

Yes, I can: Feeling connected to others increases perceived effectiveness and socially responsible behavior



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ARTICLE INFO

Article history:

Received 21 September 2015

Received in revised form

3 September 2016

Accepted 8 September 2016

Available online 15 September 2016

Keywords:

Sense of connectedness

Interdependence

Socially responsible behavior

Perceived effectiveness of one's actions

Social marketing

ABSTRACT

A crucial determinant of socially responsible behavior is the extent to which people perceive their contributions to the collective good to be effective. We suggest that the sense of connectedness to others is an important driver of the perceived effectiveness of one's actions. The more individuals feel connected to others, the more they believe that their actions have a substantial impact on the collective good. As a result, those who feel more connected are more likely to engage in socially responsible behavior. We tested these predictions in one correlational and three experimental studies, involving behavioral measures such as exerting effort in support of a pro-environmental organization and contributing financially to a social cause. The data supported the hypothesized relationship between sense of connectedness, the perceived effectiveness of one's actions, and socially responsible behavior.

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Going green, purchasing fair trade products, making energy conservation efforts, recycling, and donating money to disaster relief or to organizations fighting hunger and poverty; these are all examples of socially responsible behavior, or individual contributions to the collective good. Such contributions are desirable from a collective perspective, but are often costly or inconvenient for the individual. A crucial factor in people's decision to act in a socially responsible manner is the extent to which they believe that their actions make a difference (Ellen, Wiener, & Cobb-Walgreen, 1991). Therefore, understanding the determinants of the belief that one's contributions have an impact is essential for the promotion of socially responsible behavior. In this paper, we argue that people's sense of connectedness is one of those determinants.

The contribution of this paper is twofold. First, we offer a more comprehensive account of the psychological processes involved in explaining the effect of connectedness on socially responsible behavior. Previous research has suggested that those who feel

connected to others are more likely to hold prosocial values (e.g., Triandis, 1995). This explains, to a certain extent, the positive relationship between the sense of connectedness and socially responsible behavior (e.g., Gärling, Fujii, Gärling, & Jakobsson, 2003; Kelley & Thibaut, 1978; Van Lange, Van Vugt, Meertens, & Ruiter, 1998). We argue that a complementary mechanism linking the sense of connectedness and socially responsible behavior runs via the belief that one's actions make a difference. In other words, a heightened sense of connectedness increases the motivation to act in the collective interest because it increases the chances of an affirmative answer not only to the question "Do I value the common good?", but also to the question "Am I able to make a difference?". Fig. 1 shows our hypothesized conceptual model.

Second, our model suggests novel ways to promote socially responsible behavior. In particular, activating individuals' sense of connectedness motivates them to act in the interest of the collective wellbeing. Whereas it may be difficult to "mold" people's prosocial values in the short term because the development of values is a relatively slow process, we show that making the sense of connectedness salient makes people feel that their actions make more of a difference, which in turn motivates socially responsible behavior.

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1. Socially responsible behavior

Socially responsible behaviors are “actions taken by individuals to enhance societal well-being (“do good”) or to avoid harmful consequences for the collective (“do no harm”)” (Crilly, Schneider, & Zollo, 2008, p. 176). Typically, situations in which society as a whole calls on its individual members to contribute to the common good, such as in the service of preserving the natural environment or setting up a fair system of economic exchange, take the form of a social dilemma. There are two main reasons why people often fail to take responsibility for the collective interest in such situations. First, social dilemmas are settings in which the individual and the collective interests collide (Dawes, 1980): it is in each individual's short term interest not to make costly contributions (e.g., when making commuting decisions, it is tempting to enjoy the flexibility and comfort of one's car rather than to use public transport), although the collective would benefit from individuals making these contributions (e.g., if more people would take public transport, levels of polluting emissions would drop). As a result of this conflict, people may be tempted to refrain from actions that are beneficial to society (Messick & Brewer, 1983). Second, the issues at stake often unfold on a large scale (e.g., climate change), such that each individual action produces negligible effects (Messick & Brewer, 1983). Consistent with this idea, previous research found that people believe that the effectiveness of their contribution in social dilemmas becomes smaller, as group size increases (Kerr, 1989). This may demotivate people to take responsibility. The collective, however, through concerted effort, can be an influential agent (Bandura, 2000). Therefore, the promotion of socially responsible behavior is crucial for addressing many societal challenges.

Research on socially responsible behavior in social dilemmas has devoted much attention to the role of social values. Social values refer to the weight people place on the collective interest when making decisions (Messick & McClintock, 1968). It is therefore sensible to assume that an individual with stronger prosocial values is more likely to engage in socially responsible behavior. This relationship has been demonstrated in various settings, such as choosing public transport to reduce road congestion, helping behavior, and intentions to behave pro-environmentally (Gärling et al., 2003; McClintock & Allison, 1989; Nauta, De Dreu, & van der Vaart, 2002; Van Lange et al., 1998). However, other studies found little relationship between concern for collective goals and socially responsible behavior (Crosby, Gill, & Taylor, 1981; Ritchie & Gordon, 1985; Scott, 1977). The inconsistent results suggest that caring for the collective good does not guarantee that individuals will behave in a socially responsible manner. Indeed, Kollmuss and Agyeman (2002) argued that the effect of social values is mostly limited to increased *ideological support* for and the endorsement of policy changes in favor of the collective wellbeing. To produce a change in *actual behavior*, other factors must play a role.

Previous research points to an important barrier for socially

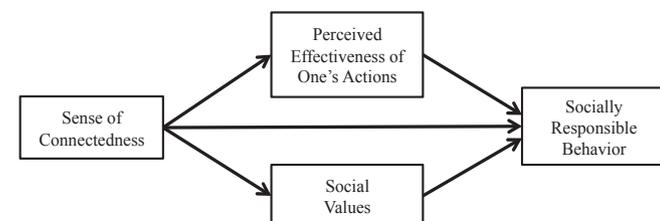


Fig. 1. Hypothesized conceptual model.

responsible behavior: the feeling that individuals can only have a negligible impact on the larger scale (e.g., Ellen et al., 1991; Jackson, 2005; Stoll-Kleemann, O'Riordan, & Jaeger, 2001). Even when they are aware of a problem, and wish to contribute to its solution, individuals may perceive that they have no “agency to have much effect” (Owens, 2000, p. 1143). Thus, beyond holding prosocial values, the belief that one's actions can make a difference is a necessary precursor of socially responsible behavior (Hinkle, Fox-Cardamone, Haseleu, Brown, & Irwin, 1996; Kinnear, Taylor, & Ahmed, 1974). For example, in a study of social activism, only those individuals who perceived their actions as effective acted on their beliefs (Hinkle et al., 1996). Similarly, Fiske (1987) showed that perceived effectiveness differentiated inactive versus active participants in an anti-war movement. Roberts (1996) emphasized the crucial role of perceived effectiveness of one's actions for promoting environmentally friendly consumer choices. Various studies have demonstrated that greater perceived effectiveness of one's actions helps to translate people's concern for environmental protection into eco-friendly consumer choices (Axelrod & Lehman, 1993; Berger & Corbin, 1992; Grob, 1995; Lee & Holden, 1999; Thøgersen, 1999). Given the importance of perceived effectiveness in driving socially responsible behavior, understanding its antecedents becomes especially relevant. We argue that “sense of connectedness” is of central importance in that respect.

2. Sense of connectedness

We define “sense of connectedness” as the perceived unity and interdependence with others. Feeling connected to others is a fundamental psychological human need (Baumeister & Leary, 1995; Ryan & Deci, 2000). People tend to feel connected to those with whom they share a group membership (Tajfel, 1982) or other, sometimes trivial attributes, such as a birthday (e.g., Cialdini & De Nicholas, 1989). Moreover, individuals fundamentally differ in the extent to which they define themselves in terms of connectedness and interdependence with others (Markus & Kitayama, 1991). A stronger sense of connectedness with others motivates striving to fit in social groups, fulfill one's social roles, and engage in actions that promote social harmony and respect for social norms (Cross, Bacon, & Morris, 2000; Singelis, 1994).

