Disentangling the Road to Compassionate Response to Suffering: A Multistudy Investigation

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Abstract

This multistudy investigation is focused on the analysis of theoretically relevant compassion-related appraisals (i.e., similarity with the person in need, attribution of responsibility, and help-related perceived efficacy) that may promote compassionate responses in the context of adversity. Study 1 ($N = 384$) revealed that a higher similarity with the person in need, lower attribution of responsibility, and higher help-related perceived efficacy were associated with increased compassion, which, in turn, was associated with a greater desire to help. Study 2 ($N = 319$) extended prior findings by examining whether this compassionate pathway could be modulated by perspective taking, which is the act of considering the feelings of others in need. Results showed that the compassionate pathway found in Study 1 seems to remain constant regardless of perspective-taking instructions (e.g., imagining how that person feels vs. remaining objective and detached). In this research, we point out a promising direction for interventions directed at enhancing compassion and prosocial tendencies in distressing contexts.

*Keywords*: compassion, prosocial behavior, similarity, responsibility attribution, help-related perceived efficacy
Reacting to the suffering of others with compassion might be an evolved ability essential to our development as individuals and as a society (Darwin, 1871; Goetz et al., 2010). The compassionate response is a key point in building social capital as it strengthens social bonds and cooperation (DeSteno, 2015; Li et al., 2018; Stellar et al., 2017). Furthermore, compassion has been shown not only to improve the welfare of the distressed person but also the well-being of those who express it (Klimecki et al., 2012; Mongrain et al., 2011).

Beyond the enormous social relevance and benefits of compassion, it becomes a major issue in times of crisis. For example, the COVID-19 pandemic has triggered an unprecedented socioeconomic crisis (Nicola et al., 2020). Levels of poverty and inequality have risen considerably, and millions of people have lost their jobs (Buheji et al., 2020), whereas general well-being and mental health have experienced remarkable declines (Otu et al., 2020). Facing a crisis of such magnitude, it has been argued that prosocial responses might play a catalytic role in recovery (Van Bavel et al., 2020).

The overarching goal of this research is to investigate compassion-related appraisals (i.e., similarity with the person in need, attribution of responsibility, and help-related perceived efficacy) that may foster compassion in response to others’ suffering. Moreover, we also tested whether these appraisals, by means of their association with compassion, could open an avenue for the promotion of prosocial behavior—as measured by the desire to help—in situations of need. Last, we also examined whether the relationships between appraisals, compassion, and desire to help can be modulated by perspective-taking instructions—that is, imagining how a person feels or remaining objective and detached.

**Compassion and Prosocial Tendencies**

Compassion has been defined as “the feeling that arises in witnessing another’s
suffering and that motivates a subsequent desire to help” (Goetz et al., 2010, p. 351). Apart from compassion, many terms have been used in the literature to refer to the subjective feeling arising from others’ suffering, such as sympathy, pity, empathy, and empathic concern (Goetz & Simon-Thomas, 2017). As its definition reveals, the motivation to help the distressed person is a core component of compassion (Ministero et al., 2018). Therefore, compassion has been labeled as a prosocial emotion (Stellar et al., 2015, 2017), reflecting its direct link to prosocial behavior (DeSteno, 2015). In this regard, researchers have stated that compassion enhances social support and caring (DeSteno, 2015; Stellar et al., 2017), which are at the basis of a welfare society.

Empirical research has highlighted a consistent and positive relationship between compassion and prosocial tendencies (Batson, 2011; DeSteno, 2015). For instance, a growing body of research has converged on the notion that, after subjects read a suffering scenario, greater compassion predicts a higher desire to help (Carrera et al., 2013; Goetz & Halgren, 2020). Following an experimental paradigm, studies have revealed that participants experiencing greater compassion for another ill-feeling participant were more willing to help that person by completing a task on their behalf (Lim & DeSteno, 2016; Valdesolo & DeSteno, 2011). Moreover, other researchers have associated higher levels of compassion with more charitable donations to nongovernmental organizations (NGOs) working with people in need (Ashar et al., 2016, 2017; Lim & DeSteno, 2016, 2020). Furthermore, earlier research has suggested that compassion training could enhance a helping behavior (Leiberg et al., 2011; Skwara et al., 2017).

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\(^1\) When these terms are conceptualized in a way that is comparable to the one presented for compassion in this research, the term compassion is employed to describe empirical evidence.
Appraisals of Compassion

Based on the positive social function of compassion, one might wonder which factors may favor this emotion over other possible responses in the event of difficulties. In accordance with appraisal theories of emotion (e.g., Ellsworth, 2013; Wondra & Ellsworth, 2015), other-oriented emotions are determined by evaluative interpretations of their situations (appraisals). In a widely cited review of literature on compassion, Goetz et al. (2010) proposed a model based on different appraisals that would be critical to the elicitation of compassion rather than other emotional responses to the suffering of others. In particular, the model describes how compassion may be shaped by appraisals of (a) the relevance of the sufferer to the observer, (b) the sufferer’s deservingness of help, and (c) the observer’s ability to cope with the situation at hand (Goetz et al., 2010; Stellar & Keltner, 2014). Moreover, due to the close relationship between compassion and prosocial tendencies, these appraisals of compassion might play a role in promoting prosocial behavior.

