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The Effects of Tripartite Self-Construal on Prosocial Behavior

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THE EFFECTS OF TRIPARTITE SELF-CONSTRUAL ON PROSOCIAL BEHAVIOR

by
Nicole Catherine Ruser

Psychology- B.S., Eastern Mennonite University, 2011

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science
in Experimental Psychology

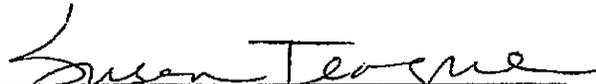
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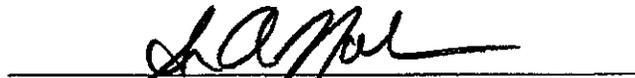
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Dedication

To my Creator, God, who has given me the ability to pursue academic work.

For the Lord gives wisdom; from his mouth come knowledge and understanding.

-Proverbs 2:6

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Abstract

The current study examined the effects of both primed and unprimed tripartite self-construal on real helping behavior offered in a laboratory setting. Additional variables commonly associated with prosocial behavior, namely empathy (Eisenberg & Miller, 1987) and agreeableness (Graziano, Hasbashi, Sheese & Tobin, 2007; Caprara, Alessandri & Eisenberg, 2012), were also assessed. Undergraduate students ($N = 119$) completed self-report measures of empathy, agreeableness, and chronic self-construal, then completed a self-construal prime before the experimenter requested help with a simple task. It was predicted that the independence prime would increase helping among participants, as seen in the work of Finlay and Trafimow (1998) and Wit and Kerr (2002). It was predicted that the relational prime would increase helping among female participants only; and that empathy and agreeableness would be associated with greater helping.

Contrary to predictions, only chronic independence and empathy were statistically significant predictors of helping. Higher chronic independence scores predicted whether participants agreed to help, and greater empathy predicted greater lengths of time that help was offered. Potential improvements of the tripartite self-construal prime are discussed, as well as future directions for research on independent self-construal, empathy, and their potentially interactive influence on prosocial behavior.

Introduction

Self-construal refers to the over-arching patterns of how we perceive ourselves in relation to others. Self-construal has an influence on how we interact with the world, including our values, motivations, and even cognitive style (Oyserman, Coon & Kemmelmeier, 2002; Oyserman & Lee, 2008). The tripartite model of independent, relational-interdependent, and collective-interdependent self-construal has gained appeal over older conceptions of self-construal differentiating only independence and interdependence (Brewer & Gardner, 1996; Kashima & Hardie, 2000). However, to the author's knowledge, researchers have yet to study experimentally-primed tripartite self-construal and its impact on behavioral outcomes. The current study investigates the impact of tripartite self-construal on prosocial behavior.

Defining Self-Construal

With the first publication of *Culture's Consequences* in 1980, Hofstede posited that entire cultures may be more independent or collectivist than others (Hofstede, 1984; Oyserman, Coon & Kemmelmeier, 2002; Oyserman & Lee, 2008). Early theorists differentiated between two types of self-construal: independence (or individualism) and interdependence (or collectivism). Those with an independent self-construal value personal uniqueness and achievement, privacy, and the freedom to invest only in interpersonal relationships that promote one's own self-interests. Those with an interdependent self-construal value closeness and cooperation with others, and value the needs and goals of others at least as highly as their own (Cross & Madson, 1997; Grace & Cramer, 2003; Oyserman, Coon & Kemmelmeier, 2002). Once considered opposite ends of a single continuum, independence and interdependence are now believed to be

orthogonal at the individual, if not the cultural, level (DeLeon & Finkelstein, 2011; Oyserman, Coon & Kemmelmeier, 2002; Shulruf et al, 2011). To some extent, everyone has both of these types of self-construal (Brewer & Gardner, 1996; Gardner, Gabriel & Lee, 1999; Oyserman, Coon & Kemmelmeier, 2002; Singelis et al, 1995), although the extent to which individuals rely on each is influenced by the culture or cultures in which they were raised and live. In addition, the self-construal that a person relies on in a given moment is influenced by situational context (Brewer & Gardner, 1996).

