

## Principle of Care and Giving to Help People in Need

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*Abstract:* Theories of moral development posit that an internalized moral value that one should help those in need—the principle of care—evokes helping behaviour in situations where empathic concern does not. Examples of such situations are helping behaviours that involve cognitive deliberation and planning, that benefit others who are known only in the abstract, and who are out-group members. Charitable giving to help people in need is an important helping behaviour that has these characteristics. Therefore we hypothesized that the principle of care would be positively associated with charitable giving to help people in need, and that the principle of care would mediate the empathic concern–giving relationship. The two hypotheses were tested across four studies. The studies used four different samples, including three nationally representative samples from the American and Dutch populations, and included both self-reports of giving (Studies 1–3), giving observed in a survey experiment (Study 3), and giving observed in a laboratory experiment (Study 4). The evidence from these studies indicated that a moral principle to care for others was associated with charitable giving to help people in need and mediated the empathic concern–giving relationship. © 2016 The Authors. European Journal of Personality published by John Wiley & Sons Ltd on behalf of European Association of Personality Psychology

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‘How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortunes of others, and render their happiness necessary to him, though he derives nothing from it except the pleasure of seeing it.’ Adam Smith (1759)

Empathy is a fundamental capacity that facilitates social interaction. Recognizing the needs of others enables individuals to build and strengthen social ties by spontaneously helping others and reciprocating previously received help. Because of its consequences for prosocial behaviour, empathy has been studied extensively in the social psychology of helping behaviour (Dovidio, Piliavin, Schroeder, & Penner, 2006). In this literature, the *empathy–helping hypothesis*, that empathy and helping behaviour are positively associated, has received extensive support.

The dispositional version of the empathy–helping hypothesis is that people with a stronger tendency to experience concerned, sympathetic, or compassionate reactive outcomes in response to the needs of others—*dispositional empathic concern*—will perform more helping behaviour. Substantial evidence has supported the view that empathy is a relatively

stable disposition having a positive association with a wide variety of prosocial behaviours (Eisenberg et al., 2002).

Theoretical analysis moves beyond the empathy–helping hypothesis to posit that helping behaviour is also a consequence of an internalized moral value that one should help those in need (Eisenberg, 1982, 1986). Hoffman (2000) and Batson (2011) call this value the *principle of care*. In theories of moral development, the principle of care emerges at a higher stage of development than empathy (Eisenberg, 1982, 1986; Hoffman, 2000). Individuals endorsing the principle of care should help people in need not just because they feel bad for those in trouble, but also because they recognize helping as the morally right thing to do. Building on empathy, the principle of care thus provides an additional basis for helping people in need.

However, the principle of care and empathy differ in their consequences for helping behaviours. Theoretical analysis predicts that empathy is more strongly associated with helping in response to needs of close others, such as kin and in-group members, than in response to needs of more distant others, such as unrelated individuals and out-group members (Stürmer, Snyder, & Omoto, 2005). This is indeed what Stürmer et al. (2005) and Stürmer, Snyder, Kropp, and Siem (2006) found. In contrast, theory predicts that the principle of care leads individuals to help others in need regardless of social and psychological distance or genetic relatedness. Therefore the principle of care is expected to be associated with helping in response to needs of unrelated individuals and out-group members, and to play a greater role than empathic concern in helping behaviours characterized by non-spontaneous planning and abstract contact with the other in

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need (Hoffman, 2000). Charitable giving to help people in need is among the socially important helping behaviours that have these characteristics. Abstract helping of people in need poses a clear case where the association between the principle of care and giving is predicted to be stronger than the association between empathic concern and giving.

There has not been research testing predictions about the principle of care, empathic concern, and charitable giving to help people in need. In contrast, for other helping behaviours there have been many previous empirical studies of the dispositional empathic concern–helping hypothesis (for reviews see the studies with adult participants covered in Eisenberg & Miller, 1987, Table 2; Davis, 1994; Penner, Dovidio, Piliavin, & Schroeder, 2005). The consensus interpretation has been that the evidence supports the hypothesis.

However, the evidence supporting the dispositional empathic concern–helping hypothesis may not necessarily imply that empathy has a strong direct effect on helping. The reason is that almost all previous studies have not included the principle of care, but the developmental theory discussed above would suggest that the principle of care is a potential mediator of empathic concern. The first empirical study that examined dispositional empathic concern and the principle of care as having separate relationships with helping behaviour found evidence that the principle of care mediated empathic concern for ten types of helping behaviour (Wilhelm & Bekkers, 2010). As theory predicted, this was especially so for helping behaviours characterized by planning and abstract contact with the other in need—such as whether one gives money to a charity. This finding suggests that by ignoring the principle of care, the direct empathic concern–helping relationship may appear to be over-stated especially when analysing types of helping behaviour such as giving to charities that help people in need.

Therefore the present study investigated two hypotheses about the principle of care, empathic concern, and charitable giving to help people in need: (i) that the principle of care is associated with giving to help people in need, and (ii) that the principle of care mediates the empathic concern–giving relationship. For this purpose we created a new instrument to measure the principle of care. In the course of testing the hypotheses in four different samples we tested the instrument's psychometric properties: discriminant validity (with respect to empathic concern, perspective taking, and personal distress), test–retest reliability over a period of two years, and predictive validity. We investigated the principle of care in two nations: the Netherlands and the United States. We investigated amounts given. Finally, an important innovation is that in two samples we went beyond self-report measures of helping and tested the hypotheses using measures of giving observed in experiments.

### THE PRINCIPLE OF CARE AND EMPATHIC CONCERN ARE DISTINCT CONSTRUCTS

Hoffman (2000) and Eisenberg (1982, 1986) develop theories of moral development in which the principle of care and empathic concern are connected, but separate, constructs.

Hoffman (2000, p. 225) writes that the principle of care is an 'extension of empathic distress to specific situations to the general idea that one should always help people in need.' Eisenberg (1982, p. 233) writes that empathic orientation can develop into an internalized value orientation in which a person upholds values such as a duty to help people in need. Hence, Eisenberg's internalized value orientation is akin to the construct Hoffman called the principle of care. Obviously, some individuals strongly endorse the moral principle that one should help others in need, while others place less emphasis on the principle. Likewise some individuals have a stronger tendency to experience empathic concern, while others less so. Consequently, the principle of care and empathic orientation are individual difference variables—they are dimensions of an individual's disposition (see Eisenberg, 1982).

While the principle of care and empathic concern are connected in developmental theory, and are each dimensions of an individual's disposition, they are distinct constructs. First, they may be linked to different ultimate motives—helping out of obligation and/or helping out of concern for the other's welfare (Staub, 1978; Batson, 1994, 2011)—although both motives can be active at the same time (Hoffman, 2000). Second, when faced with a situation in which someone needs help, the principle of care involves cognitive deliberation of the situation from the perspective of a moral point of view. The cognitive deliberation can operate just as easily when the other needing help is at a distance (or only known in the abstract) or closely present, and when the help requires planning to deliver or is immediate. In contrast, empathic concern involves an almost automatic emotional process instigated by the immediate need of the other who is present—the 'here-and-now' bias (Hoffman, 2000).

Third, empathic concern will more likely lead to a stronger reactive outcome, and hence more likely lead to help being given, when the other needing help is an in-group member (Stürmer et al., 2005; Stürmer et al., 2006). Hoffman (2000, p. 213) argues that this 'familiarity bias' of empathic concern can be overcome by those who strongly endorse the principle of care. This is possible because the principle of care embodies universalism—care is to be extended to all people in need, both in-group and out-group members. For example, Eisenberg's (1982) internalized value orientation applies to all people. Oliner and Oliner (1988) emphasize universalism in the principle of care, concluding that rescuers of Jews not only endorsed a value of care, but also applied that value to all people, even people not in their own group. Consequently, the principle of care can be thought of as expanding the norm Schwartz (2010) called *benevolence*—'preserving and enhancing the welfare of those with whom one is in frequent personal contact' (underline added)—to also include the norm he called *universalism*—'understanding, appreciation, tolerance, and protection for the welfare of all people and for nature' (underline added). In other words, the principle of care can be thought of as universal benevolence. We will return to a discussion of the principle of care and Schwartz's benevolence and universalism norms in the General discussion.

The principle of care and empathic concern are separate theoretical constructs, with different predicted effects on

helping behaviour depending on the degree to which (i) the other needing help is distant or known in the abstract, compared to the other being closely present; (ii) a helping response would require some planning, compared to being immediate and spontaneous; and (iii) the potential helper can discern whether the other needing help is an in-group or out-group member. Wilhelm and Bekkers (2010) modelled the principle of care and empathic concern as separate empirical constructs. Using data representative of the U.S. adult population from the 2002 and 2004 *General Social Surveys*, they found that the principle of care was associated with ten types of helping behaviour, that the associations were large in magnitude, and that the principle of care mediated the empathic concern–helping relationship for all the helping behaviours. Consistent with the hypothesized differences noted above, for planned help involving abstract contact with the other in need—giving money to a charity, doing volunteer work for a charity, and donating blood—the principle of care completely mediated the empathic concern–helping relationship.

These results suggest that greater theoretical and empirical attention be given to the principle of care, and bring to the forefront questions about how institutions (e.g. the family, schools, religious groups, etc.) socialize the principle of care. However, the study had several limitations. Because the data were about binary indicators of whether or not helping behaviour was performed, the results do not indicate whether the principle of care is strongly associated with the amount of help given. Although results representative of the U.S. adult population are important, it is not known whether the principle of care is strongly associated with helping in other populations. Data measuring perspective taking (PT) and personal distress (PD) were not available; therefore it is not known whether the results would have been robust to the inclusion of these additional dispositions that are both positively correlated with empathic concern (Eisenberg et al., 1989; Skoe, 2010) and related to helping behaviour (Eisenberg, Miller, Shell, McNalley, & Shea, 1991; Eisenberg, Carlo, Murphy, & Van Court, 1995; Eisenberg, Zhou, & Koller, 2001). Finally, the results were about self-reported helping. The present study addressed these limitations in the previous research.

