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One person in the battlefield is not a warrior:

Self-construal, perceived ability to make a difference, and socially responsible behavior

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Abstract

The authors suggest that an individual's *self-construal*—how people view themselves in terms of connectedness to versus separateness from others—affects socially responsible behavior via perceived effectiveness of individual action. Study 1 shows that a more prominent interdependent self-construal is associated with greater perceived effectiveness of individual consumption choices, as well as more environmentally conscious purchasing behavior, and recycling. The mediating role of the perceived effectiveness in the relationship between self-construal and socially responsible behavior is further tested by means of a moderation-of-process experiment in Study 2. Study 3 demonstrates that the prominence of the interdependent self raises perceived effectiveness of individual action to the level of perceived effectiveness of collective action. Prominence of the independent self is associated with a smaller perceived effectiveness of individual action compared to the perceived effectiveness of collective action. We discuss the implications of our findings for research on socially responsible behavior.

Keywords: self-construal, interdependent self, independent self, socially responsible behavior, perceived effectiveness.

One person in the battlefield is not a warrior:
Self-construal, perceived ability to make a difference and socially responsible behavior

Can a single individual prevent the depletion of natural resources and solve other large scale societal problems such as hunger and poverty? Of course s/he cannot. Yet, individuals act in support of environmentally friendly practices at work, and as consumers, they choose to make energy conservation efforts and donate money and other resources to help fight hunger and poverty. Perhaps, motivating these efforts is not only the desire to achieve better large scale societal outcomes, but also the belief that their individual contribution can make a difference.

Many of the outcomes that people seek are achievable only through collective action (Bandura, 2000). For example, climate change is largely caused by the excessive use of fossil fuels by both industrial and individual users, and it would take joint efforts to curtail such use by all types of users to slow it down (Solomon et al., 2007). Such efforts may be desirable but are often inconvenient, and it is the perceived ability to make a difference that can motivate individuals to contribute to positive change. Whether an individual believes he or she can make a difference will depend on the beliefs about self vis-à-vis others: is what the individual does part of a concerted effort by a collective or is it an isolated individual act?

In this paper, we suggest that the perceived effectiveness of individual action is affected by *self-construal*. Self-construal describes how individuals define themselves in terms of connectedness and similarity with, versus separateness and distinctiveness from, others (Markus & Kitayama, 1991). We examine the role of self-construal in the shaping of socially responsible behavior and suggest that it affects such behavior via the perceived effectiveness of individual action (see Figure 1).

Insert Figure 1 about here

Overcoming Barriers to Socially Responsible Behavior

Socially responsible behavior are actions taken by individuals to enhance societal well-being (do good) or to avoid harmful consequences for society (do no harm; Crilly, Schneider, & Zollo, 2008). Challenges to societal wellbeing often present themselves in the form of social dilemmas (Dawes, 1980; Olson, 1965). These are situations in which the interest of the individual and the interest of the society collide (Dawes, 1980). As a result, people may refrain from actions that are beneficial to the society as a whole, but are personally costly (Messick & Brewer, 1983). Moreover, social problems typically unfold on the large scale, requiring the contributions of many to enable change, and rendering each individual's contribution negligible. Therefore, a sense of personal ineffectiveness is an additional inhibitor of socially responsible behavior (Kerr, 1989).

The role of social values

Research on behavior in situations of social interdependence has devoted much attention to the role of social values in shaping socially responsible behavior. Social values refer to the extent to which people ascribe to a collective's goals (Messick & McClintock, 1968). Studies on socially responsible behavior in laboratory and field settings demonstrate that social values predict behavior in contexts such as traveling by public transport in order to reduce road congestion, willingness to incur a personal cost to pursue the goals of one's employing organization, willingness to make personal sacrifices in close relationships, helping behavior, and intentions to behave pro-environmentally (Gärling, Fujii, Gärling, & Jakobsson, 2003; McClintock & Allison, 1989; Nauta, De Dreu, & van der Vaart, 2002; Van Lange, Agnew, Harinck, & Steemers, 1997; Van Lange, Van Vugt, Meertens, & Ruiter, 1998). An individual who

lacks a prosocial orientation will be less likely to participate in such socially responsible behaviors.

Ascribing to a group's goals, however, does not guarantee that the individual behaves in a socially responsible manner. Kollmus and Agyeman (2002) distinguish between socially responsible behavior that is direct versus indirect. Direct actions are actual changes in one's behavior, whereas indirect actions refer to ideological support for and the endorsement of policy changes in favor of the collective wellbeing. They suggest that the effect of problem awareness and social values is mostly limited to motivating indirect actions and that other conditions are necessary to produce a change in actual behavior (see also, Wiener & Doescher, 1991). One of the often cited reasons for a divide between social values and socially responsible behavior is people's sense of ineffectiveness, or the feeling that as an individual, one's behavior has a negligible impact on the larger scale (e.g., Ellen, Wiener, & Cobb-Walgren, 1991; Jackson, 2005; Stoll-Kleemann, O'Riordan, & Jaeger, 2001), so why bother? Even when they are aware of a problem, individuals may perceive that they have ''neither the prime responsibility to take action, nor the agency to have much effect'' (Owens, 2000).

The role of perceived effectiveness of individual action

Perceived effectiveness captures individuals' perceptions of their ability to make a difference on a larger scale through individual action (Hinkle, Fox-Cardamone, Haseleu, Brown, & Irwin, 1996; Kinnear, Taylor, & Ahmed, 1974). Previous work studied the role of perceived effectiveness as a moderator of the effect of awareness and concern regarding collective issues on socially responsible behavior (e.g., Axelrod & Lehman, 1993; Bandura, 1986; Grob, 1995; Hines, Hungerford, & Tomera, 1986; Pelletier, Dion, Tuson, & Green-Demers, 1999). 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) and perceived effectiveness differentiated inactive versus active participants in an anti-war movement (Fiske, 1987).