Hofstede's work has sparked both theoretical and practical interest. Investigating cultural differences in self-construal and its many effects on beliefs and behaviors may eventually lead to a reduction in inter-group misunderstanding and conflict, which have not reduced on their own with mere increases in intercultural interaction (Oyserman & Lee, 2008). Statistically significant differences in self-construal have been found among different ethnic groups of US-born Americans (Oyserman, Coon & Kemmelmeier, 2002). In addition, several modern waves of immigration across the globe involve relatively interdependent sending countries and relatively independent receiving countries (Schwartz et al, 2010). There is a clear need for understanding the influences of self-construal may have on intergroup and cross-cultural interactions.

The definition of independence is relatively straightforward; however, when it comes to interdependence, researchers may pause to ask: with *whom* are participants "interdependent"? It has been proposed that there are two distinct types of interdependence: that with close others, and that with one's in-groups (see Brewer & Gardner, 1996, for a brief review). The former has been termed relational interdependence; the latter, collective interdependence.

Relational interdependence (or what Brewer & Gardner, 1996, call interpersonal collectivism), involves defining the self in terms of relationships with specific, close others, and

valuing quality intimate relationships (Kashima & Hardie, 2000). Examples of relational interdependence include feeling belongingness with and duty toward one's spouse, friend, or a few specific clients or students (Eagly, 2009). In relatively independent North America, some of the most common interdependent values and behaviors are relational-level interdependent aspects, such as seeking advice from close others and feeling a need to belong with a few close friends (Oyserman, Coon & Kemmelmeier, 2002). Relational interdependence may be particularly salient for women (Cross & Madson, 1997). The prosocial roles and behaviors more often occupied by women in Western society, including tending to others' emotional needs and working as teachers and homemakers, are often part of a relational role (Eagly, 2009; Eagly & Crowley, 1989). The link between relational interdependence and the salience of intergroup barriers is unclear.

Collective interdependence, examples of which include feeling belongingness and duty toward one's company, ethnic group, or nation, has been found to have higher mean scores in men than in women when controlling for relational interdependence (Kashima & Hardie, 2000). In other words, men tend to have higher collective interdependence than women with their same level of relational interdependence. Due to women's generally higher levels of relational interdependence, this gender difference in collective interdependence does not emerge without applying statistical control. However, relatively strong collective interdependent self-construals may support some of the heroic or duty-bound helping roles in which men predominate in Western society, such as soldiers and firefighters (Eagly, 2009).

Collective interdependent self-construal may decrease concern toward and willingness to help those outside the collective. When Wit & Kerr (2002) increased the salience of subgroup membership by giving each subgroup a shared fate, participants allocated fewer resources and

showed less concern for the entire collective, than when fate was independent for each individual. Relational interdependence is unlikely to have contributed to this finding, because relational interdependence stems from an emphasis on dyadic relationships rather than group identity (Kashima et al, 1995). Participants in Wit & Kerr's (2002) study never met the "other participants," who were in fact simulated by computers. Given that the study did not include dyadic relationships with others, opportunities for relational interdependence to play a role in participants' concern for the group would have been minimal.

Collective interdependence and relational interdependence emerge as theoretically and statistically distinct constructs (Kashima & Hardie, 2000). In a study of self-construal in five different cultures, Kashima and colleagues (1995) found that relational and collective interdependence correlated positively with one another and negatively with independence, but that all effects were very small. Women's mean relational interdependence scores were higher than men's in all five cultures, with three of them showing statistically significant differences. Levels of mean collective interdependence were significantly different between Western and Eastern cultures. Without controlling for relational interdependence, mean collective interdependence was not significantly different between men and women within any given culture (Kashima et al, 1995).

Priming Self-Construal

Because momentary self-construal can be influenced by situational factors (Brewer & Gardner, 1996), a prominent technique in recent self-construal research has been to prime participants' state self-construal, and then assess an outcome measure or behavior of some kind. Although it is useful to simply assess participants' unprimed, or chronic, self-construal and

examine correlations with an outcome measure, this correlational research leaves many unanswered questions concerning causation. Priming techniques, in contrast, can help determine whether self-construal differences can impact behavior above and beyond other cultural influences (Oyserman & Lee, 2008).