Relevance of the Sufferer to the Observer: Similarity With the Needy Person

The model describes how the observer feels more compassion when the needy person is more relevant to them (Goetz et al., 2010). In general, empirical evidence supports the model. For instance, manipulations of similarity (e.g., greater similarity with the distressed person) lead to increased compassion (Batson et al., 1981; Valdesolo & DeSteno, 2011). In a similar vein, Oveis et al. (2010) observed a positive relationship between perceived similarity with vulnerable others and compassion. Regarding prosocial tendencies, research has found that more help is provided to emotionally closer people (e.g., relatives) than to acquaintances or strangers (Cialdini et al., 1997; Goetz & Halgren, 2020; Greitemeyer et al., 2003).
**Sufferer’s Deservingness of Help: Attribution of Responsibility**

The model also illustrates that when the sufferer is judged more as worthy of help, the observer feels more compassion. For instance, if the victim is perceived as more responsible or having greater control over the situation of need, they will be judged as less worthy of help, thereby prompting a reduced compassionate response (Goetz et al., 2010). In a meta-analytic research, Rudolph et al. (2004) showed a consistently negative correlation between the responsibility attributed to the victim and compassion. Moreover, experimental manipulations of less perceived responsibility have resulted in higher compassion and greater willingness to help the person in need (Goetz & Halgren, 2020; Greitemeyer et al., 2003).

**Observer’s Ability to Cope With the Situation at Hand: Help-Related Perceived Efficacy**

According to Goetz et al. (2010), when the perceived ability to cope with the situation is greater, the observer feels more compassion. Empirical evidence has shown that as the number of victims increases—and therefore helping becomes more costly—the compassionate response diminishes (Butts et al., 2019). Furthermore, Cameron et al. (2019) found that increasing participants’ perceived self-efficacy in recognizing the suffering of others led them to engage more in a compassionate response. Thus, enhancing perceptions of self-efficacy could enhance compassion (Lim & DeSteno, 2020) and helping behaviors (Lim & DeSteno, 2020; Sharma & Morwitz, 2016).

**Can This Compassionate Pathway be Modulated by Perspective Taking?**

Under what circumstances might this compassionate pathway be enhanced or diminished? Broad evidence has indicated that perspective taking—the act of considering the feelings of needy others and adopting their perspectives in the face of their plight (Davis, 1980)—could affect a compassionate response.
A classic experimental manipulation of perspective taking lies in presenting different types of instructions to participants—for instance, imagine-other instructions, which require participants to concentrate on imagining how the distressed person described their feelings, or remain objective instructions, which require them to remain objective and detached (e.g., Batson et al., 1997; Batson et al., 2007). Research has shown that participants instructed to adopt the perspective of a person in need, as compared to those instructed to remain objective, are more inclined to show feelings of empathic concern (e.g., Batson et al., 2007).

It therefore follows that, under conditions of high (vs. low) perspective taking, individuals will be more prone to attend information relevant to emotion (i.e., appraisals; Gross & Barrett, 2011; Zaki, 2014). Thus, one might argue that the relationships of the level of similarity with the person in need, attribution of responsibility, help-related perceived efficacy with compassion, and desire to help might be amplified when individuals are instructed to imagine how the person described their feelings; by contrast, such associations would be attenuated under conditions of low perspective taking—that is, when individuals are instructed to remain objective or detached.

Drawing on the above reasoning, the current research is not only aimed at empirically validating Goetz et al.’s (2010) model but also testing whether high (vs. low) perspective taking constitutes a psychological mechanism that may facilitate the prosocial route proposed by that model.

**The Present Research**

Prior research has underlined appraisals of similarity with the needy person, attribution of responsibility, and help-related perceived efficacy as relevant approaches to compassion and prosocial tendencies. Nevertheless, Goetz et al. (2010) pointed out
that no research has yet examined the entire appraisal pattern related to compassion simultaneously. That is, as mentioned above, research has individually analyzed the relationship between each appraisal and compassion (e.g., Butts et al., 2019; Goetz & Halgren, 2020; Valdesolo & DeSteno, 2011), but, to the best of our knowledge, no empirical research has examined all three appraisals in the same study while also unraveling their contribution to the desire to help and the role of perspective taking. Consequently, further empirical exploration of this model is needed. In addition, this theoretical formulation could be taken a step further to illustrate how appraisals might relate to prosocial tendencies. In this regard, much of the evidence presented above suggests that compassion may represent a relevant mediator between appraisals and prosocial responses (e.g., Goetz & Halgren, 2020; Lim & DeSteno, 2020). Therefore, compassion-related appraisals might activate an emotional pathway to prosocial tendencies. We also reason that perspective taking could modulate the associations of appraisals with compassion and desire to help (Batson et al., 1997, 2007; Gross & Barrett, 2011; Zaki, 2014). In the present work, after exposing participants to a previously validated suffering scenario, we tested the relationships between the whole appraisal pattern described in Goetz et al.’s (2010) model, compassion, and prosocial tendencies (Study 1). Moreover, a mediational pathway in which appraisals may lead to prosocial tendencies via compassion was examined (Studies 1 and 2). Last, we also explored whether this compassionate pathway could be boosted by perspective taking (Study 2).