## CHARITABLE GIVING AND THE PRINCIPLE OF CARE

Based on the theoretical distinctions between empathic concern and the principle of care, and Wilhelm and Bekkers (2010) evidence consistent with those distinctions, our hypothesis is that the principle of care will have a strong relationship with types of helping behaviour that (i) involve cognitive deliberation and planning; (ii) benefit others known only in the abstract; and (iii) potentially benefit out-group as well as in-group members. In the present article we examine a type of helping behaviour well-suited to test this hypothesis: giving to charitable organizations. Compared to helping in spontaneous situations, charitable giving involves relatively more cognitive deliberation. In deciding about charitable giving, one generally has time to think and plan whether to give and how much to give, especially when more than a

token amount is under consideration.<sup>1</sup> Usually beneficiaries of the charity are known only in the abstract by the helper who thinks of them as those in need, the poor, the sick, the victims of disaster, or the disadvantaged living in distant countries. Donations to charity may help both those the helper considers to be in-group and out-group members without the helper being able to distinguish the two. Helpers are less responsive to their own similarity to those in need when giving through organizations than when giving directly person-to-person (Kayser, Farwell, & Greitemeyer, 2008). Just as important, charitable giving is a socially relevant type of helping behaviour—educators, social leaders, and policy-makers expend considerable effort encouraging people to give to charity. Charitable giving is €4.3 billion (0.7% of GDP) in the Netherlands and \$335 billion (2% of GDP) in the United States (Schuyt, Gouwenberg, & Bekkers, 2013; Giving USA, 2014).

What is often not stated, but should be kept in mind, is that a large portion of the giving covered in the national aggregates just cited is not directed toward helping people in need known to the helper only in the abstract. Much of the giving in the national aggregates is directed toward people known to the donor: for example to one's own religious congregation (€806 million—19% of total giving—in the Netherlands; \$105 billion—31% of total giving in the U.S.) where the giver personally knows fellow congregants, or for neighbourhood and community improvement where the giver may be fairly certain that those who benefit are similar to him or herself. Mesch, Brown, Moore, and Hayat (2011) used the same three-item principle of care instrument as did Wilhelm and Bekkers (2010) to investigate amounts given to religious congregations combined with amounts given to all secular organizations (the same construct as in the national aggregates) and found that the empathic concern–giving relationship was significantly weakened, although not completely mediated, by including the principle of care. While this result is an indication that the principle of care is related to amounts voluntarily given, it does not serve to test our hypotheses because the giving construct investigated covered much more than giving to help people in need known to the helper in the abstract.

Therefore we focused attention on charitable giving that is intended to help those in need and known to the helper, for the most part, only in the abstract. Specifically, we investigated giving to organizations that helped people with basic needs; served a combination of purposes much of which are directed toward people who are poor (Rooney & Brown, 2007); or provided international relief and development.

## OVERVIEW OF THE PRESENT RESEARCH

We conducted four studies. Each tested two hypotheses. Our first hypothesis was that the principle of care is associated

<sup>1</sup>Although it is true that people give money spontaneously to charities soliciting in grocery stores or on the street, such giving tends to be of very small amounts (Wilhelm, 2007; Bekkers & de Wit, 2015), and therefore would not be expected to have much effect on our results. As a check on this, the design of Study 1 to come used a \$25 dollar screen that would have screened out most spontaneous giving of small amounts.

with charitable giving to basic needs, combined purpose, and international aid organizations. To facilitate discussion we refer to this as the ‘principle of care–giving hypothesis.’ We expected the evidence to support the principle of care–giving hypothesis in the context of giving to organizations that help people with basic needs because of the strong theoretical rationale for this expectation developed above: such giving involves distant others, universalism, and deliberate cognition. In the General discussion we will take up the matter of how to assess which among these three reasons contributes to the explanation *why* the principle of care is associated with giving to organizations that help people in need.

Our second hypothesis was that the principle of care mediates the empathic concern–giving relationship. A theoretical pathway through which mediation may arise is that during the developmental process some who were strong in empathic concern then developed the principle of care (Eisenberg, 1982, 1986; Hoffman, 2000). This theoretical argument, in which the association between a disposition (empathic concern) and an outcome (giving) is mediated through a moral value (principle of care), is similar to that in Lewis and Bates (2011) who modelled the association between the Big Five personality domains and political orientation as being mediated through moral values.<sup>2</sup> It is important to note that we are not suggesting that developing the principle of care—an internalized moral value to help other people in need—is necessarily contingent on having strong empathic concern. Only that empathic concern is a foundation through which an internalized moral value to help could be developed, while there are other foundations through which this moral value also could be developed (e.g. philosophical reflection).

This developmental mediation argument suggests a potential theoretical answer to the question why previous evidence of the empathic concern–helping relationship that failed to consider the principle of care might not necessarily imply that empathy has a strong direct association with helping. To be clear: our studies were designed to detect evidence that is consistent, or not, with mediation, but not to generate evidence that empathic concern *caused* the principle of care in the developmental process. We expected the results to be consistent with the principle of care–mediates–empathic concern hypothesis because the giving to organizations that help people with basic needs that we investigated is a type of helping behaviour in which the persons in need were not immediately present and were likely to be dissimilar to the potential helper, and because the decision to help was typically not spontaneous but planned. Should our studies produce evidence consistent with mediation, the General discussion will describe the design of experiments that could begin to test causal pathways.

Study 1 used a large nationally representative sample from the United States to test the principle of care–giving and mediation hypotheses in the context of amounts given

to help people in need. The study also introduced the new principle of care instrument and examined its discriminant validity vis-à-vis empathic concern, perspective taking, and personal distress. Study 2 sought to replicate the findings from Study 1 by using a large nationally representative sample from the Netherlands and an outcome that measured whether or not participants gave to help people in need. Study 3 used a second large nationally representative Dutch sample to test the predictive validity of the principle of care for the amount given to help people in need, as Study 1 did for the American sample. The Study 3 participants were in a longitudinal study, and this enabled an examination of the test–retest reliability of the instrument. Whereas Studies 1 and 2 used self-reported giving data, a second aim of Study 3 was to test the two hypotheses in a context where giving to people in need was measured not only with self-reports but also observed in a field experiment. Study 4 tested the hypotheses by using amount given to people in need observed among participants in a laboratory experiment at a university in the United States.

## STUDY 1

### Method

#### *Participants and procedure*

Participants were respondents to the 2008–2009 American National Election Study Panel Study (ANES). The ANES was funded by the National Science Foundation, data were collected under the direction of principal investigators at Stanford University and the University of Michigan, and field operations were conducted by Knowledge Networks (DeBell, Krosnick, & Lupia, 2010). The study involved 22 monthly surveys beginning in January 2008 and ending in October 2009. The October 2009 survey contained the principle of care and giving questions upon which we focus.

The target population was U.S. citizens eligible to vote in the 2008 election (i.e. 18 years and older). The sample was selected using random-digit dialling. After an initial telephone-based recruitment interview, data were collected using self-administered Internet-based interviewing. Participants were paid \$10 per completed monthly survey, and those without a computer and/or Internet service were provided the necessary equipment and service. After an initial drop of participants between the initial recruitment interview and the second profile interview, not uncommon in panel studies, attrition was low in the subsequent monthly surveys: 78% of those who completed the first monthly survey also completed the October 2009 survey 22 months later.

### Measures

#### *Principle of care*

To measure the principle of care we designed an instrument that asked participants their strength of agreement/disagreement with eight items: (i) People should be willing to help others who are less fortunate. (ii) Everybody in this world has a responsibility to help others when they need assistance. (iii) These days people need to look after themselves and not

<sup>2</sup>Lewis and Bates (2011) investigation of political orientation required consideration of several domains of moral values and therefore they worked with moral foundations theory (Graham et al., 2011). We will return to the relationship between the principle of care and moral foundation theory in the General discussion.

Table 1. Means, standard deviations, and correlations of the variables in Study 1 (Source: ANES)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Principle of care	3.83	.88	—			
2. Empathic concern	3.86	.92	.61**	—		
3. Perspective taking	3.53	.89	.44**	.57**	—	
4. Personal distress	2.44	.93	-.05	-.00	-.15**	—
5. Amount given	400.88	1,186	.10*	.06 <sup>(*)</sup>	.06*	-.10**

Note: Data were from the American National Election Study (ANES). The ranges of the variables in the first four rows were 1–5. Row 5 is the dollar amount given to basic needs, combined purpose, and international aid organizations. The ANES provided weights to account for the complex survey design (e.g. an over-sampling of phone numbers in Census tracts with large percentages of minority residents) and to post-stratify to match Current Population Survey statistics on sex, region, age, race, ethnicity, and education. The descriptive statistics and correlations used the weights and accounted for the survey design.  $N = 2264$ .  $(*)p \leq .10$ ;  $*$  $p < .05$ ;  $**p < .01$ .

overly worry about others. (iv) When people are less fortunate, it is important to help them even if they are very different from us. (v) It is important to help one another so that the community in general is a better place. (vi) Personally assisting people in trouble is very important to me. (vii) When thinking about helping people in trouble, it is important to consider whether the people are like us or not. (viii) We should not care too much about the needs of people in other parts of the world.<sup>3</sup> Responses were on a five-point scale (strongly disagree, disagree, neither agree or disagree, agree, strongly agree). Items (iii), (vii), and (viii) were reverse-coded. The reliability coefficient was  $\alpha = .86$ .