Primes are implemented in a between-subjects design, and participants are not made aware of the prime's true purpose until after the outcome measure is assessed (Oyserman & Lee, 2008). Most widely-used self-construal primes conceptualize self-construal as dichotomous; therefore they have an independent condition and an interdependent one. Common types of self-construal primes include subliminal priming of words related to each self-construal; pronoun-circling tasks, where participants read a vignette exclusively featuring either first-person singular ("I," "me,") or first-person plural ("we," "us,") pronouns and must circle them throughout (Brewer & Gardner, 1996; Gardner, Gabriel & Lee, 1999); sentence-unscrambling tasks featuring self-construal relevant words or pronouns (Chartrand & Bargh, 1996); manipulation of social dilemma games' outcomes to be distinct for each player or shared among a group (see Wit & Kerr, 2002, for an example); or reflective exercises such as the Sumerian Warrior Story or Similarities & Differences with Family & Friends task, both originating in the work of Trafimow, Triandis and Goto (1991) and explained in greater detail below.

Priming studies have found robust effects of self-construal across different priming methods and a variety of outcome measures, often using culturally homogenous samples for which no cross-cultural differences are expected (Oyserman, Coon, & Kimmelmeier, 2002; Oyserman & Lee, 2008). In Oyserman and Lee's (2008) meta-analysis, two widely used primes that produced the largest effects (both medium-sized) and were the Sumerian Warrior Story and the Similarities & Differences with Family & Friends Task (SDFF).

In the Sumerian Warrior Story, participants read a vignette about an ancient Sumerian nobleman who is charged with appointing one of his men to serve his king. In the independent condition, he appoints his most talented general, in order to reflect well on himself before the king. In the interdependent condition, he appoints a family member, in order to gain his family's appreciation and to advance his entire family's standing with the king. Participants are then asked to reflect on whether they admire the nobleman's decision. The task is generally framed to participants as a reading comprehension test given before an ostensibly unrelated study (Trafimow, Triandis & Goto, 1991).

In the Similarities & Differences with Family and Friends task, participants are asked to think for two minutes about what makes them different from their family and friends, and the question "what do you expect to do?" (independent condition); or they are asked to think for two minutes about what they have in common with their family and friends, and "what do they expect you to do?" (interdependent condition; Trafimow, Triandis & Goto, 1991).

Self-Construal and Prosociality

One area of investigation in the self-construal literature is the effect of self-construal on prosocial behavior. Researchers have investigated both primed and chronic self-construal and their effects on volunteering (Finkelstein, 2010; Finlay & Trafimow, 1998), organizational citizenship behavior (DeLeon & Finkelstein, 2011) and social dilemma games (Utz, 2004; Wit & Kerr, 2002). These studies suggest that the investigation of self-construal and prosocial behavior may shed insight into methods for reducing prejudices against helping certain others in need (Finlay & Trafimow, 1998), improving employee cooperation in the current difficult economy (DeLeon & Finkelstein, 2011), and curtailing selfish ambition that can be destructive to one's

group (Utz, 2004; Wit & Kerr, 2002).

Finlay and Trafimow (1998) examined the relationship between self-construal and the willingness to help strangers, particularly those belonging to a stigmatized group. They presented participants primed with the independent condition of the Sumerian Warrior Story (Trafimow, Triandis & Goto, 1991) and unprimed control participants with materials about a local AIDS clinic's need for volunteers, and then tracked the participants' pledged and actual helping at the clinic. They found that participants primed with the independent condition of the Sumerian Warrior Story were more likely to agree to volunteer, had a greater mean of pledged hours, and were more likely to actually follow through on volunteering, than control participants. Empathy for people with AIDS mediated the relationship between independence priming and prosocial behavior.

The results of Finlay and Trafimow's (1998) independence prime may seem paradoxical at first, as one might intuitively link *interdependence* to greater empathy and helping. Indeed, some studies have demonstrated a connection between interdependence and cooperation and concern, at least in certain contexts (DeLeon & Finkelstein, 2011; Utz, 2004; Wit & Kerr, 2002). However, this connection may not hold when the target of help is an outsider. An independent self-construal decreases the emphasis on in-group/out-group barriers, due to the decreased salience of one's own group memberships (Triandis, 1989). Finlay and Trafimow (1998) argued that people with AIDS might be viewed as a marginalized out-group by their participants, who were university students. They hypothesized that independence allows participants to see members of a marginalized group as individuals, therefore increasing both feelings of empathy and helping behavior. If independent self-construal does indeed prompt individuation, not just of the participant but of others around them, this would align with Wit and Kerr's (2002) findings

that individuation of out-group members increased concern for all in a collective composed of both the in-group and an out-group.

