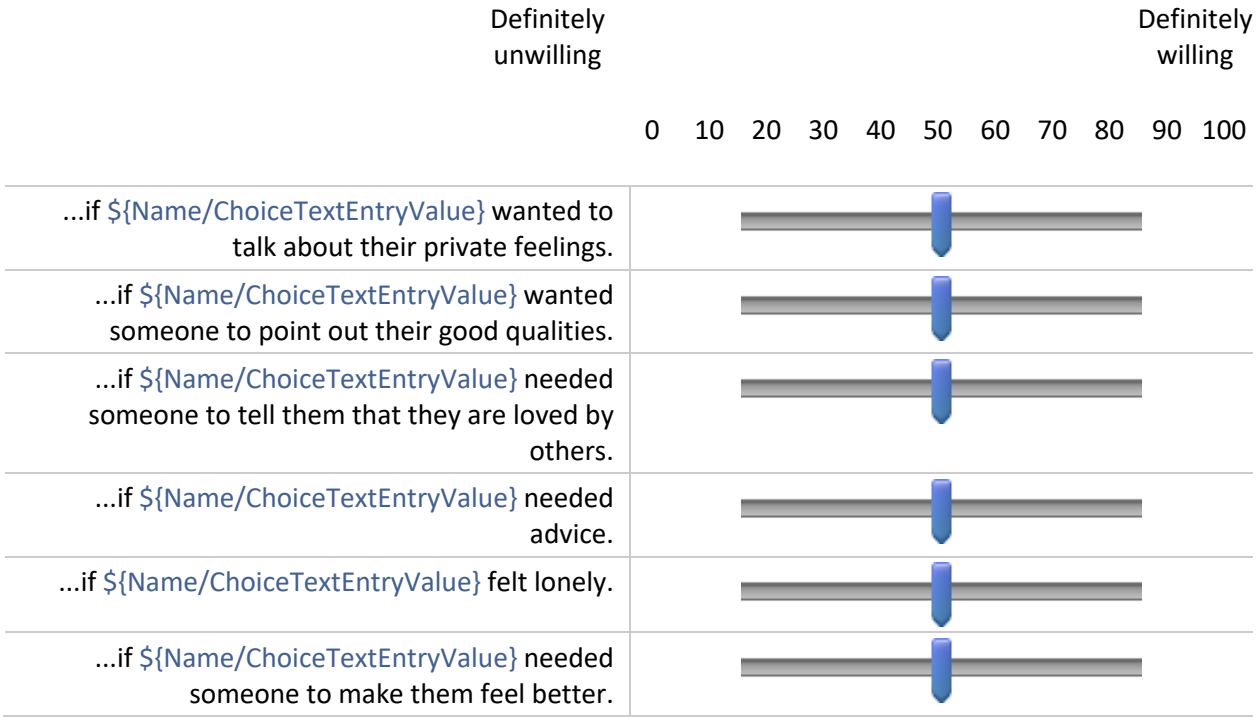
	Not at all 0 10 20 30 40 50 60 70 80 90 100 Very much
Impatient ()	
Kindness ()	
Anger ()	
Warmth ()	
Frustration ()	

End of Block: Sympathy & Anger

Start of Block: WPSS

Please indicate the extent you would be *unwilling* or *willing* to provide help in the following ways.

I would be willing to help ${Name/ChoiceTextEntryValue} …

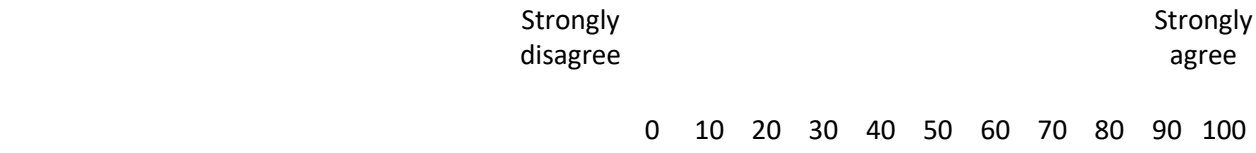


End of Block: WPSS

Start of Block: WPGS

We are interested in how little or how much you would be willing to help ${Name/ChoiceTextEntryValue}.