The relevance of both factors, social values and personal effectiveness, is reflected in classical theories of motivation. For example, Vroom's *expectancy theory* (Vroom, 1964) states that an individual will be motivated to engage in a behavior insofar as it allows him or her to achieve goals that lead to valued rewards. *Expectancy* refers to the perceived probability that an action will lead to the targeted goal. Therefore, the motivation to engage in socially responsible behavior is influenced both by the extent to which the individual values collective rewards, and the extent to which the individual feels that his or her behavior effectively contributes to achieving goals that bring about collective rewards. The lack of either component presents a barrier to socially responsible behavior.

Expectancy has also been referred to as efficacy, perceived ability to make a difference, and perceived effectiveness (Bandura, 1986). In a consumption context, Thøgersen (1999) found that perceived effectiveness, joint with problem awareness, determined efforts to reduce waste production (see also Ölander & Thøgersen, 1995; Webster, 1975). Roberts (1996) concludes that "…perceived consumer effectiveness has been identified as the most promising variable in explaining variation in ecologically conscious consumer behavior" (p. 228). When the wellbeing of the society depends on the collective efforts of all members, the impact that each individual can make is small by definition (Messick & Brewer, 1983). However, previous research demonstrated that individuals differ in the extent to which they believe that their behavior makes a difference (Kerr, 1989). This suggests that individual differences in perceived effectiveness can be an important determinant of socially responsible behavior. In what follows, we develop hypotheses regarding the role of self-construal in

shaping individual perceptions of effectiveness and subsequent socially responsible behavior.

Self-Construal and Socially Responsible Behavior

Self-construal refers to the general knowledge repository about the self and self-relevant goals and attitudes that helps individuals perceive and process information about the external environment, and organizes that information in memory (Markus & Kitayama, 1991; Markus & Wurf, 1987). Previous work has established the relationship between self-construal and social values, and the downstream effect of self-construal on socially responsible behavior (Arnocky, Stroink, & DeCicco, 2007; McCarty & Shrum, 2001). We suggest that there is an alternative link between self-construal and socially responsible behavior. In particular, we propose that self-construal also relates to the perceived effectiveness of individual action, and that this link further enhances the role of self-construal in shaping socially responsible behavior.

Two distinct dimensions of self-construal have been studied in the literature: the *independent self* and the *interdependent self* (Markus & Kitayama, 1991). Both dimensions co-exist within the individual, and situational factors may temporarily activate beliefs and behaviors corresponding to the independent or the interdependent self (Sinha & Tripathi, 1994). Markus and Kitayama (1991) suggest that the thoughts and actions motivated by the independent self emphasize the qualities (e.g., abilities and achievements) that make the individual unique and different from other people. Greater prominence of the independent self is associated with a desire to be authentic, pursue individual goals, and demonstrate autonomy and separateness from others. Associated with the independent self is a comparative mindset leading individuals to pay attention to differences in their own performance and the performance of others (Johnson, Selenta, & Lord, 2006).

The interdependent self is that part of the self-system which defines the self in terms of relationships and group memberships (e.g. “I am a US citizen; Singelis, 1994). It emphasizes connectedness to and similarity with others. It motivates striving to fit in social groups, fulfill one’s social roles, pursue relational goals, and engage in actions that promote social harmony and respect for social norms (Cross, Bacon, & Morris, 2000; Singelis, 1994). Recent research has demonstrated that socially responsible behavior is an expression of prosocial values, such as connectedness and benevolence (Pepper, Jackson, & Uzzell, 2009). These are the values that are typically associated with the interdependent self (Triandis, 1995). For example, greater prominence of the interdependent self is associated with greater emphasis on group and relational, rather than personal, goals (e.g., Cross, Hardin, & Gercek-Swing, 2011; Utz, 2004). Therefore it can be expected that self-construal acts as a determinant of socially responsible behavior. Studies have confirmed that relationship in the context of self-report environmental conservation behavior (Arnocky et al., 2007), recycling behavior (McCarty & Shrum, 2001), prosocial intentions and donations to charity (Karremans, Van Lange, & Holland, 2005). The implicit or explicit assumption in those studies is that the causal mechanism underlying this effect is the larger commitment of the interdependent self to further the interest of one’s social group or society (Kelley & Thibaut, 1978).

We suggest that, other than this commitment to the public good, there is an additional link connecting self-construal to socially responsible behavior. Specifically, we propose that self-construal is associated with the perceived ability to make a difference on the larger scale. In a large scale social dilemma, the contribution of an individual to the collective wellbeing is negligible. The collective, however, through concerted effort, can be an influential agent. Previous work has established that a

prominent interdependent self shifts the individual's attention and self-definition to the level of the group (Cross et al., 2000).When evaluating one's ability to make a difference, a group-level perspective promotes inferring a larger perceived effectiveness than when evaluating one's effectiveness from an independent perspective. Therefore, even though the individual only manages his or her behavior, and does not have any control over the contributions of other people, the prominence of the interdependent self is likely associated with larger perceived effectiveness of individual action. On the other hand, the prominence of the independent self is likely associated with the feeling that the individual is less capable to make a difference through his/her actions, in line with the proverbial expression "One person in the battlefield is not a warrior."

Hypothesis 1: Self-construal is related to perceived effectiveness of individual action such that perceived effectiveness of individual action is greater when the interdependent self is prominent than when the independent self is prominent.

Consistent with this idea, Messick and Brewer (1983) theorized that group identification may increase the perceived effectiveness of individual action because "when individuals feel […] that their actions are *representative* of some larger social entity, the *perceived* impact of those actions is magnified […]." (p. 28). Although this idea was first suggested 30 years ago, it has not been tested empirically. As we discussed in the review of the literature on the role of effectiveness, a larger perceived effectiveness in turn increases the likelihood of socially responsible behavior (e.g., Roberts, 1996). Thus,

Hypothesis 2: Perceived effectiveness partially mediates the relationship between self-construal and socially responsible behavior.