**Study 1**

The objective of Study 1 was to analyze the relationship between compassion and the pattern of appraisals described in Goetz et al.’s (2010) model. We also tested the possible mediating role of compassion in the appraisals—that is, the desire to help.
Method

Participants

The sample comprised 432 individuals from the general (nationality blinded for peer review) population. Participants were excluded from the analysis if they (a) were younger than 18 years old, (b) did not complete all measures of interest, (c) answered an attention check item incorrectly, (d) took more than 1 hr to complete the questionnaire, or (e) took less than a standard deviation under the mean to finish the survey. The final sample was composed of 384 individuals ($M_{age} = 28.49, SD = 11.67$; ranging from 18 to 69), of whom 74% were women.

Procedure

We obtained the sample by means of an incidental sampling procedure. Specifically, participants were recruited via online advertisements disseminated through social networking sites and cross-platform instant messaging applications (e.g., Instagram, WhatsApp). As an incentive, each participant entered a €50 prize drawing for their participation. Interested participants completed an online survey on the Qualtrics platform. First, we provided individuals with information about the confidentiality and anonymity of their answers and the voluntariness of their participation. We also informed them of the estimated duration of the survey (approximately 10 min). After reading and signing informed consent, participants read a suffering scenario previously validated. Next, they answered some items designed to assess appraisals, compassion, and desire to help. Finally, they provided demographic information and were thanked and debriefed. The study received approval from the institutional research ethics committee of the University of (city and country blinded for peer review).
Materials and Measures

Suffering Scenario

To select the suffering scenario, we followed an expert judgment procedure to obtain evidence on content validity (Escobar-Pérez & Cuervo-Martínez, 2008; Sireci & Faulkner-Bond, 2014) for seven suffering scenarios created to induce compassion.

Eight academic experts (4 men and 4 women), half of them with expertise in emotion research and the other half in scales development, were selected based on their experience in performing judgements and making decisions determined from evidence or expertise, a good reputation in their areas, and their motivation and availability to participate in the study (Escobar-Pérez & Cuervo-Martínez, 2008; Skjong & Wentworth, 2001). We contacted the experts via email and provided them with a template including a table of specifications (Spaan, 2006) with a semantic definition of compassion (i.e., “the feeling that arises in witnessing another’s suffering and that motivates a subsequent desire to help”; Goetz et al., 2010). According to this definition, three components might be delineated (Strauss et al., 2016): (a) recognizing suffering (i.e., the perception that the other person is suffering due to their situation); (b) subjective state of feeling (i.e., an affective experience characterized by feelings of warmth, tenderness, and sympathy, oriented to the person in need and elicited by their suffering); and (c) motivation to alleviate suffering (i.e., the desire to help the person in need).

After the semantic definition of compassion, we presented seven developed scenarios based on previous literature of compassion and emotional responses to suffering (e.g., Cameron & Payne, 2011; Carrera et al., 2013; Goetz & Halgren, 2020). Each scenario described the situation of a person who was suffering due to certain circumstances related to financial difficulties (see Supplemental Materials). Experts had
to read each scenario and evaluate it on a scale of four dimensions related to the degree of representativeness and adequacy: (a) representativeness: an evaluation of the extent to which the scenario represented a situation that elicited each of the three components of compassion as described above (Likert-type response format ranging from 1 (*not representative at all*) to 4 (*very representative*); (b) understanding: an assessment of the degree to which the scenario could be properly understood (Likert-type response format ranging from 1 (*unintelligible*) to 4 (*clearly understandable*); (c) interpretation: an evaluation of the extent to which the scenario could be interpreted in different ways (Likert-type response format ranging from 1 (*it can be interpreted in multiple ways*) to 4 (*it has only one interpretation*); and (d) clarity: an assessment of the degree to which the scenario was concise and direct (Likert-type response format ranging from 1 (*extensive/lack of concision*) to 4 (*concise/direct*). Finally, experts could comment on each scenario to note relevant aspects and propose alternative wording.

**Appraisals of Compassion.** Based on previous studies, several items were employed to evaluate appraisals of the similarity with the person in need (e.g., Alonso-Ferres et al., 2020; Cooke et al., 2018), attribution of responsibility (e.g., Goetz & Halgren, 2020), and help-related perceived efficacy (e.g., Cameron & Payne, 2011; Lim & DeSteno, 2020). Specifically, a two-item measure evaluated similarity with the person in need: “To what extent do you identify with the person described”; and “To what extent do you think that the person described is similar to you?” \( r = .62, p < .001 \). We assessed the attribution of responsibility with two items: “To what extent do you think the person described is responsible for her suffering”; and “To what extent do you think the person described has control over her situation?” \( r = .36, p < .001 \), and we used Cameron and Payne’s (2011) two-item measure to evaluate help-related perceived efficacy: “Do you think you would be effective in helping the person
described”; and “Do you think you would make a difference in helping the person described?” ($r = .58$, $p < .001$). Every item was answered using a 7-point Likert-type response format ranging from 1 (not at all) to 7 (very much).