It is interesting, however, that Finlay and Trafimow's independent-primed participants displayed more empathy and helping behavior than a no-prime control group, especially in the United States, a culture where one might assume the control group would also operate upon a fairly strong independent self-construal (Oyserman, Coon & Kemmelmeier, 2002). In addition, although interdependence has been hypothesized to increase the salience of in-group/out-group barriers (Brewer & Gardner, 1996; Triandis, 1989; Wit & Kerr, 2002), and therefore may be a detriment to helping out-group strangers, Finlay and Trafimow (1998) did not directly investigate this possibility.

Other Influences on Prosociality

The link between feelings of empathy, or understanding and concern for another's emotional state, and prosocial behavior are both intuitive and empirically backed. Eisenberg and Miller's (1987) literature review found that except for assessments based on hypothetical scenarios, empathy measures generally correlate with greater prosocial or cooperative behavior - especially self-reports of empathy for people or groups whose struggles were made salient during the study. Finlay and Trafimow found such a link between self-reported empathy for people with AIDS (the salient out-group of their study) and helping behavior. Davis (1983b) found that a self-reported survey of dispositional empathy correlated with self-reports of state empathy after listening to the plea of a fellow student in need; in turn, greater empathic concern in the second self-report predicted more generous offers to help.

Agreeableness, like empathy, provides a logical link to prosocial behavior. In Costa and

McCrae's (1988) Big Five model of personality, agreeableness includes traits such as interpersonal warmth and friendliness, tolerance and compliance, modesty, and helpfulness (Barrick, Stewart, Neubert & Mount, 1998; Caprara et al, 2010). Agreeableness is facilitated by management of frustration in social interactions (Jensen-Campbell & Graziano, 2001), and motivated by a desire to maintain harmonious relationships (Graziano & Tobin, 2002). With research suggesting that prosocial behavior is tied to an underlying personality trait (Caprara, Alessandri & Eisenberg, 2012; Graziano & Tobin, 2002), the personality traits composing agreeableness may help lay the foundation of one's prosocial habits (Graziano, Habashi, Sheese & Tobin, 2007).

Big Five assessments of agreeableness have correlated positively with workgroup productivity (Barrick, Stewart, Neubert & Mount, 1998), helping despite high personal cost to the helper (Graziano, Habashi, Sheese & Tobin, 2007), and communal choices in social dilemma games (Volk, Thoni & Ruigrok, 2011). In addition, agreeableness emerges as a stronger predictor of self-reported prosocial tendencies than all other Big Five personality traits, and may 'set the stage' for the development of values and beliefs supporting prosocial behavior (Caprara, Alessandri & Eisenberg, 2012). Impressively, close others' reports of participants' prosociality correlate with self-reported agreeableness (Caprara, Alessandri & Eisenberg, 2012), suggesting that the link between prosociality and agreeableness is not a product of self-favoring biases (Caprara, Alessandri & Eisenberg, 2012; Graziano & Tobin, 2002).

The Current Study

The current study examined the effect of primed self-construal (in a three-part model differentiating relational and collective interdependence), on willingness to help a stranger. The

current study also assessed chronic self-construal, dispositional empathy, and the Big Five personality factor of agreeableness.

It was hypothesized that the independent-primed group would show the highest proportion of participants agreeing to help the experimenter, whereas the collective interdependent-primed group would show the lowest proportion of participants agreeing to help the experimenter. (The collective prime concerned the in-group of undergraduate students at the university; the graduate student experimenter was therefore an out-group member to collective-primed participants.) As relational interdependence is linked to helping roles often occupied by women (Eagly, 2009), it was hypothesized that there would be a prime by gender interaction concerning relational interdependence, with a higher proportion of relational-primed female participants agreeing to help the experimenter than relational-primed male participants.

It was hypothesized that the independent-primed group would offer the greatest mean amount of help; the collective-primed group, the lowest mean amount of help; and the relational-primed group, somewhere in between, with the possible prime by gender interaction as described for proportion of helpers. It was also hypothesized that self-reported empathy and agreeableness would correlate with amount of help given, and that the mean scores of these measures would be higher for helpers than non-helpers. Due to more mixed literature on chronic self-construal and prosocial tendencies, chronic self-construal was included as an exploratory dependent variable.