Especially relevant in the context of this paper, the sense of connectedness to others is associated with greater salience of social values and of the collective good (Triandis, 1995; Utz, 2004). Previous studies have demonstrated a link between the sense of connectedness and self-reported environmental conservation behavior (Arnocky, Stroink, & DeCicco, 2007; McCarty & Shrum, 2001), recycling (McCarty & Shrum, 2001), and donations to charity (Karremans, Van Lange, & Holland, 2005). Specifically directed at nature conservation, more recent work pointed at a similar role for *connectedness to nature* (Davis, Green, & Reed, 2009; Schultz, 2002). The implicit or explicit assumption in those studies has been that the causal mechanism underlying the effect of the sense of connectedness to others on behavior is a larger commitment to further the interest of the collective (Kelley & Thibaut, 1978). We suggest that at least one other mechanism links the sense of connectedness and socially responsible behavior, and that mechanism involves the perceived effectiveness of one's actions.

When individuals feel connected to others, their sense of self is broadened to include others and the characteristics of self and others become shared, creating an overlap in cognitions about the self and others (Aron, Aron, & Smollan, 1992; Aron, Aron, Tudor, & Nelson, 1991; Goldstein & Cialdini, 2007). The merging of self and others does not only occur in the context of close dyadic

relationships (e.g., Aron et al., 1992), but also in the context of large groups of individuals, where a sense of unity with others may reduce the distinction between self and the group (Kinket & Verkuyten, 1997; Rosenberg, 1986; Tropp & Wright, 2001).

The vicarious self-perception model (Goldstein & Cialdini, 2007) suggests that a heightened sense of connectedness causes individuals to view the self as an interchangeable exemplar of a collective rather than as a unique person (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), and to transfer characteristics of others to the self (Coats, Smith, Claypool, & Banner, 2000; Smith & Henry, 1996). This creates the possibility that for an individual with a heightened sense of connectedness, the belief about the group's effectiveness – which is objectively high (Bandura, 2000) – is transferred to a belief about individual effectiveness: “Yes, I can!”. In other words, when individuals consider whether behaving in a socially responsible manner can make a difference, a heightened sense of connectedness may make them evaluate the potential impact they can have at the level of a powerful agent: the collective. Consequently, a heightened sense of connectedness is likely to increase the belief that one's actions make a difference. Consistent with this idea, Messick and Brewer (1983) theorized that identifying with others may increase the perceived effectiveness of one's actions because “when individuals feel [...] that their actions are *representative* of some larger social entity, the *perceived* impact of those actions is *magnified* [...]” (p. 28).

In sum, we predict that a heightened sense of connectedness to others will increase the perceived effectiveness of one's actions, above and beyond the effect it may have on social values. Furthermore, we hypothesize that perceived effectiveness of one's actions mediates the positive effect of the sense of connectedness on socially responsible behavior (see Fig. 1).

3. Overview of studies

We tested our hypotheses by means of survey data and three experiments. In Study 1, we used a survey of consumer behaviors to test whether individuals with a heightened sense of connectedness view their individual choices as more effective in contributing to the greater good and whether, as a result, they are more likely to engage in socially responsible consumer behavior. In three subsequent experiments, we examined the causal impact of the sense of connectedness by activating an interdependent mindset through a priming procedure. In Study 2, we tested whether priming connectedness increases perceived effectiveness of individual consumption choices. In Studies 3 and 4, we examined the effect of the experimentally induced sense of connectedness on various behavioral measures of socially responsible conduct. In Study 3, the outcome measure was participants' willingness to exert effort for a social cause. In Study 4, our dependent variable was participants' willingness to pay for chocolate marketed by an organization that promotes ethical business and fair trade. In this last study, we tested additionally the mediating effect of perceived effectiveness of individual choices on socially responsible behavior.

4. Study 1

Study 1 was conducted to test our hypothesized model (Fig. 1) in the context of consumer behavior. In particular, we examined whether individual differences in the sense of connectedness could predict two instances of socially responsible consumer behavior (Webb, Mohr, & Harris, 2008): environmentally conscious

purchasing behavior and recycling. We also tested whether this relationship was mediated by the perceived effectiveness of one's actions in the consumption context, above and beyond the possible mediating effect of social values.

4.1. Method

4.1.1. Participants and procedure

We recruited 754 US-based adults who were members of an online research panel (CT Marketing Group, Inc.). They completed a survey that included measures for the sense of connectedness, socially responsible behavior in the consumption domain, perceived effectiveness of one's actions, social values, and propensity to answer in a socially desirable manner. Halfway through the survey, we included an instructional manipulation check (IMC; Oppenheimer, Meyvis, & Davidenko, 2009) to identify participants who do not read the questions carefully. More specifically, participants were told: “Please, check button ‘2’ on the scale below – just making sure that everyone is keeping up with survey instructions.” The data of the participants who failed to click the requested button (15.4%) were excluded from further analysis, according to a decision made prior to conducting the study. The final sample thus included 638 US-based adults (100% full-time employed; 62% female; 81.5% Caucasian, 5.2% African American, 4.7% Hispanic, 7.1% Asian American; $M_{age} = 44.08$, $SD_{age} = 11.44$). Approximately 59% of the sample had at least a university degree, while another 22% of the respondents had some college education.

4.1.2. Measures

Unless otherwise indicated, all items used a 7-point Likert-type scale anchored at 1 = *strongly disagree* and 7 = *strongly agree*.

4.1.2.1. Sense of connectedness. To assess participants' sense of connectedness, we included 10 interdependence items of the self-concept scale (Johnson & Lord, 2010; Johnson, Selenta, & Lord, 2006), which was designed to measure the extent to which individuals define the self in terms of connectedness to specific others and groups. Items included “Knowing that a close other acknowledges and values the role that I play in their life makes me feel like a worthwhile person” and “I feel great pride when my team or group does well, even if I am not the main reason for its success” (see Appendix A for a full list of items), $\alpha = 0.92$.

4.1.2.2. Socially responsible consumer behavior. We asked participants to self-report on two instances of socially responsible behavior in the consumption context: recycling and environmentally conscious purchasing behavior. Participants were asked to indicate, on a scale from 1 = *never true* to 7 = *always true*, how often they engage in a number of behaviors. Both measures are subscales from the socially responsible purchase and disposal scale (Webb et al., 2008). Recycling behavior was measured using six items. Sample items included: “I recycle plastic containers” and “I recycle magazines,” $\alpha = 0.94$. Environmentally conscious purchasing behavior was measured using seven items. Sample items included: “I make an effort to avoid products or services that cause environmental damage” and “I avoid buying products that are made from endangered animals,” $\alpha = 0.92$.

We conducted confirmatory factor analyses with maximum likelihood estimation procedures (Bentler & Dudgeon, 1996) to verify the two-dimensional structure of the measure. The model with two factors, $\chi^2(61) = 210.44$, RMSEA = 0.06, CFI = 0.98, SRMR = 0.04, yielded a significantly better fit with the data than the model with one factor, $\chi^2(62) = 2192.03$, RMSEA = 0.23, CFI = 0.72,

SRMR = 0.20, indicating that the two measures of behavior should be analyzed separately. Further factor analyses of this measure in conjunction with other measures are described below and reported in [Appendices B and C](#).

4.1.2.3. Perceived effectiveness of one's actions. To measure perceived effectiveness of one's actions in the consumption context, we included three items from the perceived consumer effectiveness scale ([Roberts, 1996](#)). The scale was explicitly designed to measure the perceived ability to exert a positive impact on society and the environment through individual consumption choices. The items were: "It is worthless for the individual consumer to do anything about pollution" (reverse scored), "Since one person cannot have any effect upon pollution and natural resource problems, it does not make any difference what I do" (reverse scored), and "Each consumer's behavior can have a positive effect on society by purchasing products sold by socially responsible companies," $\alpha = 0.83$.

4.1.2.4. Social values. Social values were measured using four items from the consumer ethics scale ([Vitell & Muncy, 2005](#)). Respondents were asked to agree or disagree whether specific behaviors were *morally appropriate*. We asked about the *appropriateness* of behavior to clearly distinguish this measure from the measures of self-reported behavior. Values refer to guiding principles, and therefore this measure does not ask for (descriptive) reporting of behavior, but (prescriptive) beliefs regarding what one *should* do. Target behaviors were chosen so as to correspond to the self-report socially responsible consumer behaviors included in the survey. The items were: "Purchasing something made of recycled materials even though it is more expensive," "Recycling materials such as cans, bottles, newspapers, etc.," "Buying products labeled as "environmentally friendly" even if they do not work as well as competing products," and "Buying only from companies that have a strong record of protecting the environment," $\alpha = 0.87$.