**Compassion.** In line with Ministero et al. (2018), we used a 4-item measure (e.g., “How compassionate do you feel toward the person described?” [$\alpha = .78$]) originally employed by Cameron and Payne (2011) to assess the subjective feeling of compassion related to the suffering scenario. These items were measured on a Likert-type response format ranging from 1 (not at all) to 7 (very much).

**Desire to Help.** Consistent with Cameron and Payne (2011) and Ministero et al. (2018), we evaluated the desire to help through a 4-item measure (e.g., “To what extent do you feel it is appropriate to give money to aid the person described?” [$\alpha = .76$]). The responses to these items were measured on a 7-point Likert scale ranging from 1 (not at all) to 7 (very much).

**Demographics.** We assessed self-identified gender and age via standard demographic questions.

**Results**

The datasets examined in this research (expert judgment; Studies 1 and 2) are available at

https://osf.io/dm4ub/?view_only=7e5d47eaca8c4ea7b072f490db6c20e6.

**Preliminary Analysis: The Content Validity of Suffering Scenarios**

We calculated the content validity index (CVI; Lawshe, 1975) and Kappa coefficient (Fleiss, 1971) to estimate the content validity of the scenarios and interjudge agreement (Escobar-Pérez & Cuervo-Martínez, 2008; Pedrosa et al., 2013). As shown in Table 1, in general, scores were higher than 3, most CVIs oscillated between .88 and 1, and Kappa coefficients ranged between .87 and 1. This pattern of results indicated
adequate evidence of content validity (Davis, 1992; Landis & Koch, 1977). As an exception, Scenario 7 showed considerably lower values than the other scenarios in representativeness of the component motivation to alleviate suffering ($M = 2.63, SD = .74, IVC = .50, k = .27$).

Table 1

To select the scenario with greater content validity, we established qualitative and quantitative criteria. Regarding quantitative criteria, a minimum score of 3.2 (80% of maximum score) was required in each of the evaluated dimensions (Garrido-Macías et al., 2020), CVI had to be higher than .80 (Davis, 1992; Pedrosa et al., 2013), and the Kappa coefficient had to be greater than .74 (Landis & Koch, 1977). Scenarios 1, 5, 6, and 7 did not meet these requirements and were discarded. Within the remaining scenarios, Scenario 2 showed lower scores and worse total CVI than Scenarios 3 and 4. Regarding qualitative criteria, we considered experts’ comments concerning the content validity of Scenarios 3 and 4. Concerning Scenario 3, an expert suggested that “perhaps, it is too extensive” (dimension of clarity). In relation to Scenario 4, it was noted that “as it describes a far reality, people may not manifest too much sensibility for that suffering,” and another expert indicated that the wording of a sentence could be changed. These comments affected the dimensions of representativeness and understanding of Scenario 4.

Following both the quantitative and qualitative information provided by the experts, Scenario 3 showed the greatest content validity so that it could be utilized in the current study. It described a woman who had lost her job in concurrence with the recent crisis and was facing financial hardship (see Supplemental Materials).

Descriptive Statistics and Correlations

Table 2 illustrates the descriptive statistics and bivariate correlations among all
variables of interest. The mean score for compassion was relatively high ($M = 5.46$), confirming that the suffering scenario elicited this emotion. As expected, greater similarity with the person in need ($r = .21, p < .001$) and help-related perceived efficacy ($r = .28, p < .001$) were indicative of higher levels of compassion. A lower attribution of responsibility was also associated with increased compassion ($r = -.28, p < .001$). Moreover, greater compassion was related to a higher desire to help ($r = .59, p < .001$).

As Table 2 shows, all appraisals exhibited significant correlations with the desire to help.

### Mediating Role of Compassion

We ran three mediation analyses using the PROCESS macro (Model 4; Hayes, 2017) in the SPSS statistical package to test whether the similarity with the person in need ($X_1$), attribution of responsibility ($X_2$), and help-related perceived efficacy ($X_3$) were associated with a desire to help ($Y$) via compassion ($M$). We conducted a bootstrapping analysis with 5,000 repetitions to estimate confidence intervals of 95%.

As expected, the paths from appraisals (i.e., similarity with the person in need, attribution of responsibility, and help-related perceived efficacy) to compassion and desire to help and from compassion to desire to help were significant (Figure 1). First, similarity with the person in need was positively associated with compassion ($b = .15, SE = .03, p < .001, CI [.08, .21]$). Second, attribution of responsibility was negatively related to compassion ($b = -.27, SE = .06, p < .001, CI [−.38, −.16]$). Third, help-related perceived efficacy showed a positive relationship with compassion ($b = .22, SE = .05, p < .001, CI [.12, .31]$). Furthermore, compassion was strongly and positively related to the desire to help ($b = .61, SE = .05, p < .001, CI [.51, .71]$). Moreover, our data showed that all appraisals were indirectly associated with the desire to help via compassion.
(similarity with the person in need, \( b = .09; SE = .02, CI [.05, .13] \); attribution of responsibility, \( b = -.17, SE = .04, CI [-.25, -10] \), and help-related perceived efficacy, \( b = .12, SE = .03, CI [.07, .17] \)). It is worth noting that, after including compassion (i.e., mediator variable) in the mediation model, the effects of similarity and attribution of responsibility on the desire to help did not remain significant, thus confirming the existence of complete mediations in these cases. In short, higher similarity with the person in need, lower attribution of responsibility, and higher help-related perceived efficacy were associated with increased compassion, which, in turn, was related to a greater desire to help (Figure 1).