To explain how self-construal impacts perceived effectiveness, we draw on previous work showing that a prominent interdependent self shifts the individual's

attention and self-definition to the level of the group (Cross et al., 2000). For example, a self-definition in terms of a collective implies a "shift towards the perception of self as an interchangeable exemplar of some social category…" (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987, p.50). To the extent that the interdependent self is prominent, individual action becomes more symbolic of collective action, and its effectiveness may be perceived as similar to the effectiveness of collective action. However, the prominence of the independent self is associated with an individual-level perspective. Because the actions of a single individual objectively have a negligible impact on the larger scale, the prominence of the independent self will be associated with a lower perceived effectiveness of individual action compared to a concerted action of a collective. Thus,

Hypothesis 3a: Prominence of the independent self is associated with the perceived effectiveness of individual action being smaller than the perceived effectiveness of collective action.

Hypothesis 3b: Prominence of the interdependent self is associated with the perceived effectiveness of individual action being similar to the perceived effectiveness of collective action.

We test our research hypotheses by means of multiple experiments and survey data. In Study 1, we provide initial support for Hypotheses 1 and 2 by means of a large scale survey in a consumption setting. In Study 2 we present a *moderation-of-process* experiment testing Hypotheses 1 and 2. In Study 3, we provide a direct experimental test of Hypotheses 3a and 3b.

Study 1

Study 1 was conducted to test Hypotheses 1 and 2 in a consumption setting of relevance to individuals from diverse professional backgrounds. We examined whether

individual differences in self-construal could predict the likelihood of socially responsible consumption choices. Most importantly, we examined whether the relationship between self-construal and socially responsible behaviors was mediated by the perceived effectiveness of individual choices, above and beyond the mediating effect of social values.

Method

Participants and procedure. Seven hundred and fifty four US-based full-time employees (59.7% female; M_{age}= 44.2, SD_{age} = 11.5) completed a survey containing measures for self-construal, socially responsible behavior, and perceived effectiveness, among others. Participants were recruited online through CT Marketing Group, Inc. We included an instructional manipulation check (IMC; Oppenheimer, Meyvis, & Davidenko, 2009) to identify participants who do not follow instructions and do not read the questions carefully. In particular, halfway through the survey, we presented participants with the following item: "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.

Measures.

Self-construal. We assessed participants' self-construal using the levels of self-concept scale (Johnson & Lord, 2010; Johnson, Selenta, & Lord, 2006). Responses to the 15 items of the self-concept scale (and all of the following measures) were given using a 7-point scale ranging from 1 = "strongly disagree" to 7 = "strongly agree." Results of a factor analysis with Varimax rotation suggested that the 15 items made up two subscales, accounting for 62% of total variance. The first component included the 10 items intended to measure the interdependent self, and the second component

included the 5 items intended to measure the independent self. 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 "When I become involved in a group project, I do my best to ensure its success" (interdependent self, α = .92), and "I thrive on opportunities to demonstrate that my abilities or talents are better than those of other people" and "I often compete with my friends" (independent self, α = .86).

Socially responsible behavior. We measured two types of socially responsible behavior: recycling, and environmentally conscious purchasing behavior. Participants were asked to indicate, on a scale from 1 = "never true" to 7 = "always true", whether they engage in the specific behaviors. Recycling behavior was measured using 6 items from the recycling subscale of the socially responsible purchase and disposal scale (Webb, Mohr, & Harris, 2008). Sample items included: "I recycle plastic containers" and "I recycle magazines" (α = .94). Environmentally conscious purchasing behavior was measured using 7 items from the same scale (Webb et al., 2008). 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" (α = .92).

We conducted confirmatory factor analyses to verify the two-dimensional structure of the measure. The model with two factors (χ^2 (61) = 210.44, RMSEA = .06, CFI = .98, SRMR = .04) yielded a significantly better fit with the data than the model with one factor (χ^2 (62) = 2192.03, RMSEA = .23, CFI = .72, SRMR = .20).

Perceived effectiveness of individual action. To measure perceived effectiveness of individual action, we included three items from the perceived consumer effectiveness scale (Roberts, 1996). A 7-item scale was used (1 = "strongly disagree", 7 = "strongly agree"). Items included: "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 doesn't 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" (α = .83).

Social values. Social values were measured using four items from the consumer ethics scale (Vitell & Muncy, 2005). Respondents were asked to agree or disagree, on a 7-point scale ranging from 1 = "strongly disagree" to 7 = "strongly agree," whether specific behaviors were morally acceptable. Target behaviors were chosen so as to correspond to the self-report socially responsible behaviors. 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" (α = .87).

Social desirability. Previous research showed that individuals with a more prominent interdependent self are more concerned with self-presentation and are motivated to be liked by others (van Baaren, Maddux, Chartrand, de Bouter, & van Knippenberg, 2003) To control for the possible response bias due to self-presentation motives, we included 11 items from the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1960). Participants were asked to indicate whether each of the items was true or false. 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" (α = .70).

Gender and age were included as control variables.

Results

Descriptive statistics for dependent and independent variables are presented in Table 1.

Insert Table 1 about here

First, we verified whether our data replicate the relationship between perceived effectiveness and socially responsible behavior, reported in previous studies. The correlations between both concepts were significant for both measures of socially responsible behavior, see Table 1.

Second, we evaluated the hypothesized relationship between self-construal and perceived effectiveness. Higher levels of interdependent self were associated with higher perceived effectiveness ($r(638) = .44$, $p < .001$), and higher levels of independent self were associated with lower perceived effectiveness ($r(638) = -.08$, $p < .05$), thereby supporting Hypothesis 1. The difference in the absolute value of the two correlation coefficients is statistically significant, *Hotelling's* $t(635) = 7.66$, $p < .01$, suggesting that greater prominence of the interdependent self impacts perceived effectiveness to a greater extent than does greater prominence of the independent self.