To address potential concerns regarding the discriminant validity of this measure, we verified, through a two-step procedure, whether it was distinct from the two measures of behavior (i.e., recycling and environmentally conscious purchasing behavior). First, we conducted a confirmatory factor analysis using varimax rotation to maximize differentiation among items. The results supported a three-factor solution (77.65% variance explained), in which all items had loadings higher than 0.40 ([Stevens, 1992](#)) on the intended factor and loadings of lower than 0.40 on the remaining factors (see [Appendix B](#) for factor loadings).

Second, we verified the underlying structure of all our variables (two instances of behavior, values, perceived effectiveness, and sense of connectedness) by conducting further confirmatory factor analysis with maximum likelihood estimation procedures and subsequently comparing nested measurement models. The results, reported in [Appendix C](#), showed that the model with five factors, in which the items for the five variables indicated five separate latent constructs, fits the data significantly better than models with fewer factors in which several variables indicated the same latent construct.

Taken together, these analyses indicate that all our key measures are distinct from each other.

4.1.2.5. Social desirability. Previous research showed that individuals who feel more connected to others are more concerned with self-presentation and may be motivated to be liked by others ([van Baaren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003](#)). To control for the possible response bias due to the self-

presentation motives, we included eleven items from the Marlowe-Crowne social desirability scale ([Crowne & Marlowe, 1960](#)). Sample items included "It is sometimes hard for me to go on with my work if I am not encouraged" and "I am always willing to admit it when I make a mistake." Participants were asked to indicate whether each of the items was true or false, $\alpha = 0.70$.

4.2. Results

Descriptive statistics for our focal variables are presented in [Table 1](#). To analyze the relationship between our focal variables, we first conducted regression analyses (see [Table 2](#)), following the recommendations of [Baron and Kenny \(1986\)](#). Step 1 was a baseline model with recycling behavior and environmentally conscious purchasing behavior as dependent variables and individuals' sense of connectedness as the independent variable. At Step 2, we first regressed perceived effectiveness (i.e., the hypothesized mediator) on the sense of connectedness. We then regressed social values (i.e., another potential mediator) on the sense of connectedness. Finally, at Step 3, we regressed each measure of socially responsible behavior on individuals' sense of connectedness, perceived effectiveness, and social values. Social desirability, age, and gender were included as controls in all models.

The results revealed that when included as the only predictor, individuals' sense of connectedness significantly predicted the dependent variables: recycling behavior (Step 1: $\beta = 0.18$, $p < 0.001$, $\eta_p^2 = 0.03$) and environmentally conscious purchasing behavior (Step 1: $\beta = 0.28$, $p < 0.001$, $\eta_p^2 = 0.08$), as well as the mediators: perceived effectiveness (Step 2: $\beta = 0.41$, $p < 0.001$, $\eta_p^2 = 0.17$) and social values (Step 2: $\beta = 0.22$, $p < 0.001$, $\eta_p^2 = 0.05$). When the mediators were added to the models predicting socially responsible behavior (i.e., Step 3 compared to Step 1), the sense of connectedness became non-significant in predicting recycling behavior ($\beta = 0.05$, $p = 0.20$, $\eta_p^2 = 0.00$), and its effect on environmentally conscious purchasing behavior diminished ($\beta = 0.10$, $p < 0.01$, $\eta_p^2 = 0.01$), while perceived effectiveness significantly predicted both measures of behavior ($\beta = 0.26$ and 0.43 , both $p < 0.001$, $\eta_p^2 = 0.05$ and 0.14 , for recycling and environmentally conscious purchasing behavior, respectively). The effect of social values on behavior was not significant in these final models ($\beta = 0.07$ and 0.01 , $p = 0.09$ and 0.74 , $\eta_p^2 = 0.00$ for both measures of behavior). Interestingly, social values significantly predicted behavior when added to the models of behavior as the only mediator ($\beta = 0.17$, $p < 0.001$, $\eta_p^2 = 0.03$ for both measures of behavior, models not reported in [Table 2](#)). These results suggest that the effect of perceived effectiveness on behavior is stronger than the effect of social values and that the perceived effectiveness of one's actions mediates the relationship between one's sense of connectedness and socially responsible behavior.

To further test the mediation effect, we used a bootstrapping technique ([Preacher & Hayes, 2008](#)). In particular, we estimated the size of the indirect effect of the sense of connectedness on socially responsible behavior via perceived effectiveness in a multiple mediator model that included a path through social values. Social desirability bias, age, and gender were included as control variables. The results indicated that the 95% bias-corrected confidence interval for the indirect effect through perceived effectiveness excluded zero both for recycling behavior, [0.12, 0.32] and environmentally conscious purchasing behavior, [0.20, 0.38], suggesting a significant indirect effect ([MacKinnon, Fairchild, & Fritz, 2007](#)). Consistent with the regression results, the 95% bias-corrected confidence interval for the indirect effect

Table 1
Descriptive statistics, Study 1.

Variable	Mean	SD	Correlations							
			1	2	3	4	5	6	7	
1 Sense of connectedness	5.81	0.88	(0.92)							
2 Perceived effectiveness of one's actions	5.48	1.31	0.44***	(0.83)						
3 Recycling behavior	5.33	1.73	0.19***	0.32***	(0.94)					
4 Environmentally conscious purchasing behavior	4.44	1.40	0.31***	0.50***	0.44***	(0.92)				
5 Social values	4.88	1.56	0.21***	0.45***	0.19***	0.22***	(0.87)			
6 Social desirability	1.55	0.24	0.12**	0.11**	0.08*	0.20***	-0.06	(0.70)		
7 Age	44.08	11.44	0.11**	0.09*	0.04	0.07	-0.07	0.15***		
8 Gender (female = 1, male = 0)	0.62	0.49	0.13***	0.20***	0.07	0.11**	0.09*	0.00		0.03

Note. $N = 638$. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$ (two-tailed). Reliability (α) appears across the diagonal in parentheses.

Table 2
Regression analyses, study 1.

	Step 1		Step 2		Step 3	
	DV = recycling behavior	DV = environmentally conscious purchasing behavior	DV = perceived effectiveness of one's actions	DV = social values	DV = recycling behavior	DV = environmentally conscious purchasing behavior
<i>Controls</i>						
Social desirability	0.05 (1.39)	0.17*** (4.47)	0.06 (1.68)	-0.07 (-1.84)	0.04 (1.16)	0.14*** (4.14)
Age	0.01 (0.17)	0.01 (0.23)	0.03 (0.81)	-0.09* (-2.18)	0.01 (0.14)	-0.00 (-0.08)
Gender (female = 1, male = 0)	0.05 (1.24)	0.07 (1.84)	0.14*** (4.09)	0.07 (1.73)	0.01 (0.18)	0.01 (0.16)
<i>Independent variable</i>						
Sense of connectedness	0.18*** (4.44)	0.28*** (7.43)	0.41*** (11.57)	0.22*** (5.63)	0.05 (1.30)	0.10** (2.64)
<i>Mediators</i>						
Perceived effectiveness of one's actions					0.26*** (5.47)	0.43*** (10.21)
Social values					0.07 (1.68)	0.01 (0.33)
adj. R^2	0.04	0.12	0.12	0.06	0.10	0.27
F	F(4, 633) = 6.84	F(4, 633) = 23.53	F(4, 633) = 45.10	F(4, 633) = 10.72	F(6, 631) = 12.96	F(6, 631) = 40.30
Comparison to Step 1: ΔR^2					0.06***	0.15***

Note. $N = 638$. Standardized beta coefficients; t statistics in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Results that provide tests of our hypotheses appear in bold.

through social values included zero for both recycling behavior, [0.00, 0.08], and environmentally conscious purchasing behavior, [-0.03, 0.04], suggesting that the indirect effect was not significant.

4.3. Discussion

These findings provide support for our suggestion that perceived effectiveness of one's actions explains the relationship between the sense of connectedness and socially responsible behavior, above and beyond social values. Participants with a greater sense of connectedness reported that they were more likely to make socially responsible consumption choices. In addition, they saw their consumption choices as more impactful in producing a change on the large scale, and this judgment (partly) explained the relationship between one's sense of connectedness and socially responsible behavior in the consumption context. While participants with a greater sense of connectedness also scored higher on social values, the effect of social values on socially responsible behavior was negligible when both social values and perceived effectiveness of one's actions were tested for their impact on behavior. These results support previous findings that social values may not be sufficient to produce behavioral change (e.g., Crosby et al., 1981; Kollmuss & Agyeman, 2002).

