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Empathy is a Stable Predictor of Compassionate Emotions Independent of an Attribution of Responsibility Manipulation*

La empatía es un predictor estable de emociones compasivas independiente de una manipulación de atribución de responsabilidad

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Abstract: The goal of the present research was to investigate if individual differences in empathy and personal distress were stable predictors of compassionate emotions and whether these emotions, in turn, mediate the effect of attribution on prosocial propensity. We formulated four hypotheses to be tested concerning direct and indirect effects between the variables in our model. 627 participants, mainly female (N = 408), were randomly assigned to one of two conditions in which we manipulated the attribution of responsibility of a target person (uncontrollability x controllability). Our results corroborated totally or partially all four hypotheses, indicating that empathy was a stable predictor of compassionate emotions and that these emotions mediated the effect of attribution on prosocial propensity. Notably, we found that empathy was an even stronger predictor of compassionate emotions compared to the attribution that participants made. We found evidence corroborating the assumption that these prosocial individual differences measures can predict the tendency to actually experience compassionate emotions in different situations. Thus, we conclude that the comprehension of prosocial decision-making and attribution processes underlying prosocial situations must take into account individual differences as antecedents of compassionate emotions.

Keywords: prosocial behavior, empathy, compassionate emotions, attribution of responsibility, individual differences.

Resumen: El objetivo de la presente investigación fue evaluar si las diferencias individuales en empatía y angustia personal eran predictores estables de emociones compasivas y si estas emociones a su vez median el efecto de la atribución sobre la propensión prosocial. Hemos formulado cuatro hipótesis que se someterán a prueba por medio de los efectos directos e indirectos entre las variables del modelo. 627 participantes, principalmente mujeres (N = 408), fueron asignados aleatoriamente a una de las condiciones en las que manipulamos la atribución de responsabilidad (incontrolabilidad x controlabilidad). Nuestros resultados corroboraron total o parcialmente las cuatro hipótesis, indicando que la empatía es un predictor estable de emociones compasivas y que estas emociones mediaron el efecto de la atribución sobre la propensión prosocial. Es importante destacar que encontramos que la empatía fue un predictor aún más fuerte de emociones compasivas en comparación con la atribución que los participantes hicieron. Encontramos evidencias que corroboran el supuesto de que estas medidas de las diferencias individuales prosociales pueden predecir la tendencia a experimentar emociones compasivas en diferentes situaciones y concluimos que la comprensión de los procesos de toma de decisiones y de atribución prosociales subyacentes a las situaciones prosociales debe tener en cuenta las diferencias individuales como antecedentes de emociones compasivas.

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Palabras clave: comportamiento prosocial, empatía, emociones compasivas, atribución de responsabilidad, diferencias individuales.

Many studies have investigated the processes underlying prosocial decision-making. Weiner's attribution model (Weiner, 1980a, 2012) predicts that in a situation where help is requested (e.g. a child asking for help after falling on the floor and getting hurt) an observer is less likely to feel compassionate emotions, and consequently less likely to offer help, if he or she attributes the need for help internally, i.e. holds the person requesting help responsible for what happened to cause the need for assistance. If, on the other hand, the observer attributes the need for help externally, seeing it as a consequence of situational factors, he or she will be more likely to feel compassionate emotions for the person and more likely to offer help. In this model, cognitive processing of information is seen as the critical determinant of affective states related to prosocial responses, and these affective states are assumed to mediate the impact of attribution of responsibility on prosocial behavior.

There is plenty of evidence corroborating this model (Pilati, Leão, Vieira, & Fonseca, 2008; Pilati, 2011; Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Weiner, 1980a, 1980b; Zhang, Rivkin, & An, 2013), but there has been little investigation into how individual differences such as empathy and personal distress affect the postulated processes. How is empathy related to attribution of responsibility? How are levels of empathy or personal distress related to compassionate emotions in the context of an internal attribution? Addressing these questions could improve our understanding of prosocial decision-making. The goal of the present research was to investigate if individual differences in empathy and personal distress were robust predictors of compassionate emotions and whether these emotions in turn mediate the effect of attribution on intention to help. We manipulated the attribution of responsibility and we consider that the two experimental conditions (seeker responsible, SR; seeker not responsible, SNR) represent different situations eliciting different evaluations that can provide a basic test of the robustness with which personality variables predict compassionate emotions.