#### *Empathic concern, perspective taking, and personal distress*

The three constructs were measured with their respective seven-item sub-scales from the Interpersonal Reactivity Index (IRI; Davis, 1994). The sub-scales have internal and test–retest reliability (Davis, 1994 p. 57), and have been widely used in psychological research (Batson et al., 1986; Bekkers, 2005, 2006; Davis, 1983a, 1983b; Penner & Finkelstein, 1998; Soenens, Duriez, Vansteenkiste, & Goossens, 2007). Representative items were ‘I often have tender, concerned feelings for people less fortunate than me’ (empathic concern), ‘I sometimes try to understand my friends better by imagining how things look from their perspective’ (perspective taking), and ‘Being in a tense emotional situation scares me’ (personal distress). Participants responded to each item using a five-point scale from (1) ‘does not describe me very well’ to (5) ‘does describe me very well.’ The respective  $\alpha$ s = .76, .75, and .77. Two participants were dropped from the analysis because they did not answer all the items on one of the sub-scales. The sample size is  $N = 2264$ .

#### *Charitable giving*

Participants first read a description of a range of charitable organizations.<sup>4</sup> The participant was then asked whether

<sup>3</sup>Items (i), (iii), and (vi) were created by the *General Social Survey* and were used in the initial work on the principle of care by Wilhelm and Bekkers (2010). Therefore we include these items in our scale.

<sup>4</sup>The full text of the description was: ‘Charitable organizations include religious or non-profit organizations that help those in need or that serve and support the public interest. They range in size from national organizations like the United Way and the American Red Cross down to local community organizations. They serve a variety of purposes such as religious activity, helping people in need, health care and medical research, education, arts, environment, and international aid.’

‘**During the year 2008**, did you [or your husband/wife/spouse/partner] **donate** money, assets or property/goods, with a combined value of **more than \$25** to religious or charitable organizations?’ (bold emphases are as they were in the instrument). Participants who said ‘yes’ were then asked 10 questions about giving to different types of organizations. To focus on types of giving intended to help people in need we analysed the amounts given to basic needs, combined purpose, and international aid organizations.<sup>5</sup> The giving questions were asked before the principle of care and the IRI sub-scales.

#### Results

Means, standard deviations, and bivariate correlations for the variables used in our analysis are presented in Table 1. The mediation hypothesis requires that the principle of care is positively correlated with empathic concern, and the principle of care was indeed positively correlated with empathic concern (.61,  $p < .01$ ). Both the principle of care and empathic concern were correlated with perspective taking. An exploratory principal-component factor analysis with varimax rotation for the 21 IRI items indicated four factors with eigenvalues greater than one. The three sub-scales loaded on three separate factors, and the reverse-coded items from each sub-scale all loaded on a fourth factor, suggesting some evidence of method variance. The exploratory analysis expanded to include the principle of care items indicated six factors: the principle of care, empathic concern, perspective taking, and personal distress items loaded on four separate factors. The reverse-coded IRI items loaded on another factor (as they did in the factor analysis of the 21 IRI items without the care items), and the reverse-coded principle of care items

<sup>5</sup>Basic needs organizations are those that ‘help people in need of food, shelter, or other basic necessities’ (the quotation is from the survey instrument that participants responded to). Combined purpose organizations are those, like the United Way, whose majority of work is directed toward at-risk youth, families in crisis, basic needs, and disaster response (Rooney & Brown, 2007). International aid organizations serve people who are poor and respond to disasters in the developing world. Although participants gave to organizations that serve a variety of other purposes—e.g. health care and medical research, educational institutions, youth and family services (e.g. scouting, boys’ and girls’ clubs, family counselling), the arts, neighbourhood and community improvement, the environment, and religious congregations—much of this giving likely benefits people similar to the donors (hence, in-group members) and does not primarily aid those who are poor (Clotfelter, 1992). Although giving to these seven other types of organizations is not our focus, we do present some results for them in the Supporting Information Table E.

loaded on a sixth factor, again suggesting some evidence of method variance. Nevertheless the factor analysis indicated that the principle of care can be discriminated from empathic concern, perspective taking, and personal distress.

In Table 2 the principle of care–giving hypothesis (Model 1) and the mediation hypothesis (Model 3) were tested. The units of the  $B$  coefficients in the regression were dollars per unit standard deviation (the scales are standardized). Consistent with the principle of care–giving hypothesis, the first model in Table 2 showed that the principle of care was significantly associated with charitable giving ( $B = \$96.22, p < .01$ ). The  $B$  coefficient indicated that a one standard deviation increase in the principle of care was associated with \$96 higher giving, a 24% difference relative to the \$401 given on average. Model 2 showed a smaller, but still significant, association between empathic concern and giving ( $B = \$62.32, p < .01$ ). Model 3 tested the mediation hypothesis by modeling the principle of care and empathic concern as co-determinants of giving. The results supported the mediation hypothesis: the principle of care retained its significant association with giving ( $B = \$92.98, p < .01$ ) but empathic concern did not ( $B = \$5.45, p = .81$ ). The Sobel test showed that the indirect effect was \$56.72 ( $p < .01$ ), hence nearly all (91 percent) of the empathic concern–giving association from Model 2 was mediated by the principle of care. Model 4 tested the hypotheses while modeling perspective taking and personal distress as additional co-determinants of giving. The perspective taking–giving association was not significant, but the personal distress–giving association was significantly negative ( $B = -\$100.58, p < .01$ ). The principle of care retained its significant and substantively large association with giving ( $B = \$84.74, p < .01$ ), while the empathic concern–giving association remained insignificant and small. A one standard

deviation increase in the principle of care was associated with 21% higher giving.

## STUDY 2

Study 1 yielded support for the principle of care–giving hypothesis and the hypothesis that the principle of care mediated the empathic concern–giving relationship in the context of amounts given to help people in need. Study 1 also introduced a new instrument to measure the principle of care. Like previous research, a limitation of Study 1 was that it did not extend empirical support for the hypotheses beyond the American population. In Study 2 we investigated the hypotheses using a representative sample from the Netherlands.

## Method

### Participants and procedure

Participants were respondents to the 2008–2009 Family Survey of the Dutch Population (FSDP). The FSDP was funded primarily by Innovation Grants from the Faculty of Social Sciences at Radboud University Nijmegen and the Netherlands Organization for Scientific Research (NWO Grant #481-08-001). Data were collected under the direction of principal investigators at Radboud University Nijmegen, and field operations were conducted by TNS NIPO in January 2009 and December 2009 (Kraaykamp, Wolbers, & Ruiters, 2009). The FSDP was an extensive survey that covered a wide variety of topics. Because of the overall respondent burden in the lengthy survey it was necessary to limit the number of principle

Table 2. Amount given to basic needs, combined purpose, and international aid organizations as a function of the principle of care and empathic concern in the American population (Source: ANES)

Independent variable	Model 1		Model 2		Model 3		Model 4	
	$B$ (\$)	$SE_B$	$B$ (\$)	$SE_B$	$B$ (\$)	$SE_B$	$B$ (\$)	$SE_B$
Principle of care	96.22**	25.57			92.98**	24.59	84.74**	25.60
	[46,146]				[45,141]		[35,135]	
Empathic concern			62.32*	24.49	5.45	22.74	7.92	27.36
			[14,110]		[-39,50]		[-46,62]	
Perspective taking							4.16	26.63
							[-48,56]	
Personal distress							-100.58**	24.10
							[-148,-53]	
$R^2$	.009		.004		.009		.019	
$F$ -statistic to test for a significant change in $R^2$ upon adding the principle of care ( $p$ -value in parentheses)					14.3 <sup>a</sup> (.0002)		11.0 (.0009)	

Note: The dependent variable was the dollar amount given. Each independent variable was standardized; therefore,  $B$  indicated the dollar effect on giving of a one standard deviation increase in the independent variable. For example, the interpretation of the 96.22 estimate in Model 1 indicates that a one standard deviation increase in the principle of care was associated with a \$96.22 increase in the amount given to the charitable organizations. The estimates were from weighted least squares models, and the standard errors accounted for the survey design of the ANES. In Model 3, a Sobel test indicated the indirect effect of empathic concern was \$56.72 ( $p < .01$ ); the proportion mediated was .910.  $N = 2264$ .

\* $p < .05$ ; \*\* $p < .01$ .

<sup>a</sup>Testing for an incremental and significant change in  $R^2$  upon adding the principle of care to Model 2 (hierarchical regression) is identical to the  $t$ -test of the significance of the principle of care  $B$ , which can be verified by confirming that the square-root of the  $F$ -statistic equals the  $t$ -statistic (92.98/24.59). Because the two tests are identical, in subsequent tables we simply report the significance of the principle of care  $B$ .

of care and IRI items and to ask only about whether or not donations were made.

The FSDP target population was the Dutch population between 18 and 70 years. The sample was drawn from national databases of residential addresses. There was an oversample of persons who were married or cohabiting. Partners were also interviewed. Primary target persons received an invitation letter including a €5 unconditional incentive. The initial interview was in-person after which subsequent data were collected using a self-administered Internet-based interview. The cooperation rate was 44.2%, low relative to surveys of the U.S. population but typical for surveys of the Dutch population (Stoop, 2005). The sample size is  $N=2605$ .

## Measures

### *Principle of care*

The items used to measure the principle of care were the same as those included in the ANES except for item (vii). The reliability coefficient was  $\alpha=.85$ .

### *Empathic concern, perspective taking, and personal distress*

Empathic concern and perspective taking were each measured with four-item versions of the IRI translated into Dutch (Bekkers, 2005, 2006). Personal distress was measured with three items; a fourth available item was not used because it lowered the scale's reliability to .54.<sup>6</sup> The respective  $\alpha$ s were .71, .76, and .66.