Third, we replicated the previously reported relationship between self-construal and (self-report) socially responsible behavior (see Table 1). Considering the strong relationship between the interdependent self and perceived effectiveness, we are predominantly interested in how the interdependent self relates to socially responsible behavior. Correlations of interdependent self with the two measures of socially responsible behavior were positive and significant.

We then tested our suggested mediation model using the bootstrapping procedure developed by Preacher and Hayes (2008). In particular, we estimated the indirect effect of the prominence of the interdependent self-construal on socially

responsible behavior via perceived effectiveness, controlling for a possible mediating effect of social values. Social desirability bias, age, and gender were included as control variables. The results, presented in Table 2 (upper panel), indicate that the indirect effect of the prominence of the interdependent self-construal on socially responsible behavior via perceived effectiveness is significant for both measures of socially responsible behavior (both 95% CI's exclude 0), supporting Hypothesis 2. Analogous analyses of the indirect effect of the prominence of the independent self-construal revealed that these were not statistically significant (Table 2, lower panel). These results further indicate that the association between self-construal on the one hand, and perceived effectiveness and socially responsible behavior on the other, is stronger for levels of the interdependent (vs. independent) self.

Insert Table 2

Discussion

In Study 1, we assessed the relationships between self-construal, perceived effectiveness of individual consumption choices, and socially responsible behavior. As predicted, we found that higher (versus lower) levels of interdependent self are associated with greater perceived effectiveness of individual action, whereas higher (versus lower) levels of independent self are associated with lower perceived effectiveness of individual action. Also, for interdependent self, we found that perceived effectiveness mediates its effect on socially responsible behavior. These results provide initial supportive evidence to our prediction that perceived effectiveness mediates the effect of self-construal on socially responsible behavior. Importantly, these results were obtained controlling for a possible mediating effect of social values, suggesting that perceived effectiveness affects the relationship between the prominence of the

interdependent self and socially responsible behavior above and beyond the extent to which the respondents value such behaviors.

Although these findings are encouraging, they may suffer from a common source bias as independent, mediating, and dependent variables were reported in the same survey. Also, given the correlational nature of the results, these findings do not allow us to make causal claims regarding the relationship between self-construal, perceived effectiveness, and socially responsible behavior. Finally, our research hypothesis spoke about differences in the perceived effectiveness of individual action due to the prominence of interdependent versus independent self. However, this study only allowed us to compare the effect of higher versus lower levels of interdependent/independent self.

To address these issues, in Study 2, we conducted an experimental test of mediation by means of a *moderation-of-process* design (Spencer, Zanna, & Fong, 2005). In addition, we employed a behavioral (rather than self-report) measure of socially responsible behavior. Finally, we primed self-construal in order to make a specific dimension of self (e.g., the interdependent self) temporarily prominent (Oyserman & Lee, 2008), and be able to examine its effect on the perceived effectiveness of individual action and socially responsible behavior.

Study 2

In Study 2, we conducted an experimental test of mediation to verify the causal chain of relationships between self-construal, perceived effectiveness, and socially responsible behavior. We tested mediation by means of a *moderation-of-process* experiment (Bullock, Green, & Ha, 2010; Spencer, Zanna, & Fong, 2005). In particular, we manipulated both the independent variable (self-construal) and a moderating variable capable of affecting the proposed psychological process (perceived

effectiveness of the individual action). Previous research shows that by priming interdependent versus independent self, a specific dimension of self can be made temporarily more accessible so that its causal effects on behavior can be assessed (for a meta-analysis, see Oyserman & Lee, 2008). After a self-construal manipulation, we provided participants with information about the effectiveness of the program to which they could make voluntary contributions. Thus, when participants perceived the effectiveness of their individual action to be high, the fact that they contributed to a non-effective program would diminish their perceptions of effectiveness, and vice versa. In addition, we included a measure of social values to control for its possible effect on socially responsible behavior. Our dependent variable was a behavioral measure of socially responsible behavior. In particular, following experimental manipulations, we observed the magnitude of financial contributions that participants made to support the activities of an organization that promotes ethical business and fair trade.

Method

Participants and procedure. One hundred-forty students (52% female) participated in the study for a 9€ show-up fee. Each participant took a seat in a semi-closed cubicle in front of a computer. The experiment employed a 2 (self-construal prime: independent vs. interdependent) x 3 (effectiveness: control vs. low vs. high) between-subjects design. Participants were randomly assigned to one of two self-construal conditions. After a self-construal manipulation and a short waiting time (approximately 2-5 minutes), participants were invited to engage in a seemingly unrelated task. They were randomly assigned to an effectiveness condition as part of task description. In particular, participants were offered an opportunity to make a financial contribution to an organization that promotes ethical business and fair trade.

The amount that participants decided to contribute was subtracted from their participation fee. All proceeds were donated to the fair trade organization in question. Participants then completed measures of social values and the perceived effectiveness of their contribution.

Manipulation and measures.

Manipulation of self-construal. We used a self-construal manipulation previously shown to increase the prominence of either interdependent or independent self-construal (Mandel, 2003). Participants were asked either to recall a present they recently purchased for themselves or for a friend or family member, to describe how they (resp. the other person) benefited from receiving this gift, and how they felt about the purchase. Thinking about an episode in which one gives him/herself a treat has been shown to make the independent self more prominent. Thinking about a moment in which one treats those close to him/herself has been shown to make the interdependent self more prominent.

Socially responsible behavior. We told our participants that 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 number from 0 and 9€. This contribution constituted our measure of socially responsible behavior.

Effectiveness manipulation. In the low- and high- effectiveness conditions, we manipulated perceived effectiveness by providing—before participants made their contributions—explicit information on the potential impact of their contribution. In particular, participants were told that “The proceeds of this collection will be used in a scholarization program for children in rural areas. This can increase the number of

children benefiting from the program by X%." The impact percentage was fixed at 2% in the low-effectiveness condition and at 92% in the high-effectiveness condition. No information on the impact of the program was provided in the control effectiveness condition. Thirteen participants (9%) were excluded from the analysis for failing to recall the impact percentage when asked to do so at the end of the study.