5. Study 2

To further test for a causal link between the sense of

connectedness and perceived effectiveness of one's actions, we conducted an experiment in which the sense of connectedness was manipulated by activating an interdependent mindset with a priming procedure. Specifically, we tested whether an enhanced sense of connectedness strengthens beliefs in the effectiveness of individual consumption choices to make changes on the larger scale.

5.1. Method

5.1.1. Participants and procedure

Thirty-nine undergraduate students (59.7% female) participated in a series of studies in exchange for €9 (about \$12). Participants were randomly assigned to either an *interdependent* prime condition or *control* condition and completed all tasks in semi-closed cubicles. We first asked participants to complete a writing task that, for half of the participants, was aimed to prime interdependence. In a later, seemingly unrelated task, we measured perceived effectiveness of one's actions in the consumption context.

5.1.2. Manipulation and measures

5.1.2.1. Connectedness manipulation. We used a manipulation previously shown to activate an interdependent mindset (Mandel, 2003; Oyserman & Lee, 2008). Participants in the *interdependent* condition were instructed to spend about 5 min writing about an instance in which they purchased a present for a friend or a family member. They were asked to describe how the other person benefited from receiving the gift and how they felt about the

purchase. Those in the *control* condition were instructed to describe an instance in which they bought something for themselves and to write how they benefited from the purchase and how they felt about it.

5.1.2.2. Manipulation check. To test the effectiveness of our priming manipulation, we next administered the inclusion-of-other-in-self (IOS) scale (Aron et al., 1992), designed to measure an individual's sense of connectedness. In the IOS scale, respondents select from a set of Venn-like diagrams the picture that best describes their relationship to others. Each diagram corresponds to a different degree of overlap of two circles, one of which represents the self and the other represents the others. We included two items. The first item asked participants, using the IOS scale, to indicate how close they felt with respect to the community at large, i.e., "people from their city, their fellow citizens, and the population at large". The second item asked how close participants felt towards other students at their university. This way we captured participants' sense of connectedness both to the broader society and to their immediate surroundings (Ashmore, Deaux, & McLaughlin-Volpe, 2004). The two items were significantly correlated, $r = 0.33$, $p < 0.05$. For analyses, we averaged these two items into a single measure of the sense of connectedness.

5.1.2.3. Perceived effectiveness of one's actions. To measure our dependent variable, perceived effectiveness of one's actions in the consumption context, we included the same three items from the perceived consumer effectiveness scale (Roberts, 1996) as in Study 1, $\alpha = 0.80$.

5.2. Results

Participants in the *interdependent* condition indicated that they felt more connected to others ($M = 4.58$, $SD = 0.99$) than those in the *control* condition ($M = 3.80$, $SD = 1.31$), $t(37) = -2.08$, $p = 0.04$, $d = 0.69$. Thus, our manipulation effectively increased participants' sense of connectedness to others. Furthermore, as predicted, participants in the *interdependent* condition showed higher levels of perceived effectiveness ($M = 4.51$, $SD = 0.46$) than those in the *control* condition ($M = 3.75$, $SD = 1.00$), $t(37) = -3.00$, $p = 0.005$, $d = 0.99$.

5.3. Discussion

These findings provide further evidence that one's sense of connectedness to others – in this study manipulated via priming an interdependent mindset – increases the perceived effectiveness of individual actions. When participants' sense of connectedness was enhanced, they reported that their consumption choices would be more impactful in producing societal change.

6. Study 3

We proceeded to test the direct causal link between the sense of connectedness and socially responsible behavior. As in Study 2, we manipulated the sense of connectedness using an interdependence prime. We then assessed the effect of our manipulation on participants' willingness to exert effort for a social cause.

6.1. Method

6.1.1. Participants and procedure

Two hundred US-based adults, recruited as in Study 1, were

invited to participate in an online study. Out of these, 138 participants completed the priming manipulation task. The data of six participants (4%) who did not pass the instructional manipulation check (IMC; Oppenheimer et al., 2009) were excluded, according to a decision made prior to conducting the study. The final sample thus included 132 US-based adults (100% full-time employed; 71.2% female; 89.4% Caucasian, 3.8% African American, 2.3% Hispanic, 2.3% Asian American; $M_{age} = 45.92$, $SD_{age} = 11.40$). Approximately 54% of the sample had at least a university degree, while another 23% of the respondents had some college education.

Participants were randomly assigned to either an *interdependent* prime condition or *control* condition. We first asked participants to complete a writing task, which was identical to the one employed in Study 2 and was aimed to prime interdependence for half of our participants. After that, in a seemingly unrelated task, we measured participants' willingness to exert effort in providing assistance to an NGO. In particular, participants were told that the researchers conducting the study supported the actions of the NGO Earth-Action. More specifically, the NGO needed help in finding corporate sponsors. Participants were further told that the response to letters inviting for a donation was larger when there was a simple and powerful slogan as to why should a donation be given, such as "Help us help them!" Participants were asked for their voluntary contribution in creating new slogans, so as to avoid repetitions in the letters:

"If you would like to help us, please write down 1–5 phrases that we could use. All your input is greatly appreciated and will potentially help to gather donations for a good cause."

Respondents could provide their phrases in a specially designated textbox or skip that part without entering any text. We measured participants' willingness to exert effort for a social cause as the *number of slogans* that each participant contributed. This operationalization of socially responsible behavior in social dilemmas conforms to the conceptual definition provided in the beginning of the paper: (1) taking an action ostensibly meant "doing good," and (2) individual action was costly: it required an investment of one's time and cognitive resources.

6.2. Results and discussion

Sample slogans that participants provided included "A little help can make a big difference," "Together we can make a difference," "We can do it!", "Give and make a difference!", "One donation has a major effect," "Earth is where the heart is," and "One person alone can't save the earth, but people working together can." As expected, participants in the *interdependent* condition provided more phrases ($M = 1.56$, $SD = 1.61$) than those in the *control* condition ($M = 0.79$, $SD = 1.03$), $t(130) = -3.34$, $p = 0.001$, $d = 0.59$. These findings indicate that a heightened sense of connectedness to others leads individuals to engage in socially responsible behavior to a greater extent.

7. Study 4

In Study 4, we sought to test the relationship between the sense of connectedness and socially responsible behavior by using a different behavioral outcome. In particular, we first manipulated participants' sense of connectedness and then measured their willingness to contribute financially to an organization that promotes ethical business and fair trade. After that, we administered a measure of perceived effectiveness of one's actions, to test its role in

mediating the effect of the sense of connectedness on socially responsible behavior. Finally, to guard against the possibility that our experimental manipulation inadvertently affected another potential mediator (Bullock, Green, & Ha, 2010), we measured participants' social values.

7.1. Method

7.1.1. Participants and procedure

Forty-eight undergraduate students (64.6% female; $M_{age} = 21.38$, $SD_{age} = 3.88$) participated in this study for a €9 show-up fee (about \$12). Participants were randomly assigned to either an *interdependent* prime condition or *control* condition and completed all tasks in semi-closed cubicles. Participants' sense of connectedness was manipulated via the same priming task as in Studies 2 and 3. After this task, participants were invited to engage in a seemingly unrelated task: they were offered an opportunity to make a financial contribution to an NGO, in exchange for a bar of fair trade chocolate. The amount that participants decided to contribute was subtracted from their participation fee. All proceeds were donated to the NGO in question. Participants then completed a measure of the perceived effectiveness of their individual contribution and a measure of social values. The operationalization of socially responsible behavior through financial contributions to an NGO conforms to our conceptual definition of such behavior: (1) taking an action meant "doing good," and (2) individual action was financially costly.

7.1.2. Measures

7.1.2.1. Socially responsible behavior. We told our participants that at the end of the experimental session they would be given a bar of chocolate marketed by an NGO that promotes ethical business and fair trade. We then offered participants the opportunity to pay for the chocolate by contributing part of their participation fee to that NGO. Participants were free to indicate any amount from 0 to 9€. This contribution constituted our measure of socially responsible behavior.

7.1.2.2. Perceived effectiveness of one's actions. We adapted three items from the perceived consumer effectiveness scale (Roberts, 1996) to reflect the context of the current study. The items were: "The contribution of a single individual to the NGO is important and can help people in need," "Contributions to charity organizations make the world a better place," and "My contribution to charity can make a difference and have an impact." Each item was rated on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*, $\alpha = 0.81$.