Please indicate the extent you *disagree* or *agree* with the following statements.



I would be there for ${Name/ChoiceTextEntryValue} no matter what they needed.	
I would make helping ${Name/ChoiceTextEntryValue} one of my priorities.	
I would help ${Name/ChoiceTextEntryValue} before I help others who need my help.	
I would help ${Name/ChoiceTextEntryValue} for as long as they needed help.	
${Name/ChoiceTextEntryValue} would always be able to count on me.	

End of Block: WPGS

Start of Block: FITB

On the following page, there will be a question with a fill-in-the-blank response asking about your favorite beverage. Rather than answer the question, we would like you to copy and paste or type the following phrase into the text box: so far so good

Page Break

What is your favorite beverage?

_____

End of Block: FITB

Start of Block: Demos

*

Please tell us a bit about yourself to help us organize your answers. Remember, all of your responses will be kept confidential.

What is your age?

_____

What do you identify as?

- ○ Man (1)
- ○ Woman (2)
- ○ Non-Binary (5)
- ○ Prefer to self-describe: (3) _____
- ○ Prefer not to answer (4)

What is your ethnicity?

- ☐ African American (1)
- ☐ Asian/ Pacific Islander (2)
- ☐ Caucasian (3)
- ☐ Hispanic/ Latino (4)
- ☐ Native American (5)
- ☐ Other (6) _____

Page Break

Please answer honestly when responding to the questions below. You will still be compensated regardless of how you respond.

Complete this sentence by selecting the most appropriate response:

"I gave this study _____ ."

- ○ almost none of my attention (1)
- ○ very little of my attention (2)
- ○ some of my attention (3)
- ○ most of my attention (4)
- ○ all of my attention (5)

Please think about your response above. In your honest opinion, should we use your data in our analyses?

- ○ No (1)
- ○ Yes (2)

Did you have any other issues or concerns while answering the questions (e.g., technical difficulty)? Feel free to include your comments in the space below.

_____

End of Block: Demos

Start of Block: Debrief

THANK YOU for participating in this study! We hope you enjoyed the experience. This form provides background about our research to help you learn more about why we conducted this study. Please feel free to ask any questions or comment on any aspect of the study.

This research will help us understand how to increase support for people with depression. In most cases, social support can be a critical component in the recovery process. If you know someone with depression, please consider reaching out to them. If you are experiencing depression, please consider seeking help.

We are aware that some of the questions on this survey asked you to think about sensitive topics including state of emotions, depression, and suicidality. Below are a series of resources for your reference. We encourage you to contact one of these services for support should you feel discomfort or indicate feelings of depression or suicidal ideation.

National Suicide Prevention Lifeline
988 / https://988lifeline.org

Crisis Textline
Text HOME to 741741 / http://crisistextline.org

National Alliance on Mental Illness
https://www.nami.org

Depression and Bipolar Support Alliance
https://dbsalliance.org

The Trevor Project
Text START to 678678 / https://www.thetrevorproject.org

Page Break

Your MTurk Completion Code is:

GrazieMille${rand://int/1000000:9999999}

Please click the >> button to submit your survey!

End of Block: Debrief

Start of Block: Depression FollowUp

Please rate the extent you believe you are currently depressed.

- ○ Not at all depressed 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ Extremely depressed 7 (7)

Page Break

Have you sought help for depression from anyone in the past 6 months (medical professional, parent, friend)?

- ○ No (1)
- ○ Yes (2)

Have you ever taken medication to treat symptoms of depression?

- ○ No (1)
- ○ Yes (2)

Are you currently taking medication to treat symptoms of depression?