Perceived effectiveness of individual action. We included three items measuring perceived effectiveness of individual action. The items were adapted 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 by participants on a 7-point scale ranging from 1 = "strongly disagree" to 7 = "strongly agree", α = .77.

Social values. Social values were assessed using selected items from the aspiration index scale (Kasser & Ryan, 1993). In particular, participants rated, on a scale from 1 = "not at all important" to 7 = "extremely important," eight items designed to measure the importance of long-term goals related to community contributions and meaningful relationships. Sample items included "To assist people who need it, asking nothing in return," "To work to make the world a better place," and "To have good friends that I can count on". The reliability of the scale was acceptable (α = .73).

Results

Spencer, Zanna, and Fong (2005) suggest that moderation-of-process experiments provide strong support for a psychological process if the following key conditions are met: 1) the moderating variable indeed affects the psychological process, and 2) the moderating variable affects the relationship between the independent and the

dependent variable through its effect on the mediating psychological process and no other variable. To verify the first condition, we analyzed self-report perceived effectiveness of individual action to check whether the manipulation of effectiveness was successful (see Manipulation checks below). The second condition was taken into account when we designed the manipulation that referred to effectiveness solely, and contained no additional information. Following methodological suggestions by Bullock, Green, and Ha (2010), we also checked whether the manipulation of effectiveness had inadvertently affected self-report social values of our participants (i.e., another potential mediator; see Manipulation checks).

Manipulation checks. As expected, participants in the low effectiveness condition (M = 4.37, SD = 0.18) reported lower perceived individual effectiveness ratings than those in the high effectiveness condition (M = 4.97, SD = 0.21, $F(1, 77)$ = 4.51, $p < .05$, $\eta_p^2 = .06$). An ANOVA testing the effect of the self-construal and effectiveness manipulations on perceived effectiveness ratings revealed that only the effect of effectiveness was significant ($F(1, 75) = 4.37$, $p < .05$, $\eta_p^2 = .06$). Neither the effect of self-construal, nor the interaction effect of effectiveness and self-construal was significant, F's < 1. Moreover, our manipulation of effectiveness did not affect social values, which were rated as similarly important by participants in low (M = 4.80, SD = 0.10) and high effectiveness conditions (M = 4.98, SD = 0.11, $F(1, 77) = 1.53$, *ns*).

The effect of self-construal on perceived effectiveness of individual action and social values. We first examined the data in the control conditions, i.e., where effectiveness was not explicitly manipulated. In these conditions, the manipulation of self-construal affected perceived effectiveness of the individual contribution. The latter was higher for participants primed with interdependent self-construal (M = 5.18, SD = 0.27) than for those who were primed with independent self-construal (M = 4.13, SD =

0.25, $F(1, 46) = 8.13$, $p < .01$, $\eta_p^2 = .15$), thereby supporting Hypotheses 1. The importance of social values was rated, on average, similarly by those primed with interdependent self ($M = 4.84$, $SD = 0.10$) and those primed with independent self ($M = 4.82$, $SD = 0.20$, $F(1, 46) < 1$).

The effect of self-construal on individual contributions to the NGO. An ANOVA test aimed at explaining the variance in the contributions made in the control condition revealed that there was a significant effect of the self-construal manipulation ($F(1, 46) = 4.82$, $p < .05$, $\eta_p^2 = .10$). Figure 2 depicts mean contributions by condition. Participants whose interdependent self was primed ($M = 1.27$, $SD = 0.31$) made larger contributions, on average, than those in the independent-self condition ($M = 0.54$, $SD = 0.13$). In a linear regression of contributions on self-construal condition (0 = independent; 1 = interdependent), perceived individual effectiveness ratings, and social values ratings as predictors, only perceived effectiveness ratings had a significant effect ($\beta = .39$, $t(43) = 2.54$, $p = .02$, adj. $R^2 = .17$).

Insert Figure 2 about here

We next analyzed the patterns of results in the conditions where effectiveness was manipulated explicitly. We expected the effect of self-construal on contributions to be reduced when effectiveness was manipulated orthogonally. An ANOVA testing the effect of self-construal and the effectiveness manipulation revealed a significant effect of effectiveness ($F(1, 75) = 4.11$, $p < .05$, $\eta_p^2 = .05$), while the effect of self-construal and the interaction effect were not significant (F's < 1). Participants in the high effectiveness condition contributed more to the NGO ($M = 1.15$, $SD = 1.15$) than those in the low effectiveness condition ($M = 0.70$, $SD = 0.78$).

Discussion

The results of Study 2 shed further light on the psychological process by which self-construal affects socially responsible behavior. Using experimental mediation analysis (Bullock et al., 2010; Spencer et al., 2005), we showed that a prominent interdependent self-construal induces individuals to believe their individual action is more likely to make a difference on a larger scale. In the experimental conditions, where individuals were not provided with explicit information about effectiveness—and thus had to infer it themselves—the effect of self-construal on participants' contributions to the NGO was significant. In contrast, in the conditions where explicit information on the effectiveness of individual actions was provided, the effect of self-construal on socially responsible behavior was no longer observed. These results imply that perceived effectiveness of individual action largely contributes to the link between self-construal and socially responsible behavior.

Study 3

Study 3 was designed to provide a direct test of the psychological process that explains the relationship between self-construal and the perceived effectiveness of individual action. We hypothesized that the prominence of the interdependent self leads to a perceived similarity between the effectiveness of individual and collective action. In contrast, when the independent self is prominent, individuals differentiate the effectiveness of individual action (objectively small) from the effectiveness of the collective action (objectively greater). Thus, we predict that manipulating self-construal affects the perceived effectiveness of individual action but not the perceived effectiveness of the collective action. To test Hypotheses 3a) and 3b), we manipulated both self-construal (interdependent vs. independent) and the type of effectiveness being evaluated (individual vs. collective action).