7.1.2.3. Social values. Social values were assessed using four items, designed to measure the importance of community values, from the aspiration index scale (Kasser & Ryan, 1993). Each item was rated by participants on a 7-point scale ranging from 1 = *not at all important* to 7 = *extremely important*. The items were: "To work for the betterment of society," "To assist people who need it, asking nothing in return," "To work to make the world a better place," and "To help others improve their lives," $\alpha = 0.87$.

7.2. Results

Fig. 2 depicts the effect of our experimental manipulation on the focal variables. Participants in the *interdependent* condition ($M = 5.18$, $SD = 1.32$) felt that their individual contribution was more impactful than those in the *control* condition ($M = 4.13$,

$SD = 1.24$), $t(46) = -2.85$, $p = 0.007$, $d = 0.84$. At the same time, our experimental manipulation did not affect the extent to which participants found social values important ($M = 4.79$, $SD = 0.61$ and $M = 4.88$, $SD = 0.87$), $t(46) = -0.13$, $p = 0.90$, $d = 0.04$. As for participants' contribution to the NGO, those in the *interdependent* condition paid more for the fair trade chocolate ($M = 1.27$, $SD = 1.50$) than those in the *control* condition ($M = 0.54$, $SD = 0.64$), $t(46) = -2.19$, $p = 0.03$, $d = 0.65$, in line with our predictions.

We tested the role of perceived effectiveness of one's actions in explaining the effect of our experimental manipulation on financial contributions to the NGO. Regression analyses revealed that when entered as the only predictor, our experimental manipulation (1 = *interdependent*, 0 = *control*) significantly predicted individual contributions to the NGO ($\beta = 0.31$, $p = 0.03$, $\eta_p^2 = 0.09$). When we added perceived effectiveness and social values as predictors, the effect of experimental manipulation was no longer significant ($\beta = 0.16$, $p = 0.29$, $\eta_p^2 = 0.03$). At the same time, the coefficient of perceived effectiveness was positive and significant ($\beta = 0.39$, $p = 0.02$, $\eta_p^2 = 0.13$), while the coefficient of social values was not significant ($\beta = 0.01$, $p = 0.96$, $\eta_p^2 = 0.00$). Follow-up bootstrapping analyses of indirect effects via both perceived effectiveness of one's actions and social values revealed that the 95% bias-corrected confidence interval for the indirect effect through perceived effectiveness excluded zero, [0.12, 0.78], while the one corresponding to social values did not, [-0.16, 0.04]. These results suggest that the effect of our experimental manipulation on financial contributions was entirely mediated by perceived effectiveness of one's actions.

7.3. Discussion

These results provide further support for the hypotheses that the sense of connectedness increases perceived effectiveness of one's actions, which, consequently, leads to more socially responsible behavior. When participants were induced to feel more connected to others, they contributed more to the NGO. In addition, they felt that their individual contribution would have a greater impact, which explained the relationship between the sense of connectedness and financial contributions.

8. General discussion

In four studies, we showed that the sense of connectedness affects perceptions of the effectiveness of individual socially responsible action and consequently the likelihood of engaging in socially responsible behavior. In particular, our results demonstrate that if people feel more connected to others, they believe to a larger extent that their actions have a substantial impact on the larger scale. As a consequence of a heightened sense of connectedness, belief about the impact that a collective can have appears to be transferred to the assessment of one's individual impact. Furthermore, our results showed that whereas social values may play a role in motivating socially responsible behavior of individuals with a heightened sense of connectedness to others, perceived effectiveness of one's actions is a better predictor when both are considered simultaneously.

The results were consistent across four studies, in which we used various methods and populations. First, we employed both correlational and experimental methods to test the relationship between the sense of connectedness (operationalized both as a state (Studies 2, 3, and 4) and trait (Study 1) variable), perceived effectiveness of one's actions, and socially responsible behavior.

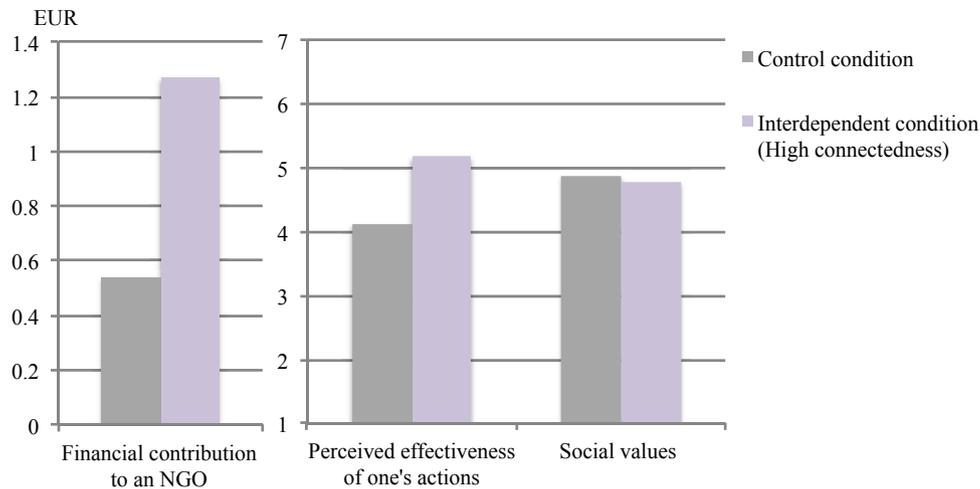


Fig. 2. Manipulating the sense of connectedness, Study 4.

Second, we collected data both in a survey and in laboratory studies, from student and working adult samples. Moreover, we used both self-report and observed behavior as our dependent variables.

8.1. Theoretical and practical implications

Our work has several implications for theory. First, we suggest that a comprehensive account of the effect of the sense of connectedness on socially responsible behavior must include not only individuals' commitment to collective goals, but also the perceived effectiveness of their contributions. Previous research has devoted much attention to the role of social values in shaping socially responsible behavior (Gärling et al., 2003; McClintock & Allison, 1989; Nauta et al., 2002; Van Lange, Agnew, Harinck, & Steemers, 1997; Van Lange et al., 1998). Other studies have linked the sense of connectedness to differences in social values (Arnocky et al., 2007; McCarty & Shrum, 2001). This literature suggests that there exists a single path for the relationship between the sense of connectedness and socially responsible behavior, via a commitment to collective goals. We suggest that at least one other mechanism links both constructs: perceived effectiveness of one's actions. This account is more complete, and it aligns research on the role of connectedness in shaping socially responsible behavior with classic motivation theories emphasizing the importance of perceived effectiveness of one's actions in reaching goals (e.g., Bandura, 1986; Vroom, 1964).

Second, the behaviors that we examined draw increasing attention from scholars in a variety of fields. For example, actions in support of collective wellbeing, including sustainable consumer behavior, is one of the pillars of a transformative consumer research program, which is gaining momentum in the marketing literature (Mick, Pettigrew, Pechmann, & Ozanne, 2012). At the same time, recycling and switching to environmentally responsible products or processes are among the most common organizational initiatives aimed at environmental sustainability at work (Ones & Dilchert, 2012). Our results contain promising ideas for motivating socially responsible behavior. In particular, previous research suggested that the most important obstacle for socially responsible behavior is the feeling of personal

ineffectiveness when individuals consider acting responsibly for the purpose of enabling better large-scale societal outcomes (e.g., Jackson, 2005; Lorenzoni, Nicholson-Cole, & Whitmarsh, 2007; Stoll-Kleemann et al., 2001). Our results suggest that the perceived effectiveness of one's actions – and consequently socially responsible behavior – may be fostered by emphasizing one's connectedness to others. By pointing out the importance of the sense of connectedness in affecting the perceived effectiveness of individual action, we offer an avenue for promoting socially responsible behavior. Because of their potential to enhance perceived effectiveness of one's actions, interventions aimed at increasing the salience of the togetherness and connectedness of individuals can be a powerful tool to motivate socially responsible behavior.