### *Charitable giving*

The question on giving to charity read: 'In the past year, did you donate money to one of the following associations/organizations?' Then the participant reported 'yes' or 'no' for 11 types of organizations. The question design is identical to the GSS items used by Wilhelm and Bekkers (2010) translated into Dutch and applied to the 11 organization types. To focus on types of giving to help people in need we analysed whether or not donations were given to international aid or national organizations serving people in need. The donation questions were asked after the principle of care and the IRI sub-scales.

## Results

Means, standard deviations, and bivariate correlations for the variables used in our analysis are presented in Table 3. As in the ANES, the principle of care was positively correlated with empathic concern (.62,  $p < .01$ ), and both the principle of care and empathic concern were correlated with perspective taking. An exploratory principal-component factor analysis with varimax rotation for the 11 IRI items indicated three factors with eigenvalues greater than one. The items from the three IRI sub-scales showed high loadings on separate factors. Reverse-coded items did not load on a fourth factor. Expanding the analysis to include the principle of care items indicated a fourth factor with eigenvalue greater than one.

<sup>6</sup>Table F in the Supporting Information lists the items included in the various studies.

Table 3. Means, standard deviations, and correlations of the variables in Study 2 (Source: FSDP)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Principle of care	3.60	.61	—			
2. Empathic concern	3.60	.64	.62**	—		
3. Perspective taking	3.66	.59	.37**	.37**	—	
4. Personal distress	2.69	.56	.07**	.12**	-.03	—
5. Whether give	0.54	.50	.38**	.26**	.17**	-.00

*Note:* Data were from the Family Survey of the Dutch Population 2009 (FSDP). The ranges of the scales in the first four rows were 1–5. Row 5 is the proportion of participants who reported giving in the past year to national and international aid organizations. The FSDP provided weights to account for the oversample of married and cohabiting persons and to post-stratify to match national statistics from Statistics Netherlands on sex, region, age, and marital status. The descriptive statistics and correlations we report used the weights.  $N=2605$ .

\* $p < .05$ ; \*\* $p < .01$ .

The principle of care-giving and mediation hypotheses were tested in Table 4. Following Wooldridge (2013, Chapter 7) we used linear probability models in Table 4 to provide easily interpretable estimates of response probabilities. The test results were qualitatively similar to those from Study 1: the principle of care was significantly associated with giving to help people in need (Model 1), the empathic concern-giving association was smaller but still significant (Model 2), and in Model 3 the principle of care mediated a large amount (83%) of the empathic concern-giving association from Model 2. The mediation result was not changed upon modeling perspective taking and personal distress as additional co-determinants of giving. The principle of care-giving association was substantively large: in Model 3 a one standard deviation increase in the principle of care was associated with a 18 percentage point increase in the probability of giving, a 33% increase relative to the base line probability of giving (.54). The corresponding increase was a (non-significant) 2 percentage points for empathic concern.<sup>7</sup>

## Discussion

Study 2 replicated the results of Study 1. The hypotheses that the principle of care is associated with giving to organizations that help people in need and mediates the empathic concern-giving relationship were supported for a second population. Study 2 also confirmed the discriminant validity of the new principle of care instrument with respect to empathic concern, perspective taking, and personal distress both in the factor analysis and in its qualitatively different association with charitable giving.

A limitation of Study 2 was that the results did not indicate, for the Dutch population, whether the principle of care was strongly associated with the amount of help given. A second limitation, also shared by Study 1, was that the

<sup>7</sup>We repeated the Table 4 analyses using logistic regression and the results were nearly identical (see the Supporting Information, Table A). For example, Model 3 yielded odds-ratios for the principle of care and empathic concern of 2.38 ( $p < .01$ ) and 1.10 ( $p = .27$ ), respectively, and respective effects on the response probabilities of .20 and .02, very close to the .18 and .02 from the linear probability model.

Table 4. Probability of giving to national and international aid organizations as a function of the principle of care and empathic concern in the Dutch population (Source: FSDP)

Independent variable	Model 1		Model 2		Model 3		Model 4	
	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>
Principle of care	.19** [.17, .21]	.01			.18** [.15, .21]	.02	.18** [.14, .21]	.02
Empathic concern			.13** [.10, .16]	.01	.02 [−.01, .06]	.02	.02 [−.02, .06]	.02
Perspective taking							.01 [−.02, .04]	.02
Personal distress							−.02 [−.04, .01]	.01
<i>R</i> <sup>2</sup>	.15		.07		.15		.15	

Note: The dependent variable was the probability of giving. Each independent variable was standardized; therefore, *B* indicated the increase in the probability of giving of a one standard deviation increase in the independent variable. The estimates were from a weighted linear probability model, and the standard errors accounted for the survey design of the FSDP and were adjusted for the clustering of respondents in households. In Model 3, a Sobel test indicated the indirect effect of empathic concern was .108 ( $p < .01$ ); the proportion mediated was .831.  $N = 2605$ .

\* $p < .05$ ; \*\* $p < .01$ .

principle of care and IRI items were collected within the same survey that measured giving behaviour. This raised the possibility that the results supporting the principle of care–giving hypothesis reflected to some extent *ex post* justification of giving. We defer discussion of *ex post* justification until the General discussion. Finally, Study 1 and 2 used self-report measures of giving to people in need. Evidence from observational measures of giving to people in need would strengthen the validity of our hypotheses. Study 3 addressed all three limitations to Study 2.

### STUDY 3

Study 3 used a longitudinal survey that collected data on amounts given to help people in need. The longitudinal design enabled a test of the hypotheses using principle of care and IRI items collected two years before the measurement of giving behaviour. The longitudinal design also enabled an examination of the test–retest reliability of the principle of care instrument. In addition to self-reported measures of amounts given by the participants, Study 3 observed amounts given by the participants in an experiment. Furthermore, the amounts participants gave in Study 3 were from money they had been paid for having completed a long survey; therefore it was likely that participants felt that they had exerted effort to earn their payment.

### Method

#### Participants and procedure

Participants were respondents in the 2008 and 2010 waves of the Giving in the Netherlands Panel Survey (GINPS). The GINPS was funded by the Netherlands Ministry of Justice. Data were collected under the direction of principal investigators at the Center for Philanthropic Studies at VU University, and field operations were conducted by TNS NIPO May 2008 and May 2010 (Bekkers, Boonstoppel, & de Wit, 2013).

The target population was the Dutch population aged 18 and older. The sample was drawn from national databases of residential addresses. Participants received a reward in exchange for participation in the form of points that they could later change into a voucher or a donation. Data were collected using a self-administered Internet-based interview. The 2008 and 2010 response rates were 86.5% and 76% ( $N_s = 1866$  and 1765 respectively). The high response rates are typical for online surveys conducted by TNS/NIPO among the Dutch population. Just over two-thirds ( $N = 1280$ ) of the 2008 participants also participated in the 2010 survey.

### Measures

#### Principle of care

The principle of care was measured with three items also used in the ANES and FSDP: (i) ‘People should be willing to help others who are less fortunate’; (iii) ‘People must take care of themselves and not overly worry about others’; and (vi) ‘Personally assisting people in trouble is very important to me.’ Reducing participant burden dictated the reduction in items. These three items were the same as analysed by Wilhelm and Bekkers (2010). The reliability coefficients were  $\alpha = .66$  (2008) and  $.84$  (2010).

#### Empathic concern

The 2008 GINPS included six empathic concern items and the 2010 GINPS included four, translated into Dutch. The  $\alpha$ s were  $.81$  and  $.79$ .

#### Charitable giving—self-reported

Giving was measured using the ‘Method-Area’ approach, an approach that facilitates recall (Rooney, Steinberg, & Schervish, 2004). Participants were first asked about methods they may have used to make donations (e.g. in response to a door-to-door solicitation, making a bank transfer, through the workplace) and then were asked about giving to ten different types of organizations. We analysed amounts given in calendar year 2009 to

Table 5. Means, standard deviations, and correlations of the variables in Study 3 (Source: GINPS 2008, 2010)

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Principle of care 2008	3.41	.63	—				
2. Empathic concern 2008	3.79	.59	.66**	—			
3. Principle of care 2010	3.52	.68	.55**	.49**	—		
4. Empathic concern 2010	3.64	.67	.52**	.58**	.63**	—	
5. Amount given 2010	37.42	103.50	.15**	.13**	.16**	.15**	—
6. Amount donated in experiment	0.61	1.47	.08**	.08**	.13**	.11**	.03

*Note:* Data were from the Giving in the Netherlands Panel Survey 2008 and 2010 (GINPS). The ranges of the scales in rows 1–4 were 1–5. The variable in row 5 is the amount in Euro given in the past year to national and international aid organizations. The 2008 and 2010 GINPS each provided weights to post-stratify to match national statistics from Statistics Netherlands on sex, region, age, level of education, and household size. The means and standard deviations used the respective weights. The correlations did not.  $N = 1886$  (2008) and  $1765$  (2010). The longitudinal 2008–2010 sample  $N = 1280$ .

\* $p < .05$ ; \*\* $p < .01$ .

international aid and national organizations serving people in need. The giving questions were asked after the principle of care and the IRI sub-scales.

#### *Charitable giving—observed in an experiment*

After participants completed the 2010 survey they were presented with a screen that displayed the number of points they earned (1 point = €0.15) and asked to make a decision about the points. The number of points earned depended on the amount of time that the participant had spent filling out the questionnaire. The participants decided whether (i) to receive the points in the form of a voucher to be used in national chains of department stores or Air Miles; (ii) to donate the points to one of four charitable organizations; or (iii) to receive some points in the form of a voucher and donate some to charity. This type of decision is regularly presented to participants in online surveys in the Netherlands. The four charities were prominent health organizations that support research and help people in need and are well-known in the Netherlands: the Aids Fund, the Cancer Foundation, the Dutch Heart Association, and the Red Cross. The organizations serve people in need (i.e. patients and their families) both in the Netherlands as well as abroad (the Aids Fund and Red Cross mainly work abroad). We modified the survey experiment known as the ‘All or Nothing Dictator Game’ to allow participants to give away any desired proportion of the reward. Correlates of giving in the experiment were very similar to correlates of self-reported giving in the past calendar year; this supported the ecological validity of the experiment (Bekkers, 2007).