Empathy, defined as a general capacity to feel, share, identify others' emotions, adopt the perspective of others, and devise hypotheses to account for their emotional state (De Vignemont & Singer, 2006; de Waal, 2008), has been shown to be an important predictor of prosocial behavior (Barraza & Zak, 2009; Dovidio, Piliavin, Schroeder, & Penner, 2006; Eisenberg et al., 2002; Paciello, Fida, Cerniglia, Tramontano, & Cole, 2013; Stocks, Lishner, & Decker, 2009; Sze, Gyurak, Goodkind, & Levenson, 2012). Personal distress, defined as a self-oriented response to others' emotions or an aversive reaction to witnessing others' emotions (Eisenberg, 2010), has also been shown to predict prosocial behavior (Baumann, Cialdini, & Kenrick, 1981; Carlson & Miller, 1987; Cialdini et al., 1987; Davis, 1983; Penner, Fritzsche, Craiger, & Freifeld, 1995). Given the volume of evidence suggesting that empathy and personal

distress predict prosocial behavior, it seems reasonable to suggest that these personality variables should be taken into account in models of prosocial decision-making such as that proposed by Weiner (Weiner, 1980a, 2012).

Conceptual model and hypotheses

It is commonly assumed in social and personality psychology that measures of empathy and personal distress are valid indicators of tendency to feel compassionate emotions in various situations. Another common assumption is that individual differences in these personality variables, measured using standard self-report questionnaires, are stable across situations and predict prosocial responses such as compassionate emotions and intention to help. To the best of our knowledge, despite the plausibility of such assumptions, there has been no direct attempt to assess how levels of empathy and personal distress affect the prosocial decision-making process set out in Weiner's attribution model. We aimed to test whether traits previously shown to be associated with prosocial behavior would predict compassionate emotions in two versions of a helping scenario and whether compassionate emotions mediated the effect of attribution of responsibility on intention to help.

To do this, we used well-known, realistic scenarios to manipulate participants' likely attribution of responsibility (Weiner, 1980b, 2012). In the SR condition participants were induced to make an internal attribution of responsibility whereas in the SNR condition participants were induced to make an external attribution. We expected a difference in attributions between these conditions and intended to exploit this to investigate whether any association between empathy or personal distress and compassionate emotions was independent of the attribution of responsibility. On the basis of our review of the literature we formulated the following hypotheses:

Hypothesis 1. Participants in the SNR condition will be more likely to exhibit an intention to help than participants in the SR condition.

Hypothesis 2. Participants in the SNR condition will exhibit more compassionate emotions than participants in the SR condition.

Hypothesis 3. Compassionate emotions will mediate the effect of attribution of responsibility on intention to help.

Given that there is plenty of empirical evidence corroborating the processes postulated in Weiner's model (Pilati, 2011; Pilati et al., 2015; Rudolph et al., 2004; Weiner, 1980b) we expected to observe the standard pattern of mediation of compassionate emotions.

Hypothesis 4. Empathy and personal distress will predict compassionate emotions in both experimental conditions.

As described previously, research on empathy and personal distress has shown that they are predictors of certain prosocial responses (Barraza & Zak, 2009; Dovidio et al., 2006; Eisenberg et al., 2002; Paciello et al., 2013; Stocks et al., 2009; Sze et al., 2012). The precise role of these personality variables in prosocial decision making remains to be explored.

We predicted (Hypothesis 4) that any associations between empathy or personal distress and compassionate emotions would be independent of the attribution of responsibility.

Method

Participants and design

We estimated that to obtain a power of 0.95, with an alpha value of 0.05 in a two-group ANOVA in which a small effect (0.20) was anticipated, we would need a sample size of approximately 326 participants. This estimate was calculated using the R Statistical Package (R Core Team, 2012) using the pwr package (Champely, 2012). The sample was composed of 627 Brazilian adults from many regions of the country, achieving a power of 0.99. Sixty participants did not provide any demographic information. The mean age of the 567 participants who provided demographic data was 28.22 years ($SD = 9.09$; range: 16 to 74); most were women ($n = 408$) and most had a college diploma or advanced degree ($n = 551$). Participants were randomly assigned to one of two experimental conditions: seeker responsible (SR) or seeker not responsible (SNR).