Our findings are in line with McKenzie-Mohr's (2000) work on community-based social marketing, a framework that uses insights from multiple areas in psychology to develop programs that foster sustainable behavior. While most traditional programs rely on informing people about positive consequence of socially responsible behavior (or negative consequences of the lack of thereof) to motivate behavior change, previous research has clearly indicated the limits of such an – often expensive – approach (Owens & Driffill, 2008; Sturgis & Allum, 2004). Effective programs should include more subtle elements that increase motivation to engage in socially responsible behavior and translate that concern into a change in behavioral patterns. Understanding what kind of information to provide in such campaigns is crucial for success. For example, in a field experiment among hotel guests, Goldstein, Cialdini, and Griskevicius (2008) showed that hotel signs describing the conservation behavior of “fellow guests” were significantly more effective than standard appeals to duty for increasing the rate of towel reuse. Our work suggests that the effect might have occurred because the mention of “guests who previously used this room” inadvertently primed the guest's connectedness to others. Indeed, in conditions where similarities between current and previous guests were emphasized, the researchers observed an increase in towel reuse. Similarly, advertisement slogans such as “We're all in this together” (as used by Virgin Airlines to promote civic behavior by airplane passengers) might be effective because such slogans enhance the client's sense of connectedness.

8.2. Future research

While our results showed that the effect of the sense of connectedness on socially responsible behavior was mediated only by the perceived effectiveness of one's actions and not by one's social values, individuals who felt more connected to others also reported stronger commitment to societal goals (Study 1). Future studies should further examine the link between the sense of connectedness, social values, socially responsible behavior, and perceived effectiveness of one's actions. For instance, it is possible that social values are circularly related to individual behavior. That is, social values affect (although imperfectly) behavior on the one hand, and socially responsible behavior can make the individual reconsider his or her social values, on the other. That is, doing something valuable for the collective good may signal to the individual that s/he is indeed committed to collective goals thereby promoting subsequent prosocial behavior (e.g., [Cornelissen, Pandelaere, Warlop, & Dewitte, 2008](#)). Because individuals will only act in a socially responsible manner if they feel that their individual actions can have an impact, perceived effectiveness of one's actions may play a crucial role in reinforcing social values and feed into this circular relationship. In other words, because feeling that my action can make a difference is a necessary condition for me to act, the greater my perceived effectiveness, the more likely I reinforce my prosocial values through behavior. Future research should examine this possibility.

Our results also suggest that altering individuals' fundamental values is not easy and may not be achieved by a simple priming procedure (Study 4). On the other hand, we found that priming connectedness can temporarily alter perceived effectiveness of one's actions. Further research should identify settings in which either mechanism is most relevant, in order to design the optimal intervention to promote responsible behavior. For example, in deciding how to act towards a specific other person (individual effectiveness is objectively high), the effect of connectedness on socially responsible behavior may be primarily operating through its impact on one's social values. However, in deciding how to act in order to achieve a specific large-scale societal outcome (individual effectiveness is objectively low), reliance on social values alone may not be sufficient to motivate behavior.

It is also instructive to examine the implications of our findings for situations that may produce negative large-scale societal outcomes. For example, greater prominence of the sense of connectedness may be associated with anti-social values in relation to out-group members (e.g., [Triandis et al., 2001](#)). We speculate that the effect of feeling connected to others is likely to hold given both social and anti-social values. Given anti-social values, the sense of connectedness may be more likely to produce behavior aimed at harming a society that includes out-group members. This possibility clearly merits further research attention.

As noted above, we have used different populations across our studies – geographically (USA and Southern Europe) and otherwise (students and working adults). We do not have a reason to believe that our results are specific to the populations we used. However, it is also true that our samples may not be representative of all populations. Thus, our results should be used with care when trying to predict attitudes and behavior of a specific category of people in a specific region. Future studies should attempt to replicate our results using different populations.

Finally, our results offer new insights for testing the effects of group size and group identity on cooperation in social dilemmas.

To date, the literature has documented lower perceptions of self-efficacy in larger size groups ([Kerr, 1989](#)), and a positive effect of a stronger or more salient group identity on cooperative behavior in social dilemmas (e.g., [Dawes, van de Kragt, & Orbell, 1990](#); [Kopelman, Weber, & Messick, 2002](#); [Kramer & Brewer, 1984](#)). It is plausible that when group identity is more salient, the sense of connectedness is heightened, which, as our results show, should increase self-efficacy perceptions. Thus, when the sense of connectedness is heightened, the effect of group size on perceived self-efficacy may be reversed altogether. It has recently been suggested that the larger or the more comprehensive the category of "others," the more the sense of connectedness is associated with concerns about global issues. In particular, [McFarland](#) and colleagues have proposed that individuals differ in the extent to which they identify with all humanity and reported preliminary results on the link between this trait and individual attitudes toward global and humanitarian issues ([McFarland, Webb, & Brown, 2012](#)). Further research should address the question of how the size of the community or a collective of people one feels connected to affects one's feeling of effectiveness and socially responsible behavior. It may be the case that the larger the size of the group one feels connected to, the more likely the individual is to engage in actions aimed at solving large-scale societal problems.

Acknowledgements

This research was supported by the grant PTDC/EGE-GES/098856/2008 from the Portuguese Foundation for Science and Technology (FCT), the grant ECO2008-01768 from the Spanish Ministry of Science and Innovation, and a grant from the INSEAD Alumni Fund.

Appendix A

Items measuring the sense of connectedness, study 1

Source: [Johnson et al. \(2006\)](#).

1. If a friend was having a personal problem, I would help him/her even if it meant sacrificing my time or money.
2. I value friends who are caring, empathic individuals.
3. It is important to me that I uphold my commitments to significant people in my life.
4. Caring deeply about another person such as a close friend or relative is important to me.
5. Knowing that a close other acknowledges and values the role that I play in their life makes me feel like a worthwhile person.
6. Making a lasting contribution to groups that I belong to, such as my work organization, is very important to me.
7. When I become involved in a group project, I do my best to ensure its success.
8. I feel great pride when my team or group does well, even if I'm not the main reason for its success.
9. I would be honored if I were chosen by an organization or club that I belong to, to represent them at a conference or meeting.
10. When I'm part of a team, I am concerned about the group as a whole instead of whether individual team members like me or whether I like them.

Appendix B

Factor analysis of the measures of behavior and values, Study 1.

Items	Factor		
	1	2	3
Socially responsible consumption behavior (source: Webb et al., 2008)			
(We would like to learn whether environmental and social issues are important to you when you buy products or services. We are interested in your ACTUAL BEHAVIOR, not what you think you should do. Please indicate on the following scale whether you do these things. 1 = never true; 7 = always true)			
Recycling behavior			
1. I recycle cardboard.	0.86	0.20	0.06
2. I recycle plastic containers.	0.83	0.22	0.08
3. I recycle magazines.	0.89	0.19	0.08
4. I recycle aluminum cans.	0.72	0.18	0.02
5. I recycle steel/tin cans.	0.82	0.18	0.01
6. I recycle paper.	0.86	0.17	0.08
Environmentally conscious purchasing behavior			
1. I avoid buying from companies that harm endangered plants or animals.	0.15	0.70	0.07
2. Whenever possible, I walk, ride a bike, car pool, or use public transportation to help reduce air pollution.	0.26	0.53	0.02
3. I avoid using products that pollute the air.	0.18	0.90	0.06
4. I avoid buying products that pollute the water	0.20	0.92	0.07
5. I make an effort to avoid products or services that cause environmental damage.	0.22	0.89	0.08
6. I avoid buying products that are made from endangered animals	0.19	0.72	0.14
7. I limit my use of energy such as electricity or natural gas to reduce my impact on the environment.	0.23	0.67	0.12
Social values (source: Vitell & Muncy, 2005)			
(To what extent do you agree or disagree that the following behaviours are morally acceptable? 1 = strongly disagree; 7 = strongly agree)			
1. Buying products labeled as “environmentally friendly” even if they don't work as well as competing products.	0.05	0.00	0.81
2. Purchasing something made of recycled materials even though it is more expensive.	0.06	0.08	0.89
3. Buying only from companies that have a strong record of protecting the environment.	0.04	0.18	0.85
4. Recycling materials such as cans, bottles, newspapers, etc.	0.27	0.12	0.53

Note. $N = 638$. Table values are factor loadings that resulted from a factor analysis with varimax rotation. Factor loadings above 0.40 are in bold.

Appendix C

Confirmatory factor analysis of Study 1 measures: comparisons of nested structural models.