Method

Participants and procedure. Seventy students (46% female) participated in the study for a 9€ show-up fee. The lab setting was identical to Study 2. The experiment employed a 2 (independent vs. interdependent self-construal prime) x 2 (level of effectiveness evaluation: individual vs. collective) between-subjects design. Participants were randomly assigned to one of the four conditions. First, they completed a self-construal priming task. Next, they read a short paragraph postulating that an individual/society cannot do much about the problems of pollution, climate change, or the depletion of natural resources. They were asked to express their agreement or disagreement with the statement. The extent to which they disagreed with the ineffectiveness statement was our dependent variable.

Manipulation and measures.

Self-construal manipulation. Self-construal was manipulated through the same procedure as in Study 2.

Effectiveness manipulation. The level at which effectiveness was evaluated—individual vs. collective—was manipulated by changing the wording of the ineffectiveness statement from "an individual" to "society". In the individual [collective] effectiveness condition, the statement read: "An individual [society] cannot do much about the problems of pollution, climate change, or the depletion of natural resources. Because an individual [society] cannot make much of a difference with regard to these problems, it does not matter what s/he [it] does." At the end of the study, participants were asked to indicate whether the ineffectiveness statement they read in the beginning of the study was about an individual or the society. Five participants (7%) failed to answer this question correctly and thus were excluded from the analysis.

Perceived effectiveness of individual/collective action. Perceived effectiveness (of individual or collective action depending on the experimental condition) was

measured as the degree to which participants disagreed with the ineffectiveness statement. A 4-item scale, anchored at 1 = “totally disagree” and 7 = “totally agree”, was used for this purpose. Sample items included “This statement is accurate” (reverse-scored) and “I agree with this statement” (reverse-scored; α = .87).

Results

Figure 3 summarizes perceived effectiveness ratings by condition.

Separate analyses by the individual and the collective action conditions revealed that the manipulation of self-construal had a significant effect on the evaluation of the effectiveness of individual action ($F(1, 31) = 4.89$, $p < .05$, $\eta_p^2 = .14$). Participants primed with interdependent self-construal rated the effectiveness of individual action higher ($M = 6.34$, $SD = 0.57$) than participants primed with independent self-construal ($M = 5.59$, $SD = 1.26$). There was no effect of self-construal on the evaluation of the effectiveness of collective action ($F(1,30) < 1$).

Furthermore, an ANOVA of the perceived effectiveness ratings across all four conditions revealed a significant effect of the manipulation of the level at which effectiveness was evaluated ($F(1, 61) = 6.41$, $p < .05$, $\eta_p^2 = .10$) and, importantly, a significant effectiveness level by self-construal interaction ($F(1, 61) = 4.20$, $p < .05$, $\eta_p^2 = .07$). The main effect of self-construal on perceived effectiveness ratings was not significant ($F(1, 61) = 2.94$, *ns*). Further analyses showed that among participants primed with independent self-construal, perceived effectiveness ratings were higher for the collective ($M = 6.50$, $SD = 0.15$) than for the individual ($M = 5.59$, $SD = 0.31$, $F(1, 31) = 7.06$, $p < .05$, $\eta_p^2 = .19$). In contrast, participants primed with interdependent self-construal reported similar perceived effectiveness ratings for the collective ($M = 6.43$, $SD = 0.13$) and the individual ($M = 6.34$, $SD = 0.14$, $F(1, 30) < 1$, *ns*). These results show that the prominence of the interdependent self is associated with the perceived

similarity between the effectiveness of individual and collective action, whereas the prominence of the independent self is associated with the perceived effectiveness of individual action being smaller than that of collective action. Thus, Hypotheses 3a) and 3b) were supported.

Insert Figure 3 about here

Discussion

The results of Study 3 showed that the effectiveness of individual action was perceived to be smaller than the effectiveness of collective action when the independent self was made prominent. In contrast, perceived effectiveness of individual and collective action was perceived as similar when interdependent self was made prominent. Perceptions of the effectiveness of the collective action were not different across the experimental conditions. Thus, the findings are supportive of the idea that the prominence of the interdependent self blurs the perceived boundaries between self and others (Cross et al., 2000), making individuals assess the effectiveness of individual action to be greater because it is perceived to be similar to the effectiveness of the collective action.

General discussion

In three studies, we showed that self-construal affects perceptions of the effectiveness of individual socially responsible action. In particular, our results demonstrated that prominence of the interdependent self as opposed to the independent self is associated with a belief that socially responsible actions of a single individual may be as effective as those of a collective. As a result, prominence of the interdependent self as opposed to the independent self is associated with a greater likelihood to engage in socially responsible behavior.

This research has several strengths that give us confidence in our results. First, we used both correlational and experimental methods to test the relationship between self-construal, perceived effectiveness of the individual action, and socially responsible behavior. We collected data by means of a survey and in laboratory settings. Moreover, we studied both self-report and directly observable behaviors. The use of a *moderation-of-process experiment* (Spencer et al., 2005) to test the mediating role of the perceived effectiveness of individual action is an additional strength of this research. Finally, we also showed that the perceived effectiveness of individual action is different when the interdependent self (as opposed to independent self) is prominent, but perceived effectiveness of collective action is not.

Implications for theory. Our work has several implications for theory. First, we suggest that a comprehensive account of the effect of self-construal on socially responsible behavior must include not only changes in the individual's values, but also the perceived effectiveness of the individual's actions that benefit the society. Such an account aligns self-construal research with classic motivation theories emphasizing the importance of both goals and the perceived effectiveness of one's actions in reaching goals (e.g., Vroom, 1964).