It was decided to adapt one of Trafimow, Triandis & Goto's (1991) highly successful self-construal primes to a tripartite model. Oyserman and Lee (2008) posit that the interdependent condition of the Sumerian Warrior Story primes both relational and collective-level interdependence, while the original collective condition of the Similarities & Differences with Family & Friends Task (SDFF) primes relational interdependence only. The current study's

prime was therefore an adaptation of the SDFP. The original SDFP has participants “think” for two minutes without writing anything down, and concludes with a rather vague question, “What do you/they expect (you) to do?” (see Trafimow, Triandis & Goto, 1991, p. 651) The decision was made to drop the final question, because writing rather than “thinking” in response to prompts has been shown to increase both recall and abstract reasoning (Papadopoulos et. al, 2010). Thus, participants were instructed to make a list, rather than merely think about, the ways they are the same as or different from certain others.

In addition to primes closely based on the original SDFP primes, the current study used a new prime for the collective interdependent condition, which prompted participants to think of what they had in common with other undergraduate students at their school. Affiliation with the university was chosen as a low-controversy in-group which all participants would share. The experimenter asking for help was a graduate student, which would make her an outgroup member to participants receiving the collective interdependence prime. By having a non-stigmatized outgroup member ask for help with an easy task, it was hoped to avoid the floor effect of helping observed in Finlay and Trafimow’s (1998) study, where only four participants actually followed through on pledges to volunteer at the local AIDS clinic.

Researchers have found gender differences in helping behavior, but these differences vary depending on demand characteristics of the request or implied need for help (Eagly, 2009; Eagly & Crowley, 1986). These demand characteristics were carefully considered in selecting a request for help for use in the current study. Tasks requiring physical strength or putting oneself in danger may be more readily taken on by men, and tasks requiring that one provide emotional comfort may be more readily taken on by women (Eagly, 2009). In addition, men are more likely than women to help women, but this gender difference is greatly reduced when there is no

audience (Eagly & Crowley, 1986). Since the experimenter was a woman, the request for help in the current study was made without other people present. The experimenter asked participants if they would be willing to stay after the experimental session and sort surveys into packets ostensibly needed for another study.

Method

Participants

A power analysis was conducted with G*Power 3 software (Faul, Erdfelder, Lang & Buchner, 2007) to determine sufficient sample size for the current study. Given the moderate effect size of the SDFP ($d = 0.49$) reported by Oyserman et al (2008) and the six between-participants conditions created by two genders and three prime types, the program recommended a sample size of at least $N = 120$.

Undergraduate students at Seton Hall University ($N = 132$) participated for partial course credit. In order to obtain a participant sample with relatively homogenous chronic self-construals, potential participants who had lived five or more years outside the United States or Canada were excluded. Time spent in Canada did not contribute to this exclusion criteria because mean chronic self-construals of U.S. Americans and of Canadians have not been found to be statistically significantly different (Oyserman et al, 2002; Grace and Cramer, 2003).

Eight students participated in a pilot study¹, and three experimental sessions were terminated without administration of the SDFP. The remaining participants' data ($N = 119$) were included in the analyses, several of whom reported incomplete demographic data.

Participants reporting age ($N = 117$) were young adults aged 18-27 ($M = 18.9$, $SD = 1.3$). Thirty-three (27.7%) participants were male, eighty-three (69.8%) were female, and three (2.5%) did not report a gender. Twenty-nine participants (24.3%) reported suspicion of study design

¹ Originally, the outcome variable was to be participants' willingness to help sort papers in the middle of their study session. When the first eight participants unanimously agreed to sort papers while waiting for their next survey, the potential for a ceiling effect was clear. However, one of the eight participants had spontaneously offered to remain after her study session and continue helping. It was decided that the researcher would ask all participants if they would be willing to stay after their session to keep helping her, and that this would create the outcome measures of the study.

during debriefing, and ninety participants (75.6%) did not. Ethnic composition of the sample is reported in Table 1. Due to the small sample sizes of individual ethnic minorities, analyses in the current study including ethnic background as a covariate used two broad categories: those who reported only a White ethnic background ($N = 61$) and those who reported all other ethnic backgrounds, including both White and another background ($N = 57$).