Measures and procedures

Attribution was manipulated via a commonly used prosocial scenario method (Weiner, 1980a). We chose this method because it has proved robust and elicited moderate to large effects in several different cultures (Zhang et al., 2013) and it is therefore presented as a suitable context to evaluate associations between compassionate emotions and putative antecedent variables, and more particularly, whether any such associations were independent of the attribution of responsibility. Manipulations whose purported effects are difficult to replicate are an increasing problem in experimental psychology (Asendorpf et al., 2013). If we failed to obtain the expected effects in the dependent variables we could draw questionable conclusions about the role of the antecedent variables under investigation, and so using this manipulation seems reasonable as its replicability makes it a more trustworthy manipulation. We used two versions of a scenario consisting of a social interaction in which the participant has the opportunity to behave prosocially towards an individual who asks for help. The difference between the two versions related to the degree of responsibility the person requesting help seemed to have for the situation which had arisen, in other words how much control he or she had over the factors which had led to the need for help. Both scenarios were introduced as follows:

Suppose that a colleague from your classroom seeks you out and asks for your notes from last week's classes, to copy them in order to prepare for the next exam.

but then diverged:

He says that he didn't take notes last week because he was away on holiday.
or

He says that he didn't take notes last week because he had an eye infection that prevented him from reading the information written on the blackboard by the professor.

A four-item scale of perception of control (PC; Pilati et al., 2008) with a one-factor structure (factor loadings varying from 0.78 to 0.89 and $\alpha = 0.87$) was used (sample item: "Your colleague is responsible for the situation in which he finds himself") as a manipulation check. Propensity to help was measured using a widely used four-item measure of intention to help (sample item: "I intend to lend my notes to my colleague") (Pavey, Greitemeyer, & Sparks, 2011; Perugini, Conner, & O'Gorman, 2011; Pilati et al., 2008; Rabelo, Hees, & Pilati, 2012; Saslow et al., 2013; Weiner, 1980b), participants indicated their agreement with items using a seven-point Likert scale; in this study the scale showed acceptable internal consistency ($\alpha = 0.82$).

Empathy and personal distress were measured using scales from a Portuguese version (Rabelo & Pilati, 2013) of the Prosocial Personality Battery (Davis, 1983; Penner et al., 1995; Penner, 2002). The empathy scale ($\alpha = 0.54$) consisted of four items ("When I see someone being taken advantage of, I feel kind of protective towards them"; "Other people's misfortunes do not usually disturb me a great deal"; "I am often quite touched by events that I witness"; "When I see someone being treated unfairly I don't usually feel very much pity for them"). The personal distress scale ($\alpha = 0.76$) consisted of three items ("I tend to lose control during emergencies"; "I am usually pretty effective in dealing with emergencies"; "When I see someone who badly needs help in an emergency, I go to pieces"). Higher scores indicate greater empathy or greater personal distress.

Compassionate emotions were measured using a ten-item scale (Pilati et al., 2008; Pilati, 2011; Rabelo et al., 2012; Weiner, 1980a) assessing self-estimated compassionate emotions (e.g. "you feel sympathy for a colleague who asks for your help"; "you feel compassionate emotions for a colleague who asks for your help"); responses were given on a seven-point Likert scale ($\alpha = 0.90$).

Data were collected via the Internet using EFS Survey software, which randomly assigned participants to one of the experimental conditions. The first page of the survey document included a consent form. Participants were informed that the data would be anonymous and that they could end their participation at any time. After giving their consent participants progressed to reading and responding to the instruments and materials in the following order: scenario manipulation, prosocial tendency scale, compassionate emotions scale, perception of control scale, empathy and personal distress scales, and finally a demographic questionnaire. The experimental procedure complied with APA ethical standards.

Results

A MANOVA revealed that the experimental manipulation was effective; there was a condition effect on attribution of responsibility, $F(1, 625) = 531.27$; $p < 0.001$; $\eta_p^2 = 0.46$. There were also effects of condition on compassionate emotions, $F(1, 625) = 50.71$; $p < 0.001$; $\eta_p^2 = 0.08$, and intention to help, $F(1, 625) = 21.12$; $p < 0.001$; $\eta_p^2 = 0.03$, supporting hypotheses 1 and 2. We did not expect to observe any effect of condition on the personality variables as we assumed that the instruments we used assess empathy and personal distress as stable, dispositional personality variables, rather than transient, context-dependent state variables. As predicted there was no effect of condition on empathy, $F(1, 625) = 0.12$; $p = 0.73$; $\eta_p^2 < 0.001$, or personal distress, $F(1, 625) = 0.10$; $p = 0.75$; $\eta_p^2 < 0.001$. The means and standard deviations for these variables are presented in Table 1.