Also, our work contributes to the growing literature in organizational behavior on the benefits of relational job design and the importance of cultivating a sense of connectedness at work (with one's co-workers and customers, for example; Grant & Parker, 2009). Previous research has shown that employees with a heightened sense of connectedness to the beneficiaries of their jobs are likely "to engage in the pursuit of making a positive difference in these beneficiaries' lives" (Grant, 2007, p. 403). Related evidence suggests that other-orientation, which is closely related to interdependent self-construal, is linked with such behaviors as helping coworkers or protecting the

organization (De Dreu & Nauta, 2009). Our results imply that a previously unexplored advantage of relational job design might lie in enabling greater socially responsible behaviors—behaviors that are not linked to a specific beneficiary, coworker, or the organization, but aim at benefiting the society at large. Importantly, as interdependence gains prominence in the employee identity system, not only will the employee become more concerned with others' wellbeing, but also s/he may acquire a greater sense of personal effectiveness in changing large scale societal outcomes. When employees begin to ascribe greater effectiveness to their individual actions aimed at benefiting the society as a whole, they may engage more in socially responsible behavior.

The behaviors that we observed are similar to those which draw increasing attention from organizational behavior scholars as they theorize about environmental sustainability at work (Ones & Dilchert, 2009, 2012). For example, recycling and switching to environmentally responsible products or processes are among the most common organizational initiatives aimed at environmental sustainability (D'Mello, Ones, Klein, Wiernik, & Dilchert, 2011; Zibarras & Ballinger, 2011).

Practical implications. 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 show that the feeling of personal effectiveness—and thus socially responsible behavior—can be fostered by emphasizing the interdependent self, the togetherness and connectedness of individuals. By pointing out the importance of self-construal in affecting the perceived effectiveness

of individual action, we offer an avenue for the promotion of socially responsible behavior.

Our findings are in line with McKenzie-Mohr's (2000) work on community-based social marketing, a framework using 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 clearly indicate the limits of such an—often expensive—approach (Owens & Driffill, 2008; Sturgis & Allum, 2004). Effective programs should include more subtle elements that do not only increase motivation to engage in socially responsible behavior but also translate that concern in a change in behavioral patterns. Understanding what kind of information to provide in such campaigns is crucial for their 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 interdependent self. 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 make the client's interdependent self more salient.

Future research. It is important to note that the mediating effect of perceived effectiveness operates in addition to the well-known relationship between self-construal and one's commitment to further societal goals. Future research could investigate the relative importance of effectiveness versus social values in mediating the effect of self-

construal on socially responsible behavior. It would be important to identify settings which foster or, on the contrary, hinder either mechanism. For example, in deciding how to act towards a specific other person (effectiveness of individual action is objectively high), the effect of self-construal 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 (effectiveness of individual action 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 actions targeted at bringing about negative large scale societal outcomes. For example, greater prominence of the interdependent self 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 self-construal on the perceived effectiveness of individual action is likely to hold given both social and anti-social values. Given anti-social values, greater (versus less) prominent interdependent self may be more likely to produce behavior aimed at harming the society. This possibility clearly merits further research attention.

Conclusions. To conclude, in this work we sought to provide a more comprehensive account of the effect of self-construal on socially responsible behavior by highlighting how self-construal affects the perceived effectiveness of the individual action. We showed that prominence of the interdependent self leads to perceiving individual effectiveness as more similar to the effectiveness of collective action. This matters a great deal in settings where the objective effectiveness of individual action is low, whereas the effectiveness of collective action is high. Hence, our results are particularly important for understanding socially responsible behavior, and they open promising avenues for future research.

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Table 1

Descriptive Statistics, Study 1

	Variable	Mean	SD	Correlations							
				1	2	3	4	5	6	7	8
1	Interdependent self-construal	5.81	0.88	(.92)							
2	Independent self-construal	4.19	1.35	.13***	(.86)						
3	Perceived effectiveness of individual action	5.48	1.31	.44***	-.08*	(.83)					
4	Recycling behavior	5.33	1.73	.19***	.02	.32***	(.94)				
5	Environmentally conscious purchasing behavior	4.44	1.40	.31***	.11**	.50***	.44***	(.92)			
6	Social values	4.88	1.56	.21***	-.02	.45***	.19***	.22***	(.87)		
7	Social desirability	1.55	0.24	.12**	-.12**	.11**	.08*	.20***	-.06	(.70)	
8	Age	44.08	11.44	.11**	-.16***	.09*	.04	.07	-.07	.15***	
9	Gender (female=1, male=0)	0.62	0.49	.13***	-.18***	.20***	.07	.11**	.09*	.00	.03

Note. $N = 638$. * $p < .05$, ** $p < .01$, *** $p < .001$ (two-tailed). Coefficient alphas appear across the diagonal in parentheses.

Table 2

Evaluation of the indirect effect of self-construal on socially responsible behavior via perceived effectiveness, Study 1

Dependent variable (Socially responsible behavior)	Indirect effect of self-construal via perceived effectiveness			
	Coef.	Std.Err.	*z*	95% BC CI
<u>Interdependent self-construal</u>				
1. Recycling behavior	.21***	.05	4.18	.12; .32
2. Environmentally conscious purchasing behavior	.28***	.05	6.25	.20; .38
<u>Independent self-construal</u>				
1. Recycling behavior	-.01	.02	-.43	-.04; .02
2. Environmentally conscious purchasing behavior	-.01	.02	-.44	-.05; .03

Note. $N = 638$. * $p < .05$, ** $p < .01$, *** $p < .001$. Std.Err. = standard error; BC CI = bias corrected confidence interval. Based on 5,000 replications. Social desirability, gender, and age were included as control variables.