Table 1

Ethnic Backgrounds of Participants

	<i>N</i>	Percentage
White	61	51.3%
Hispanic or Latino/a	15	12.6%
Black or African American	16	13.4%
Asian	18	15.1%
More than one of the above	8	6.7%
Did not report	1	0.8%
Total	119	100.0%

Materials and Measures

The assessment of empathy. Empathy was assessed with the Questionnaire of Cognitive and Affective Empathy, or QCAE (Reniers, Corcoran, Drake, Shryane & Völlm, 2011). The QCAE was developed via online administration to 640 students and faculty at two universities in Manchester, England, United Kingdom. All QCAE items were derived from preexisting widely used empathy scales: the Interpersonal Reactivity Index (IRI; Davis, 1983) the empathy subscale of the Impulsiveness-Venturesomeness-Empathy Inventory (IVE; Eysenck & Eysenck, 1978) the Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) and the Hogan Empathy Scale (HES; Hogan, 1969). The QCAE demonstrated convergent validity with the Balanced Emotional Empathy Scale, or BEES (Mehrabian, 2000). The cognitive component's correlation with the

BEES, $r = .62, p < .001$, and the affective component's correlation with the BEES, $r = .76, p < .001$, were both strong and statistically significant (Reniers, Corcoran, Drake, Shryane & Völlm, 2011).

The cognitive and affective components of the QCAE correlated with each other, $r = .36, p < .01$. However, correlations with their own subscales were higher, between $r = .73$ and $r = .85$, all $p < .01$, demonstrating discriminant validity between the cognitive and affective empathy components of the scale (Reniers, Corcoran, Drake, Shryane & Völlm, 2011). The QCAE also demonstrated construct validity in its correlations with scales that are theoretically related to empathy, such as impulsivity, $r = -.20, p < .01$; psychopathology, $r = -.25, p < .01$; and empathic anger, $r = .40, p < .01$ (Reniers, Corcoran, Drake, Shryane & Völlm, 2011). An independent study found good internal consistency of the entire scale, $\alpha = 0.77$ (Wöllner, 2012). The QCAE also demonstrated good internal consistency in the current study, $\alpha = 0.84$.

The QCAE consists of 31 items with 4-point Likert-type responses. Four items were reverse-coded. The four-point scale and an example item are included below:

“Please rate the following statements on a scale from 1 to 4.

1. Not true of me, not like me
2. Somewhat untrue of me, somewhat unlike me
3. Somewhat true of me, somewhat like me
4. True of me, like me

I often get emotionally involved with my friends' problems.” (Reniers, Corcoran, Drake,

Shryane & Völlm, 2011, p. 89)

The assessment of chronic self-construal. Chronic self-construal was assessed with Kashima and Hardie's (2000) Relational, Individual and Collective Self-Aspects (RIC) Scale. When the scale was developed, factor analysis of the RIC showed a three-factor model as the best fit (Kashima & Hardie, 2000). The relational, independent, and collective subscales were determined by the original researchers to be correlated yet distinct. Test-retest reliability and Cronbach's alphas for the RIC subscales have generally been acceptable; although the relational subscale's test-retest reliability and the Cronbach's alpha for the independence subscale were slightly lower in one sample (see Table 2). In the current study, internal consistency of the relational subscale was low, while the other two subscales were acceptable (see Table 3).

Table 2

Test-Retest Reliability and Cronbach's Alpha for the RIC Subscales

	Sample*	Sample 1**	Sample 2**	Test-Retest (r)**
RIC-R	0.75	0.79	0.75	0.62
RIC-I	0.6	0.71	0.81	0.72
RIC-C	0.75	0.77	0.83	0.72

From *Hardie, Kashima & Pridmore (2005) and **Hardie, Critchley & Morris (2006)

Table 3

Internal Consistency of RIC Subscales in the Current Study

	Items	Cases	α
RIC-R	10	124	0.54
RIC-I	10	124	0.64
RIC-C	10	124	0.76

When developed, the RIC also showed convergent validity with other self-reported, Likert-type self-construal scales created by other researchers. For example, the relational subscale correlated with the relational subscale of the Agency, Assertiveness, Relational and Collective (ARC) scale (Kashima et al, 1995). The collective subscale correlated with the collective subscale of the ARC and with Singelis' interdependence scale (Singelis, 1994). The independent subscale correlated with the Takata (1996) and Singelis (1994) independence scales.