In the experiment, each participant made his or her giving decision in one of six conditions that varied (i) whether they were told the percentage of participants in a previous experiment who donated points to charity (told or not told) and (ii) whether they were asked to estimate the percentage of participants in the current survey who would donate points to charity (asked to estimate before making their own donation decision, asked to estimate after their donation decision, or not asked to estimate); see Bekkers (2012). Here we pooled the donation decisions across the six conditions.<sup>8</sup> There was no deception.

<sup>8</sup>The principle of care and empathic concern items were asked in the first module of the survey, whereas the six conditions came at the end. The results we report below held for the subsample not told the previous percentage of donors and not asked to estimate the current percentage of donors.

Giving was measured by the monetary value of points donated by the participants to the charity of their choice. Twenty-one percent of the participants donated points to charity, and the average donation among them was €2.92. Among all participants, non-donors included, the average donation was €0.61, about 9% of the average earnings for participation in the survey (€6.58).

#### **Results**

Means, standard deviations, and bivariate correlations for the variables used in our analysis are presented in Table 5. As in Studies 1 and 2 the principle of care was strongly correlated with empathic concern within both the 2008 and 2010 waves of the GINPS (.66 and .63,  $ps < .01$ ). The two-year test–retest correlation for principle of care was .55 and for empathic concern was .58 ( $ps < .01$ ).

#### *Self-reported giving*

The principle of care–giving hypothesis was tested for self-reported giving in Table 6, Model 1. Panel A displays the results of an analysis with the principle of care and giving both measured in the 2008 GINPS, while Panel B uses concurrent 2010 measures. Panel C reexamined the concurrent 2010 measures using only the longitudinal sample of participants in both waves, and Panel D displays the results of an analysis of giving in 2010 regressed on measures of the principle of care and empathic concern taken in 2008. Because the dispositional measures were taken two years before the giving measures were collected, Panel D offers the most stringent test of the principle of care–giving hypothesis.

In Panel D Model 1 the principle of care was significantly associated with giving: a one standard deviation increase in the principle of care was associated with €17.21 higher giving, a 46% difference relative to the €37 given on average. The Model 1 results in the other Panels are similar ( $Bs = €14.98$  to €16.50). In Panel D Model 2 empathic concern was also significantly associated with giving, and the results again were similar in the other three Panels. Model 3 tested the mediation hypothesis. Panel D Model 3 showed the familiar pattern: the estimate for the principle of care fell somewhat ( $B = €13.29$ ,  $p < .01$ ) while the estimate for empathic concern fell much more ( $B = €5.97$ ,  $p = .093$ ), and mediation was at 60%. The concurrent 2008 measures in

Table 6. Amount given to national and international aid organizations as a function of the principle of care and empathic concern in the Dutch population (Source: GINPS 2008–2010)

Independent variable	Model 1		Model 2		Model 3	
	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>	<i>B</i> [95%CI]	<i>SE<sub>B</sub></i>
<i>A. Giving in 2008 predicted by 2008 measures of empathic concern and the principle of care (n = 1866)</i>						
Principle of care	14.98** [9.23,20.75]	2.94			12.07** [4.87,19.27]	3.67
Empathic concern			12.39** [6.95,17.82]	2.77	4.40 [-2.30,11.10]	3.42
<i>R</i> <sup>2</sup>	.01		.01		.02	
<i>Indirect effect of empathic concern (Sobel test): 7.98 (2.42); p &lt; .01; proportion mediated: .644</i>						
<i>B. Giving in 2010 predicted by 2010 measures of empathic concern and the principle of care (n = 1765)</i>						
Principle of care	16.50** [11.92,21.08]	2.33			10.96** [5.25,16.66]	2.91
Empathic concern			15.70** [11.34,20.06]	2.22	8.82** [3.39,14.25]	2.77
<i>R</i> <sup>2</sup>	.02		.02		.03	
<i>Indirect effect of empathic concern (Sobel test): 6.89 (1.87); p &lt; .01; proportion mediated: .439</i>						
<i>C. Giving in 2010 predicted by 2010 measures of empathic concern and the principle of care (longitudinal sample, n = 1280)</i>						
Principle of care	15.90** [10.24,21.55]	2.88			9.40* [1.93,16.87]	3.81
Empathic concern			16.18** [10.82,21.53]	2.73	10.14** [3.03,17.25]	3.62
<i>R</i> <sup>2</sup>	.02		.02		.02	
<i>Indirect effect of empathic concern (Sobel test): 6.04 (2.47); p = .015; proportion mediated: .373</i>						
<i>D. Giving in 2010 predicted by 2008 measures of empathic concern and the principle of care (longitudinal sample, n = 1280)</i>						
Principle of care	17.21** [10.67,23.74]	3.33			13.29** [4.92,21.66]	4.27
Empathic concern			14.98** [9.39,20.56]	2.85	5.97* [-1.00,12.93]	3.55
<i>R</i> <sup>2</sup>	.02		.02		.02	
<i>Indirect effect of empathic concern (Sobel test): 9.01 (3.00); p &lt; .01; proportion mediated: .601</i>						

Note: The dependent variable was the Euro amount given, reported in 2010. The independent variables in Panel B and C were measured in 2010, and those in Panel A and D were measured in 2008. The independent variables were standardized; therefore, *B* indicated the Euro effect on giving of a one standard deviation increase in the independent variable. For example, the interpretation of the 14.98 estimate in Model 1 Panel A indicated that a one standard deviation increase in the principle of care (measured in 2008) was associated with a €14.98 increase in the amount given to the charitable organizations. The estimates were from ordinary least squares regressions. *N* = 1866 (full sample in 2010, panel A); 1765 (full sample in 2008, panel B); 1280 (longitudinal sample, panel C and D). (\*)*p* ≤ .10; \**p* < .05; \*\**p* < .01.

Panel A Model 3 showed much the same pattern. The concurrent 2010 measures in Panel B showed a qualitatively similar pattern, though the mediation was quantitatively less strong (44%). When the concurrent 2010 measures were used with only the longitudinal sample in Panel C Model 3, the estimated principle of care and empathic concern associations were similar in magnitude. The results using the concurrent 2010 measures were an exception to the noticeably stronger principle of care–giving associations (compared to the empathic concern–giving associations) in our other studies, although even with the concurrent 2010 measures it remained the case that failure to consider the principle of care would have led to a much over-stated direct empathic concern–giving relationship in Model 2. The concurrent 2010 results used with the longitudinal sample in Panel C were not robust to use of the 2008 measures of the principle of care and empathic concern for the same sample in Panel D.

#### *Giving observed in experiment*

Table 7 tested the principle of care–giving hypothesis (Model 1) and the mediation hypothesis (Model 3) for giving observed in the experiment at the end of the survey. In Panel A Model 1 the

principle of care was significantly associated with giving: a one standard deviation increase in the principle of care was associated with €0.19 higher giving (*p* < .01), a 31% difference relative to the €0.61 given on average. In Panel B the association was identical. In Panel C, where the 2008 measure of the principle of care was used, the relationship between giving and the principle of care was smaller but still significant (*B* = .13, *p* < .01). In Model 2 Panels A and B empathic concern was also significantly associated with giving, while in Panel C the coefficient was smaller but still significant with the 2008 measure of empathic concern. Model 3 tested the mediation hypothesis. The principle of care retained its significant association with giving in both Panels A and B, but empathic concern did not. While again Panel C showed somewhat weaker relationships between giving and both the principle of care (*B* = .09, *p* = .106) and empathic concern (*B* = .06, *p* = .316), the principle of care–giving relationship was somewhat stronger. Across the panels between half and 63% of the empathic concern–giving association was mediated by the principle of care. In Model 3 a one standard deviation increase in the principle of care was associated with 15% to 26% higher giving relative to the baseline (Panels C and A, respectively).

Table 7. Amount given to national and international health charities in an experiment as a function of the principle of care and empathic concern in the Dutch population (Source: GINPS 2008–2010)

Independent variable	Model 1		Model 2		Model 3	
	<i>B</i>	<i>SE<sub>B</sub></i>	<i>B</i>	<i>SE<sub>B</sub></i>	<i>B</i>	<i>SE<sub>B</sub></i>
	[95%CI]		[95%CI]		[95%CI]	
<i>A. Giving in 2010 predicted by 2010 measures of empathic concern and the principle of care (n = 1765)</i>						
Principle of care	.19**	.03			.16**	.04
	[.13, .26]				[.08, .24]	
Empathic concern			.16**	.03	.06	.04
			[.09, .23]		[−.02, .14]	
<i>R</i> <sup>2</sup>	.02		.01		.02	
<i>Indirect effect of empathic concern (Sobel test): .097 (.025); p &lt; .01; proportion mediated: .606</i>						
<i>B. Giving in 2010 predicted by 2010 measures of empathic concern and the principle of care (longitudinal sample, n = 1280)</i>						
Principle of care	.19**	.04			.16**	.05
	[.12, .27]				[.06, .25]	
Empathic concern			.16**	.04	.05	.05
			[.07, .24]		[−.05, .15]	
<i>R</i> <sup>2</sup>	.02		.01		.02	
<i>Indirect effect of empathic concern (Sobel test): .101 (.031); p &lt; .01; proportion mediated: .631</i>						
<i>C. Giving in 2010 predicted by 2008 measures of empathic concern and the principle of care (longitudinal sample, n = 1280)</i>						
Principle of care	.13**	.04			.09	.05
	[.05, .20]				[−.02, .20]	
Empathic concern			.12*	.04	.06	.06
			[.04, .20]		[−.06, .17]	
<i>R</i> <sup>2</sup>	.01		.01		.01	
<i>Indirect effect of empathic concern (Sobel test): .060 (.037); p = .107; proportion mediated: .500</i>						

Note: The dependent variable was the Euro amount given in 2010. The independent variables in Panel A were measured in 2010, and those in Panel B and C were measured in 2008. The independent variables were standardized; therefore, *B* indicated the Euro effect on giving of a one standard deviation increase in the independent variable. For example, the interpretation of the .19 estimate in Model 1 Panel A indicated that a one standard deviation increase in the principle of care (measured in 2010) was associated with a €19 increase in the amount given to the charitable organizations. The estimates were from ordinary least squares regressions. *N* = 1866 (full sample in 2010, panel A); 1280 (longitudinal sample, panel B and C).