Figure captions

Figure 1. Hypothesized mediation model

Figure 2. Mean contribution to the NGO (Study 2)

Figure 3. Mean perceived effectiveness ratings by condition (Study 3)

Figure 1

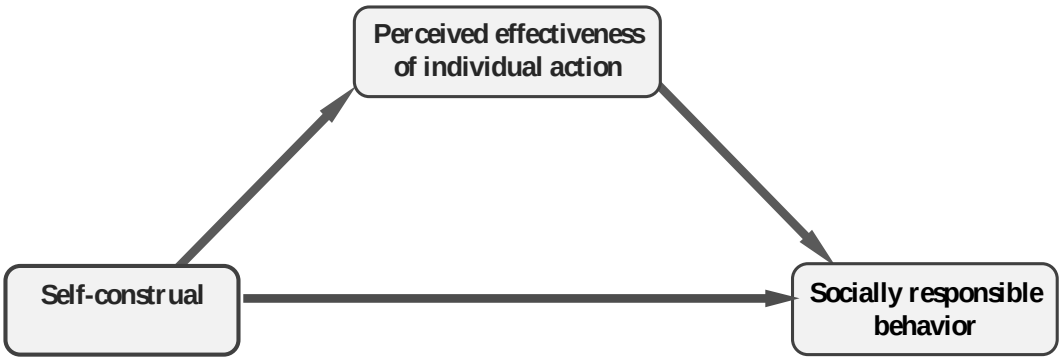
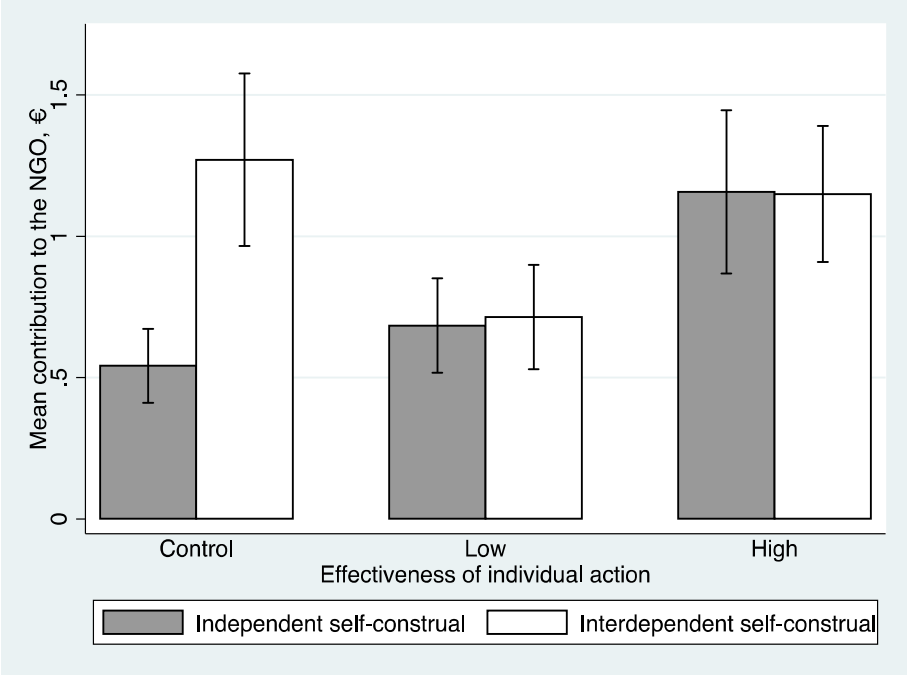
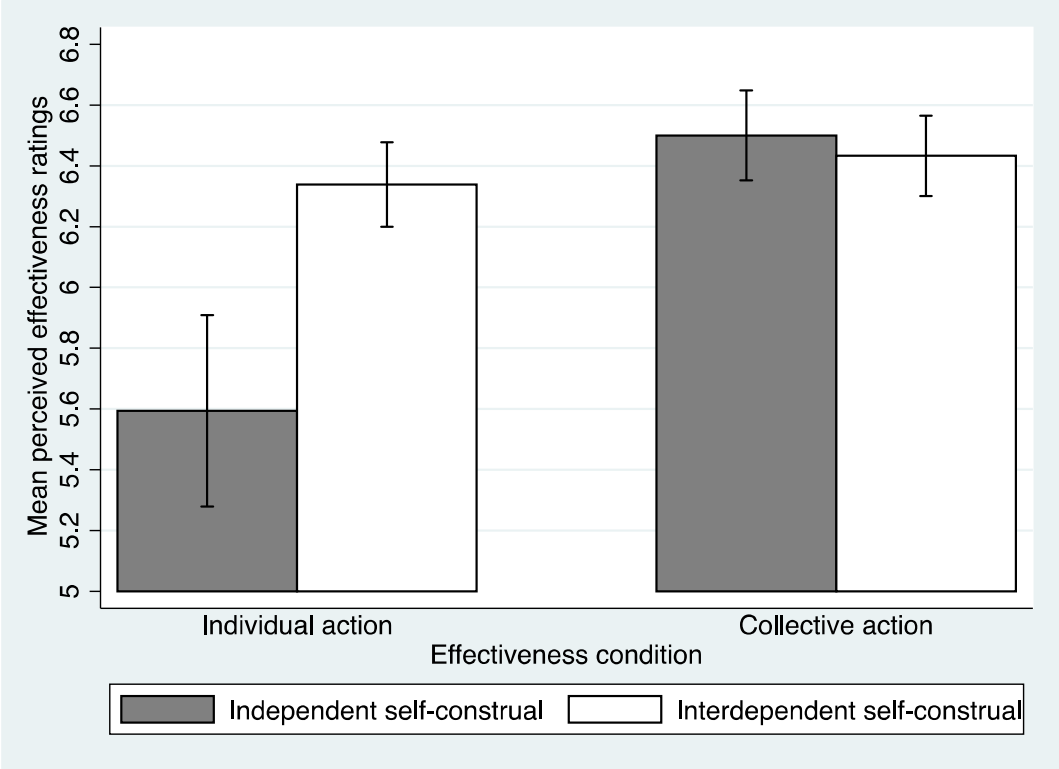

Perceived effectiveness of individual action
Self-construal
Socially responsible behavior

Figure 2



Note: Error bars at +/-1SE.

Figure 3



Note: Error bars at +/-1SE.