Discussion

The main goal of Study 1 was to analyze the relationship between appraisals, compassion, and prosocial behavior in situations of need and crisis. Our results confirmed that higher similarity with the person in need, lower attribution of responsibility to the person in need, and higher help-related perceived efficacy were related to greater feelings of compassion. Furthermore, Study 1 also found that all appraisals were conducive to a greater desire to help through compassion.

Based on these results, we wondered if the relationships between appraisals, compassion, and desire to help might be modulated by the psychological mechanism of perspective taking, the act of considering the feelings of others in need.

Study 2

To explore whether perspective taking may facilitate the prosocial route proposed in Study 1, we introduced an experimental paradigm widely used in the literature on prosocial emotions (Batson et al., 1997, 2007). Specifically, participants were randomly assigned to one of two conditions. In one condition, they were instructed
to read a suffering scenario and try to imagine how that person feels; in the other case, participants were asked to remain objective and detached.

One could reasonably expect that the mediational pathway found in Study 1 would be moderated by perspective-taking instructions: When participants are encouraged to imagine others’ feelings (vs. to remain objective and detached), (a) the extent to which they identify with the person in need, (b) the degree of responsibility attributed to the individual, and (c) their help-related perceived efficacy will exhibit stronger connections with compassion and, therefore, to their desire to help.

Method

Participants

This sample consisted of 343 individuals from the general (nationality blinded for peer review) population. We excluded the data of 24 participants following the same exclusion criteria as in the previous study. Thus, the final sample consisted of 319 participants ($M_{age} = 28.27, SD = 13.05$; ranging from 18 to 74) of which 60.8% were women. We randomly assigned participants to one of two conditions of perspective-taking instructions (imagine-other vs. remain objective) following an experimental between-subject design. A total of 158 participants read imagine-other instructions, whereas 161 people received remain objective instructions.

Procedure

A snowball sampling procedure was implemented to recruit participants. First, we trained undergraduate students at the University of (city and country blinded for peer review) in sampling methods and asked them to distribute the questionnaire. Next, they contacted possible respondents (e.g., acquaintances) and gave them a brief description of the study. As in Study 1, interested participants completed an online survey on the Qualtrics platform, following the same procedure. Participants read the perspective-
taking instructions and the same suffering scenario employed in Study 1. After that, they answered measures of appraisal, compassion, and desire to help. Finally, participants provided demographic information, and they were thanked and debriefed. Undergraduates who distributed the questionnaire were given partial academic credit in exchange for their labor. The study received approval from the institutional research ethics committee of the University of (city and country blinded for peer review).

**Materials and Measures**

**Perspective-Taking Conditions**

Based on a large body of literature (e.g., Batson et al., 1997, 2007), we gave participants two different instructions depending on the condition (imagine-other vs. remain objective). Imagine-other instructions asked participants only to concentrate on trying to imagine how the person described their feelings while reading the suffering scenario. Remain objective instructions only required them to try to remain objective and detached (see Supplemental Materials).

**Suffering Scenario.** In this study, we employed the same scenario validated in and used in Study 1 (see Supplemental Materials).

**Manipulation Check.** In line with previous studies (e.g., Batson et al., 1997), we included two items to check that the instructions had the intended effect: “While reading the scenario, to what extent did you concentrate on imagining how the person described feels”; and “To what extent did you concentrate on being objective and detached?” These items had a 7-point Likert-type response format ranging from 1 (not at all) to 7 (very much).

**Appraisals.** To measure the extent to which participants tended to identify with the person in need, we employed the same two items used in Study 1, and we administered the Inclusion of Other in the Self (IOS; Aron et al., 1992) scale, which
other researchers in this field have used (e.g., Cooke et al., 2018; Goetz & Halgren, 2020). Computed together, these two items and the IOS scale showed high reliability ($\alpha = .83$). Furthermore, due to the relatively low reliability of the two-item measure of attribution of responsibility administered in Study 1, in this case we used Goetz and Halgren’s (2019) 4-item measure to assess attribution of responsibility (e.g., “How responsible is the person described for her suffering?” [$\alpha = .73$]). Regarding help-related perceived efficacy, we administered the same two-item measure ($r = .67$) of Cameron and Payne (2011) used in Study 1.

**Compassion and Desire to Help.** We employed the same measures as in Study 1 to assess compassion ($\alpha = .85$) toward the person described in the suffering scenario and the desire to help ($\alpha = .81$).