(\*)*p* ≤ .10; \**p* < .05; \*\**p* < .01.

## Discussion

Study 3 extended the results from Study 2 by examining amounts given by the Dutch population: the principle of care was strongly associated with the amount given to help people in need. In addition, Study 3 measured the principle of care two years prior to the measurement of giving and continued to find support for the principle of care–giving hypothesis. The mediation hypothesis was supported in the analysis using the two-year prior measures of the principle of care and empathic concern, although the support was stronger in Panels A, B, and D of Table 6, and Panels A and B of Table 7 than in the remaining two Panels. We investigated several potential explanations for the weaker results in Table 6 Panel C and Table 7 Panel C, but among these the only explanation that had empirical support was that using just three items to measure the principle of care opened up the door to increased sampling variability in estimating mediation.<sup>9</sup>

Study 3 also demonstrated test–retest reliability of the principle of care instrument. Although test–retest reliability was acceptable, especially given the two year separation in time between measurements, future work should seek

<sup>9</sup>The evidence supporting our conjecture was that when we limited the measurement of the principle of care in Studies 1, 2, and 4 to just the three items that were available in Study 3, the principle of care *B*s fell, the empathic concern *B*s increased, and the proportions mediated fell. The indirect effect estimated in Table 7 Panel C was the only non-significant indirect effect estimated across all the Studies 1–4. The decrement in predictive ability using the three-item measure of the principle of care can roughly account for the non-significance. Details are in the Supporting Information, Table B and accompanying discussion.

improvement. In particular, test–retest reliability of the principle of care instrument likely would be improved if more than three items were used to construct the scale.

Importantly, Study 3 strengthened support for the hypotheses by testing them with giving observed in an experiment conducted two years after measurement of the principle of care. However, because only 21% of the participants gave in the experiment, the amount available from which to give was relatively small (the €6.58 average earnings), and because of our conjecture that the three-item principle of care was responsible for the weaker result in Table 7 Panel C, we conducted another study in which these limitations were addressed.

## STUDY 4

The previous three studies found support for the principle of care–giving hypothesis and the empathic concern mediation hypothesis in three samples covering two national populations. Study 3 extended the evidence to include giving observed, not just self-reported, albeit with limitations. Study 4 addressed these limitations by creating a giving environment in a laboratory in which nearly all the participants gave, the amount available from which to give was much larger (\$40 to \$46), and the full eight-item measurement of the principle of care was taken. In addition, Study 4 participants were from a different population (American undergraduates), and the Study permitted discriminant validity with respect to perspective taking and personal distress.

## Method

### Participants and procedure

We used data from an experiment conducted by Ottoni-Wilhelm, Vesterlund, and Xie (2014). Eighty-five undergraduates (50 women, 35 men) from the University of Pittsburgh participated in the study. The average age was 19 ( $SD=1.5$ ). Each participant was paid \$5 and could receive additional money according to her/his decisions in the experiment as explained below.

The experiment was conducted in six sessions, with between 13 and 20 participants per session. Each session was held in a large classroom. When the participants entered the classroom they were given a set of instructions, a quiz, an envelope, a calculator, and a pen. After all the participants in the session were seated the instructions were read aloud. The instructions explained that each participant was paired with a different child (aged 1–12) from southwestern Pennsylvania whose home had suffered extensive fire damage. The participant was presented with six scenarios and had to make a decision in each scenario. In each scenario the participant was paid an amount of money, and the decision to make was how much of the payment to give the American Red Cross of Southwestern Pennsylvania to buy books for the child and how much to keep for herself/himself. In each scenario the participant was told how much money the experimenters would donate to the Red Cross to buy books for the child regardless of the amount the participant gave. For example, in one scenario the participant was given \$40 and the experimenters' donation was \$4. In the remaining five scenarios the participant's amounts and the experimenters' donations were (\$40, \$10), (\$40, \$28), (\$40, \$34), (\$46, \$4), and (\$46, \$28). The instructions explained that once all the participants had made all six of their decisions, placed their decisions in sealed envelopes, and the envelopes were collected, a number between 1 and 6 would be drawn to determine which of the decisions would be carried out for payment to the participant and for sending money to the Red Cross. The instructions pointed out that because one decision would be randomly selected for payment 'you should be making your decision as if every decision counts.' After the instructions had been read, the participants completed a quiz in which they calculated a sample decision and received answers to the quiz so that they could check their understanding of the procedure.

The appeal from the Red Cross for funds to buy books for children whose homes had been destroyed by fire—the appeal written in the instructions and read aloud—had strong emotional content.<sup>10</sup> A randomly chosen participant acted as a monitor to ensure that the experiment was double-blind

<sup>10</sup>The appeal was written by the Red Cross's Emergency Preparedness Coordinator: 'Children's needs are often overlooked in the immediate aftermath of a disaster because everyone is concerned primarily with putting the fire out, reaching safety, and finding shelter, food and clothing...just the basics of life. So many times, I've seen children just sitting on the curb with no one to talk to about what's happening...for this reason I've found trauma recovery experts in the community to work with us to train our volunteer responders in how to address children's needs at the scene of a disaster..... being able to give the children fun, distracting books will provide a great bridge for our volunteers to connect with kids and get them talking about what they've experienced.'

and to assure the participants that the experimenters did everything that the participants were told would be done. There was no deception.

## Measures

### Principle of care

After participants had finished making their giving decisions, while they were waiting for their payments to be prepared and checks to be written to the Red Cross, they completed a questionnaire with the principle of care and IRI items. The principle of care was measured with the same eight items as in Study 1. The reliability coefficient  $\alpha$  was .82.

*Empathic concern, perspective taking, and personal distress.* The three constructs were measured with the same IRI items as in Study 1. The respective  $\alpha$ s were .84, .79, and .78.

*Charitable giving.* The six amounts each participant allocated to the Red Cross in her/his decisions were averaged to form the measure of charitable giving.

## Results

Means, standard deviations, and bivariate correlations for the variables in Study 4 are presented in Table 8. The average amount given was \$20.82. All participants except one gave. Replicating the findings from Studies 1–3, the principle of care was most strongly correlated with empathic concern, followed by perspective taking. Empathic concern and perspective taking were strongly correlated.

Table 9 tested the principle of care–giving hypothesis (Model 1) and the mediation hypothesis (Model 3). In Model 1 the principle of care was significantly associated with charitable giving ( $B=\$3.18, p<.01$ ): a one standard deviation increase in the principle of care was associated with 15% higher giving ( $\$3.18/\$20.82$ ). In Model 2 the association between empathic concern and giving was smaller and just over the 5% significance level ( $B=\$2.11, p=.07$ ). The results in Model 3 supported the mediation hypothesis: the principle of care retained its significant association with giving ( $B=\$3.17, p=.04$ ), but the empathic concern point estimate dropped to near zero ( $B=\$.01, p=.99$ ). The indirect effect was  $\$2.10 (p=.04)$ , hence essentially all (99.5%) of the empathic concern–giving association from Model 2 was mediated by the principle of care. As in

Table 8. Means, standard deviations, and correlations of the variables in Study 4

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Principle of care	4.02	.56	—			
2. Empathic concern	3.83	.71	.66**	—		
3. Perspective taking	3.59	.70	.39**	.50**	—	
4. Personal distress	2.51	.65	-.08	.05	-.05	—
5. Amount given	20.82	10.74	.30**	.20 <sup>(*)</sup>	.13	-.20 <sup>(*)</sup>

*Note:* Data were from the Ottoni-Wilhelm et al. (2014) experiment. The ranges of the scales in the first four rows were 1–5. Giving in row 5 is the dollar amount given to the American Red Cross to buy books for children whose homes had suffered extensive fire damage.  $N=85$ .

(\*) $p\leq.10$ ; \* $p<.05$ ; \*\* $p<.01$ .

Table 9. Amount given to the American Red Cross to buy books for children as a function of the principle of care and empathic concern

Independent variable	Model 1		Model 2		Model 3		Model 4	
	<i>B</i> (\$)	<i>SE<sub>B</sub></i>	<i>B</i> (\$)	<i>SE<sub>B</sub></i>	<i>B</i> (\$)	<i>SE<sub>B</sub></i>	<i>B</i> (\$)	<i>SE<sub>B</sub></i>
	[95%CI]		[95%CI]		[95%CI]		[95%CI]	
Principle of care	3.18**	1.13			3.17*	1.51	2.79 <sup>(*)</sup>	1.53
	[.94,5.41]				[.16,6.17]		[-.25,5.83]	
Empathic concern			2.11 <sup>(*)</sup>	1.16	.01	1.51	.33	1.62
			[-.19,4.41]		[-2.99,3.02]		[-2.89,3.56]	
Perspective taking							.04	1.31
							[-2.56,2.65]	
Personal distress							-1.90 <sup>(*)</sup>	1.14
							[-4.18, .38]	
<i>R</i> <sup>2</sup>	.09		.04		.09		.12	

Note: Data were from the Ottoni-Wilhelm et al. (2014) experiment. The dependent variable was the dollar amount given averaged over six decisions. Each independent variable was standardized; therefore, *B* indicated the dollar effect on giving of a one standard deviation increase in the independent variable. For example, the interpretation of the 3.18 estimate in Model 1 indicated that a one standard deviation increase in the principle of care was associated with a \$3.18 increase in the amount given to the Red Cross. The estimates were from ordinary least squares regressions. In Model 3, a Sobel test indicated the indirect effect of empathic concern was \$2.10 ( $p = .04$ ); the proportion mediated was .995.  $N = 85$ .