Model	χ^2	df	CFI	RMSEA	SRMR	Comparison to Model 1	
						$\Delta\chi^2$	Δdf
1. 5-factor	2172.86	395	0.88	0.08	0.07	–	–
2. 4-factor (2 behaviors together)	5125.98	399	0.68	0.14	0.13	2953.12 ***	4
3. 3-factor (2 behaviors and values together)	6435.68	402	0.59	0.15	0.14	4262.82 ***	7
4. 2-factor (2 behaviors, social values, and perceived effectiveness of one's actions together)	6980.76	404	0.56	0.16	0.14	4807.90 ***	9
5. 1-factor (all measures together)	9783.72	405	0.37	0.19	0.17	7610.86 ***	10
6. 5-factor plus some error covariances for items of same measures	1517.43	390	0.92	0.07	0.07	655.43 ***	5

Note. $N = 638$. In Model 1, the items for the five constructs (i.e., two types of behavior (recycling and environmentally conscious purchasing behavior), social values, perceived effectiveness of one's actions, and sense of connectedness) indicated five separate latent constructs. *** $p < 0.001$; χ^2 = chi-square statistic; df = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual.

References

- Arnocky, S., Stroink, M., & DeCicco, T. (2007). Self-construal predicts environmental concern, cooperation, and conservation. *Journal of Environmental Psychology, 27*(4), 255–264. <http://dx.doi.org/10.1016/j.jenvp.2007.06.005>.
- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology, 63*(4), 596–612.
- Aron, A., Aron, E. N., Tudor, M., & Nelson, G. (1991). Close relationships as including other in the self. *Journal of Personality and Social Psychology, 60*(2), 241–253.
- Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organizing framework for collective identity: Articulation and significance of multidimensionality. *Psychological Bulletin, 130*(1), 80–114. <http://dx.doi.org/10.1037/0033-2909.130.1.80>.
- Axelrod, L. J., & Lehman, D. R. (1993). Responding to environmental concerns: What factors guide individual action? *Journal of Environmental Psychology, 13*(2), 149–159. [http://dx.doi.org/10.1016/s0272-4944\(05\)80147-1](http://dx.doi.org/10.1016/s0272-4944(05)80147-1).
- van Baaren, R. B., Maddux, W. W., Chartrand, T. L., de Bouter, C., & van Knippenberg, A. (2003). It takes two to mimic: Behavioral consequences of self-construals. *Journal of Personality and Social Psychology, 84*(5), 1093–1102. <http://dx.doi.org/10.1037/0022-3514.84.5.1093>.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ, US: Prentice-Hall, Inc.
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science, 9*(3), 75–78. <http://dx.doi.org/10.1111/1467-8721.00064>.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173–1182.
- Baumeister, R., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529.
- Bentler, P. M., & Dudgeon, P. (1996). Covariance structure analysis: Statistical practice, theory, and directions. *Annual Review of Psychology, 47*, 563–592.
- Berger, I. E., & Corbin, R. M. (1992). Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing, 11*(2), 79–89. <http://dx.doi.org/10.2307/30000276>.
- Bullock, J. G., Green, D. P., & Ha, S. E. (2010). Yes, but what's the mechanism? (Don't expect an easy answer). *Journal of Personality and Social Psychology, 98*(4),