- ○ No (1)
- ○ Yes (2)

End of Block: Depression FollowUp

Start of Block: VideoCheck

We will be asking you to watch a short video and want to make sure you are able to see and hear. This video has sound, so please make sure your speakers or headphones are working!

Please watch the entire clip. You will be asked questions about this video.

What did you see in the video?

- ○ Food (0)
- ○ Wildlife (1)
- ○ Children (0)
- ○ Traffic (0)
- ○ There was no video (0)

What did you hear in the video?

- ○ Nature Sounds (0)
- ○ Music (1)
- ○ Car Noises (0)
- ○ Laughter (0)
- ○ There was no audio (0)
- ○ A narrator talking about climate change (0)

End of Block: VideoCheck

Start of Block: VideoInstruction

Next, we would like you to watch a short video about depression. We kindly ask that you watch the full video all at once.

Please pay close attention, as you will be asked questions about the video.

When you are ready, please advance to the next page and hit play to start the video. Thank you in advance for your attention!

End of Block: VideoInstruction

Start of Block: Control

Page Break

End of Block: Control

Start of Block: Responsibility

Page Break

End of Block: Responsibility

Start of Block: Deservingness

End of Block: Deservingness

Start of Block: Combo

End of Block: Combo

Start of Block: Attitudes

Please think about seeking help for depression, and answer the question below.

If I were experiencing depression, seeking help would be...

	1	2	3	4	5	6	7	
Unhelpful	○	○	○	○	○	○	○	Helpful
Bad	○	○	○	○	○	○	○	Good
Negative	○	○	○	○	○	○	○	Positive
Worthless	○	○	○	○	○	○	○	Valuable
Foolish	○	○	○	○	○	○	○	Wise

End of Block: Attitudes

Start of Block: Intentions

Please indicate the extent you would be *unlikely* or *likely* to seek help from the following sources, if you were experiencing symptoms of depression.

	Extremely Unlikely 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	Extremely Likely 7 (7)
Romantic Partner (1)	○	○	○	○	○	○	○
Close Friend (2)	○	○	○	○	○	○	○
Parent (3)	○	○	○	○	○	○	○
Other Family Member (Excluding Parents) (4)	○	○	○	○	○	○	○
Mental Health Professional (Counselor/Psychologist) (5)	○	○	○	○	○	○	○
Website of a National Mental Illness Organization (6)	○	○	○	○	○	○	○
Primary Care Doctor/General Practitioner (7)	○	○	○	○	○	○	○

Page Break

X→

If you were experiencing symptoms of depression, how *unlikely* or *likely* is it that you would seek help from at least one person?

- ○ Very Unlikely 1 (1)
- ○ 2 (2)
- ○ 3 (3)
- ○ 4 (4)
- ○ 5 (5)
- ○ 6 (6)
- ○ Very Likely 7 (7)

End of Block: Intentions

Start of Block: FITB

On the following page, there will be a question with a fill-in-the-blank response asking about your favorite beverage. Rather than answer the question, we would like you to copy and paste or type the following phrase into the text box: so far so good

Page Break

What is your favorite beverage?

_____

End of Block: FITB

Start of Block: Demos

*

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- ☐ Caucasian (3)
- ☐ Hispanic/ Latino (4)
- ☐ Native American (5)
- ☐ Other (6) _____

Page Break

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Complete this sentence by selecting the most appropriate response:

"I gave this study _____ ."

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- ○ most of my attention (4)
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Please think about your response above. In your honest opinion, should we use your data in our analyses?

- ○ No (1)
- ○ Yes (2)

Did you have any other issues or concerns while answering the questions (e.g., technical difficulty)? Feel free to include your comments in the space below.

_____

End of Block: Demos

Start of Block: Debrief

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Text START to 678678 / https://www.thetrevorproject.org

Page Break

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GrazieMille${rand://int/1000000:9999999}

Please click the >> button to submit your survey!

End of Block: Debrief