TABLE 1
Descriptive statistics of the MANOVA

Condition	SNR	SR
Measure	$n = 322$	$n = 305$
Empathy	5.11 (0.67)	5.09 (0.67)
Personal distress	3.10 (0.85)	3.07 (0.87)
Attribution	3.13 (1.54)	5.63 (1.13)
Compassionate emotions	5.84 (0.93)	5.23 (1.22)
Intention to help	6.00 (1.02)	5.56 (1.36)

Source: own work.

Note: Standard deviations are in parentheses.

Descriptive statistics and correlations between the variables are presented in Table 2. Attribution of responsibility was not correlated with empathy or personal distress. A multi-group path analysis of the conceptual model presented in Figure 1 (Byrne, 2010) using a recommended bootstrapping procedure (Hayes, 2013) was used to test hypotheses 3 and 4. We re-sampled 5.000 times from our data set and calculated the relevant direct and indirect effects and corresponding confidence intervals.

TABLE 2
Descriptive statistics and correlation matrix

	M	SD	2	3	4	5
1. Empathy	5.1	0.67	-0.04	-0.05	0.19***	0.10**
2. Personal distress	3.1	0.86	-	-0.04	-0.11**	-0.06
3. Internal attribution	4.3	1.84	-	-	-0.35***	-0.25***
4. Compassionate emotions	5.5	1.12	-	-	-	0.77***
5. Intention to help	5.8	1.21	-	-	-	-

Source: own work.

Note: * $p < 0.01$; ** $p < 0.001$.

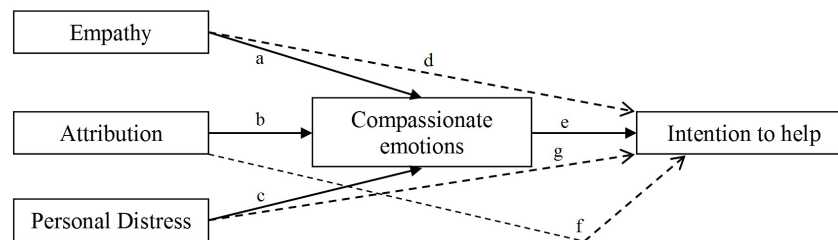


Figure 1

Conceptual model tested with path analysis

Source: own work.

Fit indices from the multi-group path analysis indicated that the model presented in Figure 1 was an acceptable fit to the data ($\chi^2(8) = 48.89$, $p < 0.001$; CFI = 0.93; TLI = 0.83; RMSEA = 0.090 (95% CI = 0.067-0.116); AIC = 92.89). We tested hypothesis 3 by calculating the indirect effect of attribution of responsibility on intention to help (path 'f' in Figure 1) and the associated 95% confidence interval in both experimental conditions. There was an indirect effect of attribution on intention to help, mediated by compassionate emotions, in both conditions (SR: $p = 0.019$, 95% CI: [-0.25--0.02]; SNR: $p = 0.001$, 95% CI: [-0.21--0.10]). As the confidence interval did not include zero in either condition, we concluded that hypothesis 3 was supported, i.e. there was an indirect effect of attribution of responsibility on intention to help, mediated by compassionate emotions.

Hypothesis 4 was partially corroborated; as both empathy and personal distress were predictors of compassionate emotions in both experimental conditions (see Table 3). The confidence interval for the direct effect of empathy (path 'a' in Figure 1) did not include zero in either condition, indicating that empathy had a direct effect on compassionate emotions in both conditions; the confidence interval for the direct effect of personal distress (path 'c' in Figure 1) did not include zero in the SNR condition. In the SR condition empathy was almost twice as strong a predictor of compassionate emotions as attribution of responsibility, whereas in the

SNR condition attribution was the strongest predictor of compassionate emotions.

TABLE 3
Path analysis coefficients of determination between the model variables and 95% Bootstrap Confidence Intervals

Condition	MLE – Standardized coefficients			95% Bootstrap CI of Direct Effects EC → CE (Path 'a')		95% Bootstrap CI of Direct Effects PD → CE (Path 'c')	
	EC → CE	IA → CE	PD → CE				
	Path 'a'	Path 'b'	Path 'c'	LB	UB	LB	UB
Seeker not responsible (SNR)	-0.147+	-0.280*	-0.097	-0.386	-0.058	-0.250	0.003
Seeker responsible (SR)	-0.315*	-0.154+	-0.177+	-0.537	-0.103	-0.338	-0.018

Source: own work.

Notes: +p < 0.05; * p < 0.001.