**Demographics.** We assessed self-identified gender and age via standard demographic questions.

**Results**

**Manipulation Check**

To check whether perspective-taking instructions had the intended effect, we performed two $t$-tests (between subjects), with the type of instructions received as the independent variable (imagine-other vs. remain objective), and the manipulation check items as dependent variables. As expected, participants in the imagine-other condition concentrated more on imagining the feelings of the person described ($M_{imagine-other} = 5.53, SD = 1.28$) compared to participants in the remain objective condition ($M_{remain-objective} = 4.93, SD = 1.61; t = 3.67, p < .001$). Moreover, participants who received remain objective instructions were more focused on remaining objective ($M_{remain-objective} = 4.98, SD = 1.64$) and detached than their counterparts in the imagine-other condition ($M_{imagine-other} = 3.87, SD = 1.82; t = −5.76, p < .001$).
The Mediating Role of Compassion

As in Study 1, we ran three mediation analyses using Hayes’s (2017) PROCESS macro (Model 4) in the SPSS statistical package. We conducted a bootstrapping analysis with 5,000 repetitions in order to estimate 95% confidence intervals.

Results are shown in Figure 2. In line with our expectations and replicating Study 1’s findings, all paths were significant. Specifically, similarity with the person in need ($b = .18, SE = .05, p < .001, 95\% \text{ CI} [.09, .27]$), attribution of responsibility ($b = -.39, SE = .08, p < .001, 95\% \text{ CI} [-.55, -.23]$), and help-related perceived efficacy ($b = .11, SE = .05, p < .001, 95\% \text{ CI} [.01, .22]$) were associated with compassion, which, in turn, was related to the desire to help ($b = .61, SE = .04, p < .001, 95\% \text{ CI} [.53, .69]$). Importantly, compassion mediated the effects of all appraisals (i.e., similarity with the distressed person, $b = .11, SE = .03, 95\% \text{ CI} [.06, .17]$; attribution of responsibility, $b = -.23, SE = .05, 95\% \text{ CI} [-.33, -.14]$; and help-related perceived efficacy, $b = .07, SE = .03, 95\% \text{ CI} [.01, .13]$) on the desire to help (see Figure 2).

[Figure 2]

Moderated Mediation Effects of Perspective-Taking Instructions

After replicating the mediating role of compassion in the appraisals–desire to help associations, our next interest was to determine whether such an indirect effect could be conditioned by perspective-taking instructions. Three moderated mediation analyses were conducted using Hayes’s (2017) PROCESS macro (Model 7) for the SPSS statistical package, using similarity with the person in need ($X_1$) attribution of responsibility ($X_2$), and help-related perceived efficacy ($X_3$) as predictor variables, compassion (M) as the mediator, and desire to help (Y) as the dependent variable. A bootstrapping analysis with 5,000 repetitions was employed to estimate 95% confidence intervals.
Contrary to expectations, and as Figure 3 shows, the indirect effect of appraisals on the desire to help via compassion was not moderated by the type of perspective-taking instructions received (imagine-other vs. remain objective). Thus, we did not find a conditional indirect effect of similarity with the person in need (Panel A, \( b = -0.05, SE = 0.06, 95\% CI \ [-0.15, 0.07] \)), attribution of responsibility (Panel B, \( b = -0.14, SE = 0.09, 95\% CI \ [-0.32, 0.03] \)) or help-related perceived efficacy (Panel C, \( b = 0.05, SE = 0.06, 95\% CI \ [-0.07, 0.17] \) on the desire to help via compassion based on the perspective-taking instructions received.

[Figure 3]

**Discussion**

Study 2 aimed at replicating the mediating role of compassion in the appraisals and desire to help linkages and determining whether such a prosocial route might be conditioned by perspective-taking instructions. Our results allowed us to replicate the explanatory role of compassion found in Study 1. However, contrary to our expectations, moderated mediation analyses suggested that this compassionate pathway operates regardless of perspective taking.

**General Discussion**

Situations of suffering are pervasive in today’s society. This fact, along with the evident social relevance and the many benefits of compassionate response to others’ suffering, makes compassion a highly desirable factor. In this research, light was shed on appraisals that may promote compassion and prosocial behavior in situations of need and crisis. Specifically, this research reveals that the way the observer evaluates the situation of suffering (appraisals) is substantially related to the experience of compassion and, therefore, to the desire to help the distressed person.
In Study 1, after exposing participants to the suffering scenario that showed the highest content validity after following an expert judgement procedure (Escobar-Pérez & Cuervo-Martínez, 2008; Sireci & Faulkner-Bond, 2014), we tested the relationship between appraisals (i.e., similarity with the person in need, attribution of responsibility, and help-related perceived efficacy) and compassion. First, we found that when the observers perceived more similarity with the person in need, they felt more compassion. This result mirrors previous findings indicating that perceived self–other similarity is an important element of compassionate response (Oveis et al., 2010; Valdesolo & DeSteno, 2011). Second, we also observed that when participants attributed more responsibility to the person in need, they felt less compassion. As the person in need is perceived to be more responsible for their situation, they may be judged as less worthy of compassion. This is consistent with attributional theories of emotion and motivation (Rudolph et al., 2004; Weiner, 1985) and previous research (Goetz & Halgren, 2020). Third, we found that higher help-related perceived efficacy was indicative of greater compassion. This result suggests that the perceived ability of the observer to cope with the situation of suffering may play an important role in the elicitation of compassion. Prior research has pointed in the same direction (Cameron et al., 2019; Lim & DeSteno, 2020). Importantly, by considering the whole set of appraisals included in the model proposed by Goetz et al. (2010), our findings provide a more comprehensive and complete empirical validation of such a theoretical formulation, also confirming that it constitutes a relevant approach to compassion.