(<sup>\*</sup>) $p \leq .10$ ; (<sup>\*</sup>) $p < .05$ ; (<sup>\*\*</sup>) $p < .01$ .

Studies 1 and 2, Model 4 showed that there was almost no association between perspective taking and giving. There was some evidence of a negative personal distress–giving association ( $B = -\$1.90$ ,  $p = .10$ ). The addition of personal distress to the model led to a small drop in the principle of care effect size that was then just over the 5% significance level ( $B = \$2.79$ ,  $p = .07$ ): a one standard deviation increase in the principle of care was associated with 13% higher giving.

## Discussion

Studies 1–3 found support for the principle of care–giving and mediation hypotheses using self-reported giving to help people in need. Study 3 also found support using giving observed in an experiment, albeit with three limitations already noted. Study 4 extended the evidence that supported the hypotheses by using observed giving from an experiment in which all but one participant gave, the amount of money the participants had to decide about was larger, and the full eight-item principle of care scale was used. Thereby, the Study 3 limitations were addressed. In addition, the evidence supporting the hypotheses also was extended by drawing the participants from another population and partialling-out perspective taking and personal distress.

Limitations to Study 4 were that evidence from undergraduates in a laboratory setting may not generalize to the U.S., or other Western, populations (Henrich, Heine, & Norenzayan, 2010), and that giving behaviour may have been different if the participants had felt they exerted effort to earn the money paid to them in the experiment (e.g. by completing a cognitively demanding exam or answering a long survey; see Bekkers, 2007; Cherry, Frykblom, & Shogren, 2002). However, Study 3 did not have these limitations. In particular, recall that in Study 3 participants gave not out of windfall money, but rather out of money they likely felt they had earned.

## General discussion

Across four studies we found evidence that dispositional empathic concern was associated with charitable giving to help people in need. The associations were statistically significant in all but one case, but even that case was just over the 5% significance level (Study 4). The magnitudes of the empathic concern–giving associations were of sufficient size to be practically important. These results extended the empirical support for the dispositional empathic concern–helping hypothesis to charitable giving to help people in need—a socially important helping behaviour.

In addition, the results suggested a deeper understanding of the empathic concern–giving relationship. First, the four studies also indicated that the principle of care was positively associated with charitable giving to help people in need. Hence, the results supported our principle of care–giving hypothesis. The principle of care–giving associations were, with one exception, somewhat larger than the empathic concern–giving associations. In the one exception (Table 6, Panel C) the principle of care–giving and empathic concern–giving associations were nearly the same magnitude. The evidence supporting the principle of care–giving hypothesis was found in four different samples, including three nationally representative samples from the American and Dutch populations. The hypothesis was supported when the principle of care was measured after giving (Studies 1 and 4), before the measurement of giving (Study 2), and two years before (Study 3). The hypothesis was supported when the binary decision whether or not to give was investigated (Study 2), and when the amount of giving was investigated (Studies 1, 3, and 4). The hypothesis was supported when giving was measured with retrospective self-reports (Studies 1–3) and with giving observed in a survey experiment (Study 3) and in a laboratory experiment (Study 4).

The evidence from the four studies also supported our second hypothesis that the principle of care mediated the empathic concern–giving relationship. The evidence was strongest in the studies that used the full eight-item instrument for

the principle of care (Studies 1, 2, and 4). In these studies, including the principle of care as a separate determinant of giving rendered the empathic concern–giving relationship small and insignificant; the principle of care mediated 91%, 83%, and 99.5% (respectively) of the empathic concern–giving relationship. Smaller proportions of the empathic concern–giving relationship were mediated in Study 3 (37–64% of self-reported giving and 50–63% of observed giving) in which a three-item version of the instrument was used. Even so, upon including the principle of care, the empathic concern–giving relationship remained statistically significant in only one situation (Study 3, Table 6, concurrent 2010 measures, Panels B and C); the empathic concern–giving relationship became insignificant in the other analyses of self-reported giving that used the 2008 measures of the principle of care and empathic concern (Study 3, Table 6, Panels A and D), and giving observed in an experiment (Table 7, all three Panels). Out of these five analyses in which the empathic concern–giving relationship became insignificant, it is important to recall that the Table 7 results were the most stringent tests because they were based on giving observed in an experiment. Finally, the results from Studies 1, 2, and 4 suggested that the evidence in support of the principle of care mediation hypothesis was not sensitive to inclusion of personal distress and perspective taking (Model 4 in Tables 2, 4, and 9).<sup>11</sup>

We also checked the possibility that the mediation results were driven by the principle of care items that overtly asked participants to take in-group membership into consideration. Because in-group membership is theoretically predicted to be more important to empathically-oriented givers, overtly mentioning in-group in some of the principle of care items might have driven the mediation result. However, when we dropped from the principle of care scale items (iv) and (vii) that overtly mentioned in-group ('When people are less fortunate, it is important to help them even if they are very different from us' and 'When thinking about helping people in trouble, it is important to consider whether the people are like us or not.'). the mediation results in Studies 1, 2, and 4 were only slightly weaker: 92%, 78%, 97% mediated (compared to 91%, 83.1%, and 99.5% in Tables 2, 4, and 9; detailed results are in the Supporting Information, Table C). This further suggested that the weaker mediation results seen in Study 3—which also did not have items (iv) and (vii)—likely was not because of the omission of items (iv) and (vii) in particular but rather the use of only three items in general.<sup>12</sup>

<sup>11</sup>The negative personal distress–giving associations (Model 4 in Tables 2, 4, and 9) were consistent with the aversive–arousal reduction model's prediction that in order to reduce one's own personal distress at seeing another in need, an easy escape from the situation may be taken if easy escape is available, rather than giving to help the other in need (Dovidio et al., 2006; Batson, 2011). Providing alternative escape was beyond the scope of our experiments. In the current data, personal distress was negatively associated with other types of giving; for more discussion see the Supporting Information, Table E. Our intention in Model 4, however, was not to test aversive–arousal reduction, but to check that the evidence in support of the principle of care mediation hypothesis was not sensitive to inclusion of personal distress and perspective taking.

<sup>12</sup>See note 9. When we repeated Studies 1, 2, and 4 using only the three items that had been available in Study 3 to measure the principle of care, the proportions mediated fell from 91%, 83.1%, and 99.5% to 85%, 53.9%, 85%, respectively. Details are in the Supporting Information, Table B and accompanying discussion.

In summary, the evidence that the principle of care was associated with charitable giving to help people in need and mediated the empathic concern–giving relationship was robust across two countries, two data collection modes, sample composition, questionnaire order, and time. The principle of care–giving association ('direct effect size') was large in practical terms. A one standard deviation higher principle of care was associated with \$85 higher giving in the nationally representative American sample, a 21% increase relative to the average amount given. We observed 13% higher giving in the American experiment, and 15% to 26% higher giving in the Dutch experiment.

The main limitation of this research was that we did not experimentally manipulate the principle of care, limiting our ability to interpret the principle of care–giving association as a causal relationship. A counter-interpretation would be that endorsement of the principle of care is an *ex post* justification of one's giving (Haidt, 2001, 2006). The fact that the principle of care was associated with self-reported giving and giving observed in an experiment both measured two years later (Study 3) works somewhat against the *ex post* justification interpretation, but experimental manipulation of the principle of care is necessary to ascertain the existence of a causal effect of the principle on giving. Should such an experiment generate evidence that the principle of care causes giving, follow-up experiments could investigate how much each of the theoretical explanations—distant others, universalism, and deliberate cognition—contributes to explaining why the principle of care matters. For example, a 2 × 2 design could manipulate the principle of care and 'distance' between the participant and beneficiary to determine how much the principle of care affects giving when the other needing help is more distant.

Similarly, manipulation of empathy would be necessary to generate causal evidence of mediation. For example, if future work was to find that manipulation of empathy leads to more cognitive focus on the principle of care (measured as an outcome) and more giving, then such evidence would support an alternative, more proximate mediation pathway of prosocial hot cognition theorized by Hoffman (2000). Indeed, a second limitation of our present results is that, though they have provided evidence consistent with mediation, they could not distinguish between the developmental mediation pathway (Eisenberg, 1982, 1986) and an alternative prosocial hot cognition pathway.<sup>13</sup>

In line with the 'distance' between participant and beneficiary experiment just discussed, manipulating both empathy and distance could test the prediction that in the case of a close beneficiary, empathy is predicted to have a stronger direct effect, while at the same time being less mediated by

<sup>13</sup>Although we did not experimentally manipulate the principle of care or empathy, Study 3 has both constructs measured for the same participants at two points in time, 2008 and 2010. These measurements provided evidence that T1 empathic concern predicted T2 principle of care ( $B = .241, p < .01$ ) less strongly than T1 principle of care predicted T2 care ( $B = .390, p < .01$ ). And that T1 empathic concern predicted T2 empathic concern ( $B = .432, p < .01$ ) more strongly than T1 principle of care predicted T2 empathic concern ( $B = .234, p < .01$ ). These results do not provide conclusive evidence about the causal order of empathic concern and the principle of care. Table D in the Supporting Information has further details.

the principle of care.<sup>14</sup> Such experiments manipulating the principle of care, and manipulating empathy to test mediation through the principle of care, are promising areas for future research. Obviously such research would not be warranted had the present study failed to find a strong principle of care–giving association and that the principle mediated empathic concern.