IA - Internal attribution; EC - Emphatic concern; PD - Personal distress; CE - Compassionate emotions; CI - Confidence interval; LB - Lower Bound; UB - Upper Bound; MLE - Maximum Likelihood Estimation.

Paths 'a', 'b', and 'c' are depicted in Figure 1

As shown in Table 3, personal distress was the weakest predictor in the model and the confidence interval for the direct effect of personal distress on compassionate emotions included zero in the SNR condition, so hypothesis 4 was only partially confirmed. This analysis also revealed that the confidence intervals for the direct effect of empathy on intention to help (path 'd' in Figure 1) and the direct effect of personal distress on intention to help (path 'f' in Figure 1) included zero; we therefore concluded that these variables did not have a direct effect on intention to help. Finally, we held the regression parameter associated with path 'a' in the model constant and compared this model with our original model using a χ^2 difference test; the result indicated that the difference in model fit was not statistically significant ($\chi^2_{\text{diff}} = 0.457, p > 0.05$).

Discussion

We aimed to conduct a test of the hypothesis that dispositional empathy and personal distress predict compassionate emotions independent of attribution of responsibility (hypothesis 4) and a related hypothesis that compassionate emotions mediate the effect of attribution of responsibility on intention to help (hypothesis 3). Our manipulation check indicated that we successfully influenced participants' attributions in the expected direction. Hypotheses 1 and 2 were confirmed, as participants in the SR condition were more likely to report an intention to help and more likely to feel compassionate emotions for the protagonist; the results provide some of the first evidence for this element in the context of Weiner's attributional model of helping behavior. Hypothesis 3 was also confirmed; analysis revealed that attribution of responsibility was indirectly associated with intention

to help and that this association was mediated by the relationship between compassionate emotions and attribution of responsibility, qualifying compassionate emotions as a mediator of the indirect effect and corroborating previous evidence for Weiner's attributional model (Pilati, 2011; Pilati et al., 2008; Rudolph et al., 2004; Weiner, 1980b). Finally, hypothesis 4 was only partially confirmed, because although empathy was a predictor of compassionate emotions in both conditions, personal distress was only a predictor in the SR condition. The fact that the confidence intervals associated with the direct effect of these dispositional variables on intention to help included zero in both conditions indicates that these effects were mediated by compassionate emotions. Participants with a greater tendency to feel empathy for others were more likely to feel compassionate emotions for the protagonist in the help-seeking scenario and, in consequence, more likely to report an intention to help the protagonist in such a scenario. We noted a further unexpected result, namely that in the SR condition empathy was a better predictor of compassionate emotions compared to the perception of personal responsibility; this emphasizes the importance of dispositional personality variables as determinants of intention to help, even when influential situational factors are also in play. At least in the case of empathy, dispositional variables were more important predictors of compassionate emotions than situationally manipulated attribution of responsibility. These results confirm that prosocial dispositional variables are robust and important antecedents of prosocial behavior and strengthen the case for including dispositional variables in situational models of prosocial behavior to provide a more complete theoretical account of prosocial behavior. In general our data provide support for Weiner's model, confirming that attribution of responsibility influences compassionate emotions which enhance intention to help (Weiner, 1980a, 2012).

Our study makes important empirical and theoretical contributions to the literature on prosocial decision making, because our findings strengthen the case for developing theoretical models which recognize that both situational and dispositional variables are essential to understanding prosocial behavior (Penner & Orom, 2010; Perugini & Prestwich, 2007). Our conclusions are more reliable because our large sample size ensured that our analysis was more powerful than is standard in social and personality psychology, thus reducing the probability that our findings were affected by type I or type II errors or the other biases which often affect social psychological research (Asendorpf et al., 2013).

One limitation of our study is that the psychometric properties of some of the instruments used were adequate rather than good, although they were similar to those reported in previous research (Rabelo et al., 2012; Rabelo & Pilati, 2013; Sampaio & Menezes, 2011). This may reflect a problem with the instruments; other instruments should perhaps be used in replications of these results. Future research should focus on testing how well self-report scales or implicit measures of dispositional empathy or personal distress predict various types of prosocial responses (Perugini

et al., 2011). Compassionate emotions are mental states elicited by fast and automatic evaluations of the environment, so implicit measures may be better predictors of compassionate emotions than self-report based measures, but this is an issue for future research. This kind of research will help us to draw stronger conclusions about the theoretical and practical importance of personality variables in the description and prediction of prosocial behavior.

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Notes

- * Research article.

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