Study 1 also revealed that compassion represents a relevant psychological mechanism that might explain the effects of appraisals on the desire to help. This finding took Goetz et al.’s (2010) model one step further, connecting appraisals of compassion to prosocial tendencies. Hence, a specific compassionate pathway was
highlighted showing that it might be especially relevant for altruistic trends in situations of suffering.

Study 2 enabled us to replicate the compassionate pathway found in Study 1. Interestingly, but contrary to our expectations, our data indicated that perspective-taking instructions (imagine-other vs. remain objective) did not modulate the compassion-related route previously found. Importantly, the lack of moderation effects of perspective-taking instructions might speak in favor of the robustness of the model. This observation suggests that the act of considering the feelings of others in distress does not boost that compassionate pathway. Put in another way, these findings also appear to indicate that even when people are motivated to avoid emotional engagement (remain objective instructions), higher similarity with the person in need, lower attribution of responsibility, and higher help-related perceived efficacy are linked to greater compassion and a desire to help. These results would contradict the assumption that one strategy to avoid emotional engagement might be to attend less to the information relevant to the emotion (Gross & Feldman-Barrett, 2011; Zaki, 2014).

**Practical and Societal Implications**

The present research has relevant implications for practice and society. Although more research is needed, the current evidence can provide a basis for successful compassion-related interventions in times of crisis. In this line, these findings might be applicable to address scenarios of suffering that the whole world witnesses every day, such as the adverse socioeconomic effects of the COVID-19 pandemic. Moreover, as compassion has been determined to be relevant in many societal areas, such as education, healthcare, and justice (Strauss et al., 2016), these results may have cross-sectional and broad implications in society. Finally, this research might be crucially applied to the manner in which mass media, politicians, or NGOs present the suffering
of others. In this vein, if the situation of suffering is depicted in a way that (a) makes salient the similarity and commonalities between the sufferer and the observer, (b) reveals contextual and structural causes that may diminish attribution of responsibility to the sufferer, and (c) seems affordable for the observer to make a difference in that situation, then the compassionate response might be more plausible.

**Limitations and Future Research Directions**

Certain limitations of this work should be acknowledged while also pointing out potential avenues for future research. Although we compiled data from large and heterogeneous samples of the general population in this research, we utilized a nonprobabilistic sampling method. Therefore, the generalization of the results might be constrained. Future studies may address this limitation by collecting general population samples using probabilistic sampling techniques. Moreover, our data cannot speak to a causal influence of appraisals or compassion on the desire to help because mediation analyses only allow the establishment of correlational relationships between variables. Experimental designs would be needed to come closer to causal analysis of the impact of such appraisals and compassion on the desire to help people in need. Apart from that, some important questions are left unaddressed in the current work. In this regard, the model proposed by Goetz et al. (2010) also describes how the set of appraisals relates to other emotions as opposed to compassion (e.g., anger, distress, pity). Future research could add this aspect to enrich the understanding of when and how compassionate response occurs.

**Conclusions**

This research may advance our understanding of compassionate responses by showing that appraisals of higher similarity with the person in need, lower attribution of responsibility, and higher help-related perceived efficacy are associated with greater
compassion toward the needy person, which, in turn, is related to a higher willingness to engage in helping behavior. Importantly, in this research, we found that this compassionate pathway operates regardless of perspective-taking instructions. Overall, these results suggest that accounting for these compassion-related appraisals might open an avenue for promoting prosocial tendencies in situations of suffering and crisis.
References


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https://doi.org/10.1038/s41562-020-0884-z