- 550–558.
- Cialdini, R. B., & De Nicholas, M. E. (1989). Self-presentation by association. *Journal of Personality and Social Psychology*, 57(4), 626. <http://dx.doi.org/10.1037/0022-3514.57.4.626>.
- Coats, S., Smith, E. R., Claypool, H. M., & Banner, M. J. (2000). Overlapping mental representations of self and in-group: Reaction time evidence and its relationship with explicit measures of group identification. *Journal of Experimental Social Psychology*, 36(3), 304–315. <http://dx.doi.org/10.1006/jesp.1999.1416>.
- Cornelissen, G., Pandelaere, M., Warlop, L., & Dewitte, S. (2008). Positive cueing: Promoting sustainable consumer behavior by cueing common environmental behaviors as environmental. *International Journal of Research in Marketing*, 25(1), 46–55.
- Crilly, D., Schneider, S. C., & Zollo, M. (2008). Psychological antecedents to socially responsible behavior. *European Management Review*, 5(3), 175–190. <http://dx.doi.org/10.1057/emr.2008.15>.
- Crosby, L. A., Gill, J. D., & Taylor, J. R. (1981). Consumer/voter behavior in the passage of the Michigan container law. *Journal of Marketing*, 45(2), 19–32. <http://dx.doi.org/10.2307/1251662>.
- Cross, S. E., Bacon, P. L., & Morris, M. L. (2000). The relational-interdependent self-construal and relationships. *Journal of Personality and Social Psychology*, 78(4), 791–808. <http://dx.doi.org/10.1037/0022-3514.78.4.791>.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24(4), 349–354. <http://dx.doi.org/10.1037/h0047358>.
- Davis, J. L., Green, J. D., & Reed, A. (2009). Interdependence with the environment: Commitment, interconnectedness, and environmental behavior. *Journal of Environmental Psychology*, 29(2), 173–180. <http://dx.doi.org/10.1016/j.jenvp.2008.11.001>.
- Dawes, R. M. (1980). Social dilemmas. *Annual Review of Psychology*, 31(1), 169–193. <http://dx.doi.org/10.1146/annurev.ps.31.020180.001125>.
- Dawes, R. M., van de Kragt, A. J., & Orbell, J. M. (1990). Cooperation for the benefit of us—Not me, or my conscience. In J. J. Mansbridge (Ed.), *Beyond self-interest* (pp. 97–110). Chicago: University of Chicago Press.
- Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991). The role of perceived consumer effectiveness in motivating environmentally conscious behaviors. *Journal of Public Policy & Marketing*, 10(2), 102–117.
- Fiske, S. T. (1987). People's reactions to nuclear war: Implications for psychologists. *American Psychologist*, 42(3), 207–217. <http://dx.doi.org/10.1037/0003-066x.42.3.207>.
- Gärlling, T., Fujii, S., Gärlling, A., & Jakobsson, C. (2003). Moderating effects of social value orientation on determinants of pro-environmental behavior intention. *Journal of Environmental Psychology*, 23(1), 1–9.
- Goldstein, N. J., & Cialdini, R. B. (2007). The spyglass self: A model of vicarious self-perception. *Journal of Personality and Social Psychology*, 92(3), 402–417. <http://dx.doi.org/10.1037/0022-3514.92.3.402>.
- Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research*, 35(3), 472–482. <http://dx.doi.org/10.1086/586910>.
- Grob, A. (1995). A structural model of environmental attitudes and behaviour. *Journal of Environmental Psychology*, 15(3), 209–220. [http://dx.doi.org/10.1016/0272-4944\(95\)90004-7](http://dx.doi.org/10.1016/0272-4944(95)90004-7).
- Hinkle, S., Fox-Cardamone, L., Haseleu, J. A., Brown, R., & Irwin, L. M. (1996). Grassroots political action as an intergroup phenomenon. *Journal of Social Issues*, 52(1), 39–51. <http://dx.doi.org/10.1111/j.1540-4560.1996.tb01360.x>.
- Jackson, T. (2005). *Motivating sustainable consumption: A review of evidence on consumer behaviour and behavioural change*. London: Sustainable Development Research Network.
- Johnson, R. E., & Lord, R. G. (2010). Implicit effects of justice on self-identity. *Journal of Applied Psychology*, 95(4), 681–695. <http://dx.doi.org/10.1037/a0019298>.
- Johnson, R. E., Selenta, C., & Lord, R. G. (2006). When organizational justice and the self-concept meet: Consequences for the organization and its members. *Organizational Behavior and Human Decision Processes*, 99(2), 175–201. <http://dx.doi.org/10.1016/j.obhdp.2005.07.005>.
- Karremans, J. C., Van Lange, P. A. M., & Holland, R. W. (2005). Forgiveness and its associations with prosocial thinking, feeling, and doing beyond the relationship with the offender. *Personality and Social Psychology Bulletin*, 31(10), 1315–1326. <http://dx.doi.org/10.1177/0146167205274892>.
- Kasser, T., & Ryan, R. M. (1993). A dark side of the American dream: Correlates of financial success as a central life aspiration. *Journal of Personality and Social Psychology*, 65, 410–422.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York: Wiley.
- Kerr, N. L. (1989). Illusions of efficacy: The effects of group size on perceived efficacy in social dilemmas. *Journal of Experimental Social Psychology*, 25(4), 287–313. [http://dx.doi.org/10.1016/0022-1031\(89\)90024-3](http://dx.doi.org/10.1016/0022-1031(89)90024-3).
- Kinick, B., & Verkuyten, M. (1997). Levels of ethnic self-identification and social context. *Social Psychology Quarterly*, 60(4), 338–354. <http://dx.doi.org/10.2307/2787094>.
- Kinnear, T. C., Taylor, J. R., & Ahmed, S. A. (1974). Ecologically concerned consumers: Who are they? *Journal of Marketing*, 38(2), 20–24.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260.
- Kopelman, S., Weber, J. M., & Messick, D. M. (2002). Factors influencing cooperation in commons dilemmas: A review of experimental psychological research. In E. Ostrom, T. Dietz, N. Dolsak, P. C. Stern, S. Sonich, & E. U. Weber (Eds.), *The drama of the commons* (pp. 113–156). Washington DC: National Academy Press.
- Kramer, R. M., & Brewer, M. B. (1984). Effects of group identity on resource use in a simulated commons dilemma. *Journal of Personality and Social Psychology*, 46(5), 1044–1057. <http://dx.doi.org/10.1037/0022-3514.46.5.1044>.
- Lee, J. A., & Holden, S. J. S. (1999). Understanding the determinants of environmentally conscious behavior. *Psychology and Marketing*, 16(5), 373–392.
- Lorenzoni, I., Nicholson-Cole, S., & Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. *Global Environmental Change*, 17(3–4), 445–459. <http://dx.doi.org/10.1016/j.gloenvcha.2007.01.004>.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593–614.
- Mandel, N. (2003). Shifting selves and decision making: The effects of self-construal priming on consumer risk-taking. *Journal of Consumer Research*, 30(1), 30–40. <http://dx.doi.org/10.1086/374700>.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98(2), 224–253. <http://dx.doi.org/10.1037/0033-295x.98.2.224>.
- McCarty, J. A., & Shrum, L. J. (2001). The influence of individualism, collectivism, and locus of control on environmental beliefs and behavior. *Journal of Public Policy and Marketing*, 20(1), 93–104. <http://dx.doi.org/10.1509/jppm.20.1.93.17291>.
- McClintock, C. G., & Allison, S. T. (1989). Social value orientation and helping behavior. *Journal of Applied Social Psychology*, 19(4), 353–362. <http://dx.doi.org/10.1111/j.1559-1816.1989.tb00060.x>.
- McFarland, S., Webb, M., & Brown, D. (2012). All humanity is my ingroup: A measure and studies of identification with all humanity. *Journal of Personality and Social Psychology*, 103(5), 830–853. <http://dx.doi.org/10.1037/a0028724>.
- McKenzie-Mohr, D. (2000). Fostering sustainable behavior through community-based social marketing. *American Psychologist*, 55(5), 531–537. <http://dx.doi.org/10.1037/0003-066x.55.5.531>.
- Messick, D. M., & Brewer, M. B. (1983). Solving social dilemmas: A review. In L. Wheeler, & P. Shaver (Eds.), *Review of personality and social psychology* (Vol. 4, pp. 11–44). Beverly Hills, CA: Sage.
- Messick, D. M., & McClintock, C. G. (1968). Motivational bases of choice in experimental games. *Journal of Experimental Social Psychology*, 4(1), 1–25.
- Mick, D. G., Pettigrew, S., Pechmann, C., & Ozanne, J. (2012). *Transformative consumer research for personal and collective well-being*. New York, NY: Routledge.
- Nauta, A., De Dreu, C. K. W., & van der Vaart, T. (2002). Social value orientation, organizational goal concerns and interdepartmental problem-solving behavior. *Journal of Organizational Behavior*, 23(2), 199–213.
- Ones, D. S., & Dilchert, S. (2012). Employee green behaviors. In S. E. Jackson, D. S. Ones, & S. Dilchert (Eds.), *Managing human resources for environmental sustainability*. San Francisco: Jossey-Bass/Wiley.
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45(4), 867–872. <http://dx.doi.org/10.1016/j.jesp.2009.03.009>.
- Owens, S. (2000). "Engaging the public": Information and deliberation in environmental policy. *Environment and Planning A*, 32(7), 1141–1148.
- Owens, S., & Driffill, L. (2008). How to change attitudes and behaviours in the context of energy. *Energy Policy*, 36(12), 4412–4418. <http://dx.doi.org/10.1016/j.enpol.2008.09.031>.
- Oyserman, D., & Lee, S. W. S. (2008). Does culture influence what and how we think? Effects of priming individualism and collectivism. *Psychological Bulletin*, 134(2), 311–342. <http://dx.doi.org/10.1037/0033-2909.134.2.311>.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891.
- Ritchie, J. R. B., & Gordon, H. G. M. (1985). Designing and marketing consumer energy conservation policies and programs: Implications from a decade of research. *Journal of Public Policy and Marketing*, 4, 14–32. <http://dx.doi.org/10.2307/30000071>.
- Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research*, 36(3), 217–231.
- Rosenberg, M. (1986). *Conceiving the self*. Malabar, FL: Krieger.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68–78.
- Schultz, P. W. (2002). Inclusion with nature: The psychology of human-nature relations. In P. Schmuck, & W. Schultz (Eds.), *Psychology of sustainable development* (pp. 61–78). US: Springer.
- Scott, C. A. (1977). Modifying socially-conscious behavior: The foot-in-the-door technique. *Journal of Consumer Research*, 4(3), 156–164. <http://dx.doi.org/10.2307/2488643>.
- Singelis, T. M. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin*, 20(5), 580–591. <http://dx.doi.org/10.1177/0146167294205014>.
- Smith, E. R., & Henry, S. (1996). An in-group becomes part of the self: Response time evidence. *Personality and Social Psychology Bulletin*, 22(6), 635–642. <http://dx.doi.org/10.1177/0146167296226008>.
- Stevens, J. P. (1992). *Applied multivariate statistics for the social sciences*. Hillsdale, NJ: Erlbaum.
- Stoll-Kleemann, S., O'Riordan, T., & Jaeger, C. C. (2001). The psychology of denial concerning climate mitigation measures: Evidence from Swiss focus groups.

- Global Environmental Change*, 11(2), 107–117. [http://dx.doi.org/10.1016/s0959-3780\(00\)00061-3](http://dx.doi.org/10.1016/s0959-3780(00)00061-3).
- Sturgis, P., & Allum, N. (2004). Science in society: Re-evaluating the deficit model of public attitudes. *Public Understanding of Science*, 13(1), 55–74. <http://dx.doi.org/10.1177/0963662504042690>.
- Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology*, 33, 1–39. <http://dx.doi.org/10.1146/annurev.ps.33.020182.000245>.
- Thøgersen, J. (1999). The ethical consumer. Moral norms and packaging choice. *Journal of Consumer Policy*, 22(4), 439–460. <http://dx.doi.org/10.1023/a:1006225711603>.
- Triandis, H. C. (1995). *Individualism & collectivism*. Boulder, CO US: Westview Press.
- Triandis, H. C., Carnevale, P., Gelfand, M., Robert, C., Wasti, S. A., Probst, T., et al. (2001). Culture and deception in business negotiations: A multilevel analysis. *International Journal of Cross Cultural Management*, 1(1), 73–90. <http://dx.doi.org/10.1177/147059580111008>.
- Tropp, L. R., & Wright, S. C. (2001). Ingroup identification as the inclusion of ingroup in the self. *Personality and Social Psychology Bulletin*, 27(5), 585–600. <http://dx.doi.org/10.1177/0146167201275007>.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.
- Utz, S. (2004). Self-construal and cooperation: Is the interdependent self more cooperative than the independent self? *Self and Identity*, 3, 177–190.
- Van Lange, P. A. M., Agnew, C. R., Harinck, F., & Steemers, G. E. M. (1997). From game theory to real life: How social value orientation affects willingness to sacrifice in ongoing close relationships. *Journal of Personality and Social Psychology*, 73(6), 1330–1344.
- Van Lange, P. A. M., Van Vugt, M., Meertens, R. M., & Ruiters, R. A. C. (1998). A social dilemma analysis of commuting preferences: The roles of social value orientation and trust. *Journal of Applied Social Psychology*, 28(9), 796–820. <http://dx.doi.org/10.1111/j.1559-1816.1998.tb01732.x>.
- Vitell, S., & Muncy, J. (2005). The Muncy–Vitell consumer ethics scale: A modification and application. *Journal of Business Ethics*, 62(3), 267–275.
- Vroom, V. H. (1964). *Work and motivation*. Oxford, England: Wiley.
- Webb, D. J., Mohr, L. A., & Harris, K. E. (2008). A re-examination of socially responsible consumption and its measurement. *Journal of Business Research*, 61(2), 91–98.