A third limitation, and opportunity for future work, is that the results pertained to giving behaviour, not the motives that may underlie giving behaviour. The principle of care may be a form of egoism, or a form of altruism (concern for the welfare of others that operates at an abstract, universalistic level), or, possibly a third distinct type of ultimate motive (Batson, 2011). Knowing which ultimate motive is associated with the principle of care would be important because it may be possible to use knowledge of the motive to effectively promote the behavioural outcome (giving to help people in need) that was associated with the principle in the present studies.

A limitation to the present results is that we did not investigate the relationship between the principle of care and Schwartz's benevolence and universalism norms. Our conceptualization of the principle of care as a moral value is akin to benevolence and universalism in Schwartz's theory in the sense that care, benevolence, and universalism are all abstract beliefs that are fairly stable. It is likely that the principle of care is positively correlated with the endorsement of norms on benevolence and universalism. Our theoretical interpretation is that the principle of care provides an abstract moral foundation for a universal norm of benevolence. It is an empirical question to what extent the relation between the principle of care and helping people in need is mediated by universalism and benevolence. Benevolence and universalism scales have not been used extensively in research about charitable giving, but there is evidence that they were correlated with an index of membership–involvement–donating–volunteering for an index of environmental–peace–animal rights organizations (Schwartz, 2010), general volunteering (Plagnol & Huppert, 2010), and in the case of universalism, but not benevolence, monetary transfers in a dictator game (Lönnqvist, Verkasalo, Wichardt, & Walkowitz, 2013). This suggests that it may be fruitful to investigate whether benevolence and universalism are associated with giving to organizations that help people in need, and, if so, use these norms to begin to investigate the importance of the benevolence and universalism aspects of the principle of care. Similarly, it is important to investigate the relationship between the principle of care and the six-item harm/care dimension of the moral foundation questionnaire (Graham et al., 2011). By their construction, two of these items (about whether someone suffered emotionally, and compassion for those who are suffering) theoretically align with empathic concern, and consistent with this Graham et al. (2011) found that the harm/care subscale was correlated with empathic concern. A third item (about caring for someone weak or vulnerable) theoretically aligns with the principle of care.

<sup>14</sup>Wilhelm and Bekkers (2010) correlational evidence from a nationally representative American sample about ten different helping behaviours, several of which included helping close beneficiaries, aligned with this prediction.

Further work is required to investigate the explanatory power of the principle of care in conjunction with hot prosocial intuitive constructs such as those identified in moral foundations theory. Pending future investigations that investigate the principle of care, benevolence/universalism, and harm/care, a possible interpretation of the present results is that the principle of care mediated empathic concern in these studies as benevolence/universalism or harm/care may have done had they been used instead. However, even under this interpretation, the empathic concern–giving relationship mediated by a moral value would still be the implication.<sup>15</sup>

Another important limitation to the present results is that the amounts observed being given in the Study 4 laboratory experiment were given out of windfall money, raising the possibility that the results might have been different had the participants been giving out of money they felt they had earned. However, we note that results qualitatively similar to those seen in Study 4 also were seen in Study 3 where the amounts observed being given were given out of money the participants likely felt they had earned in payment for having completed a long survey.

A potential limitation is that the measure of empathic concern we used was a measure of a general empathic disposition, whereas a measure more targeted toward empathy specifically for people in need might have led to a different result about the principle of care mediation hypothesis. Accordingly, we considered whether the principle of care might have had a stronger relationship with giving to help people in need, than did empathic concern, to the extent that the items used to measure the principle had a more specific focus on people in need. Reviewing the principle of care items (listed as Table F in the Supporting Information), six items referred specifically to people in need.<sup>16</sup> The empathic concern items used similar phrasing: five empathic concern items that referred to 'others' did so specifically to people in need, only one less than in the principle of care.<sup>17</sup> Moreover as discussed above, when we dropped principle of care items (iv) and (vii), both of which referred to need, in Studies 1, 2, and 4 the empathic concern *B*s remained insignificant and the mediation results were only slightly weaker. Although Study 2 Model 3's empathic concern *B* did become

<sup>15</sup>It is natural to think about the relationship between the principle of care and other well-known scales, such as value-expressive motivation for volunteering (Clary et al., 1998) and the 'other-oriented empathy' construct (Penner & Finkelstein, 1998). However, these scales combined items that tapped empathic concern with items that tapped the principle of care into a single scale, whereas the present evidence indicated that the principle of care and empathic concern associated very differently with giving to organizations that help people in need. Our results about the principle of care were consistent with Aquino and Reed's (2002) finding that endorsement of high-level prosocial moral identity traits was correlated with prosocial behaviour. See Wilhelm and Bekkers (2010) for additional discussion of Aquino and Reed's (2002) work.

<sup>16</sup>Two items referred to the 'less fortunate' (a, d), three items referred to people who 'need assistance'/are 'in trouble' (b, f, g), one item referred to 'the needs of people in other parts of the world' (h), and two items simply referred to 'others' (c, e; e.g. 'These days people need to look after themselves and not overly worry about others.')

<sup>17</sup>One item referred to people 'less fortunate' (a), two items referred to people's 'misfortunes'/'having problems' (b, d), two items referred to someone being 'taken advantage of'/'treated unfairly' (c, e), and one item referred to 'what other people go through' (f). The remaining item did not refer to others (g; 'I would describe myself as a pretty soft-hearted person').

significant when we dropped five principle of care items (b, d, e, g, h), four of which referred to need, its magnitude was only one-half that of the principle of care *B*. The empathic concern *B*s in Studies 1 and 4 remained insignificant.<sup>18</sup>

Keeping these limitations in mind, the present results suggested several implications. First, the results were consistent with the theoretical distinction between empathic concern and the principle of care (Eisenberg, 1982, 1986; Hoffman, 2000). The results were in line with Batson's (2011, pp. 193ff) argument that, while it is possible to feel empathy for those at a distance and for out-group members, empathy may be less evoked by such others in need.

Second, the results provided evidence that called the strength of the direct dispositional empathic concern–helping relationship into question for an important type of helping behaviour: giving to organizations that help people in need. The results showed that an empirical analysis of the empathic concern–helping hypothesis that ignores the principle of care risks misinterpreting its evidence as supporting a direct empathic concern–helping relationship, when the relationship is in large part mediated by the principle of care. We hypothesized that the misinterpretation would be especially severe for types of helping behaviour characterized by cognitive deliberation, planning, and benefiting people known in the abstract. Several socially important types of helping behaviour, such as the charitable giving studied in this paper, have these characteristics. Misinterpretation can be avoided by measuring the principle of care in research about helping behaviour, both in population surveys and in pre- or post-surveys used in experiments. The present paper introduced an eight-item instrument with internal reliability, test–retest reliability, discriminant validity, and predictive validity to measure the principle of care.

Third, the results were consistent with the idea that those interested in the development of helping behaviour—families, schools, community organizations, religious congregations, etc.—should take steps to ensure that an orientation toward empathic concern develops further into a principle of care (Eisenberg, 1982). This may be the developmental process by which helping behaviour directed toward family and close friends is extended to people not close, known only in the abstract, or belonging to out-groups, helping behaviour like giving to charities that help people in need. It seems reasonable to conjecture that such development may also be necessary for other important planned helping behaviours that involve abstract contact with others in need, such as volunteering and blood donation.

In summary, the principle of care and empathic concern are distinct theoretical constructs associated with helping behaviour. Batson (2011, p. 224) recently summarized the state of evidence about moral principles and prosocial behaviour: 'We have empirical evidence—often limited and weak—that espousal of at least some moral principles. . . is associated with increased prosocial behaviour.' Our interpretation is that for the participants in the samples we considered, at

the time they participated in the studies, and with the measures we used, the results appeared to indicate that a moral principle to care for others was associated with a socially important prosocial behaviour—charitable giving to organizations that help people in need.

Reviews of the extensive literature on prosocial behaviour (e.g. Penner et al., 2005) have shown that it is a complex phenomenon with multifaceted motivations. In line with this idea, we have argued that in testing hypotheses about empathy–helping and principle of care–helping relationships it is important to take into account the characteristics of the helping behaviour under study because the empathy–helping and principle of care–helping associations likely will depend upon these characteristics. In the present paper we have demonstrated an association between the principle of care and helping abstract people in need. We emphasized that the association of the principle of care with other forms of helping may be weaker. Future tests of the hypotheses should contrast abstract helping with helping behaviours that benefit individuals at a closer social distance.

Empathy is deeply rooted in human nature. It can provide a foundation for moral principles, including the principle of care. As the consequences of the principle of care for prosocial behaviour become clear, it is increasingly important to study the quality of moral reasoning and how people deal with moral dilemmas (Hoffman, 2000). Care is one particular moral motivation flowing from empathy that may lead to conflicting demands on people in helping situations, without providing guidance about how to resolve the demands. When facing a request to help an in-group member while at the same time being asked to help an out-group member, or when thinking about donating money to alleviate local need while at the same time being asked to contribute from one's limited budget to international relief, the principle does not guide a person to one course of action over the other. In such cases empathy may lead a person to help in-group members and to donate to alleviate local needs. However, our results suggested that empathy would play a much smaller role in bringing a person to consider helping an out-group member or donating to international relief. For these types of helping behaviours, our results suggested the principle of care played a stronger role.

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<sup>18</sup>The three-item principle of care mediation results were reported in note 12. See the Supporting Information for further details: Tables B and C and the accompanying discussion.

this paper are publicly available at the Open Science Framework at <https://osf.io/4kgca/>

## SUPPORTING INFORMATION

Additional supporting information maybe found in the online version of this article at the publisher's web-site.

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