### Table 1. Descriptive Statistics, CVI and Kappa Coefficient of Scenarios.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Representativeness</th>
<th>Subjective Affective State</th>
<th>Motivation to Alleviate Suffering</th>
<th>Comprehension</th>
<th>Interpretation</th>
<th>Clarity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M (SD)</td>
<td>CVI</td>
<td>M (SD)</td>
<td>CVI</td>
<td>M (SD)</td>
<td>CVI</td>
</tr>
<tr>
<td>1</td>
<td>Recognizing Suffering</td>
<td>3.75* (1.46)</td>
<td>1*</td>
<td>3.13 (.13)</td>
<td>.88* .87*</td>
<td>3.12 (1.64)</td>
<td>.88* .87*</td>
</tr>
<tr>
<td>2</td>
<td>3.75* (1.46)</td>
<td>1*</td>
<td>1*</td>
<td>3.25* (1.04)</td>
<td>.88* .87*</td>
<td>3.25* (1.71)</td>
<td>.88* .87*</td>
</tr>
<tr>
<td>3</td>
<td>3.88* (.35)</td>
<td>1*</td>
<td>1*</td>
<td>3.50* (1.54)</td>
<td>.88* .87*</td>
<td>3.75* (1.71)</td>
<td>.88* .87*</td>
</tr>
<tr>
<td>4</td>
<td>3.87* (.35)</td>
<td>1*</td>
<td>1*</td>
<td>3.75* (1.71)</td>
<td>.88* .87*</td>
<td>3.75* (.52)</td>
<td>1*</td>
</tr>
<tr>
<td>5</td>
<td>3.63* (.52)</td>
<td>1*</td>
<td>1*</td>
<td>3.00 (.93)</td>
<td>.88* .87*</td>
<td>3.38* (.74)</td>
<td>.88* .87*</td>
</tr>
<tr>
<td>6</td>
<td>3.63* (.74)</td>
<td>.88*</td>
<td>.87*</td>
<td>3.38* (.74)</td>
<td>.88* .87*</td>
<td>3.25* (1.71)</td>
<td>.88* .87*</td>
</tr>
<tr>
<td>7</td>
<td>3.25* (.71)</td>
<td>.88*</td>
<td>.87*</td>
<td>3.00 (.54)</td>
<td>.88* .87*</td>
<td>3.63* (.74)</td>
<td>.50</td>
</tr>
</tbody>
</table>

*M > 3.2; CVI > .80; o k > .74
### Table 2. Means, Standard Deviations, and Bivariate Correlations between Study 1 Variables.

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Compassion</td>
<td>5.46 (1.07)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Similarity</td>
<td>2.96 (1.57)</td>
<td>.21**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Responsibility</td>
<td>2.46 (1.12)</td>
<td>-.28**</td>
<td>.00</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Help-related perceived efficacy</td>
<td>4.41 (1.38)</td>
<td>.28**</td>
<td>.14*</td>
<td>-.00</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5. Desire to help</td>
<td>4.88 (1.13)</td>
<td>.59**</td>
<td>.17*</td>
<td>-.13</td>
<td>.43**</td>
<td>1</td>
</tr>
</tbody>
</table>

Due to sample size (N = 384) the significance threshold was set at *p < .01; **p < .001 (two-tailed)
Figure 1. Mediation Model Depicting the Indirect Effect of Appraisals on Desire to Help Through Compassion.

Note. Study 1; N = 384. Reported values are unstandardized estimates (b), with their SE reported between parentheses. Bootstrap sample size: 5000. *p < .05; **p < .01; ***p < .001
**Figure 2.** Mediation Model Depicting the Indirect Effect of Appraisals on Desire to Help Through Compassion.

Indirect effects

- **Similarity,** $95\%$ CI [.06, .17]
- **Attribution of responsibility,** $95\%$ CI [-.33, -.14]
- **Help-related perceived efficacy,** $95\%$ CI [.01, .13]

**Note.** Study 2; $N = 319$. Reported values are unstandardized estimates ($b$), with their SE reported between parentheses. Bootstrap sample size: 5000. *$p < .05$; **$p < .01$; ***$p < .001$
**Figure 3.** Moderated Mediation Models Depicting the Indirect Effects of Appraisals on Desire to Help Through Compassion.

**PANEL A**

\[ M: \text{Compassion} \]

Index of moderated mediation 95% CI [-.16, .07]

\[ X: \text{Similarity} \]

\[ W: \text{Perspective-taking} \]

\[ XW \]

\[ .17 (.05)^{**} \]

\[ .29 (.14)^{**} \]

\[ .08 (.09) \]

\[ .61 (.04)^{**} \]

\[ .03 (.04) \]

\[ Y: \text{Desire to help} \]

**PANEL B**

\[ M: \text{Compassion} \]

Index of moderated mediation 95% CI [-.32, .03]

\[ X: \text{Responsibility} \]

\[ W: \text{Perspective-taking} \]

\[ XW \]

\[ -.38 (.08)^{**} \]

\[ .29 (.14)^{**} \]

\[ .16 \]

\[ .60 (.04)^{**} \]

\[ -.06 (.06) \]

\[ Y: \text{Desire to help} \]

**PANEL C**

\[ M: \text{Compassion} \]

Index of moderated mediation 95% CI [-.07, .17]

\[ X: \text{Help-related perceived efficacy} \]

\[ W: \text{Perspective-taking} \]

\[ XW \]

\[ .12 (.05)^{**} \]

\[ .35 (.10) \]

\[ .10 \]

\[ .59 (.04)^{**} \]

\[ .16 (.04)^{**} \]

\[ Y: \text{Desire to help} \]

*Note. Moderated mediating models depicting the indirect effects of similarity with the person in need [panel A], attribution of responsibility [panel B], and help-related perceived efficacy [panel C] on desire to help through compassion. Study 2; \( N = 319 \). Reported values are unstandardized estimates (b), with their SE reported between parentheses. Bootstrap sample size: 5000. \(^* p < .05; \(^{**} p < .01; \(^{***} p < .001 \)