The RIC consists of ten sentence stems regarding personal values, opinions, or actions in hypothetical situations. Each item is followed by Likert-type ratings of the likelihood that one would respond in an independent, relational-interdependent, or collective-interdependent way. The following is an example of an item from the scale; participants would mark their agreement or disagreement on a Likert-type scale, ranging from 1 (not like me, not true of me) to 7 (like me, very true of me), after each phrase completing the sentence stem. There were no reverse-coded items. Participants would not see the content in parentheses, which is included here for clarification:

“The most satisfying activity for me is:

Doing something for myself. (Independent)

Doing something for someone who is important to me. (Relational Interdependent)

Doing something for my group (e.g. my school, church, club, neighborhood, and community.) (Collective Interdependent)” (Kashima & Hardie, 2000, p. 47)

The assessment of agreeableness. The Big Five Inventory, or BFI (Benet-Martinez & John, 1998; John, Donahue & Kentle, 1991; John, Naumann & Soto, 2008) has been used in work with student and community samples in the United States and internationally. The BFI has satisfactory internal consistency; Cronbach’s alphas for the subscales in two student samples ranged from $r = .79$ to $r = .88$. 3-month test-retest reliability alphas range from $r = .80$ to $r = .90$ (Benet-Martinez & John, 1998). In the current study, internal consistency was good for all subscales except Conscientiousness (see Table 4). Note the satisfactory internal consistency of BFI-A (Agreeableness), the subscale of interest in the current study.

Table 4

Internal Consistency of BFI Subscales in the Current Study

	Items	Cases	α
BFI-O	10	122	0,66
BFI-C	9	122	0.52
BFI-E	8	122	0.86
BFI-A	9	122	0.77
BFI-N	8	122	0.75

In past work, correlations between BFI scores and Costa & McCrae's (1992) NEO Five Factor Inventory² and Goldberg's (1992) Big Five marker adjectives scale were $r = .75$ and $r = .80$, respectively. The two scales' correlations with each other were $r = .65$. Thus the BFI showed convergent validity by correlating more strongly with the NEO-FFI and the Big Five marker adjectives scales than these scales correlated with each other (Benet-Martinez & John, 1998).

The BFI consists of 44 self-descriptions. Participants rate the applicability of each description to their self on a Likert-type scale of 1 to 5. The items rotate through the five subscales. 15 items are reverse coded. The BFI instructions and first five items are included below. Participants would not see the content in parentheses, which is included here for clarification:

"Please rate the following on a scale from 1 to 5:

1. Disagree strongly
2. Disagree a little
3. Neither agree nor disagree
4. Agree a little
5. Agree strongly

I am someone who...

1. _____ is talkative (Extraversion)
2. _____ tends to find fault with others (Agreeableness; reverse coded)

² The "NEO" in NEO-FFI stands for "Neuroticism, Extraversion and Openness," the three variables assessed by the earliest version of the measure. Today, "NEO" is considered part of the proper name of the assessment and not an acronym.

3. _____ does a thorough job (Conscientiousness)
4. _____ is depressed, blue (Neuroticism)
5. _____ is original, comes up with new ideas (Openness)” (John, Donahue & Kentle, 1991)

The prime. The current study employed a between-subjects design of self-construal priming condition (independent, relational, or collective), adapting the following instructions directly from the SDFP for the independent and relational-interdependent priming conditions:

Independent condition: “For the next two minutes, please make a list of what makes you different from your family and friends.”

(Relational) interdependent condition: “For the next two minutes, please make a list of what you have in common with your family and friends.”

The current study also included a third priming condition, adapted from the SDFP for use in the tripartite model of self-construal:

Collective Interdependent condition: “For the next two minutes, please make a list of what you have in common with other undergraduate students at your school.”

The Outcome Measure. The outcome of interest was participants' willingness to help a stranger belonging to an out-group. Willingness to help was operationalized in two ways: first, whether participants agreed to help at all (a dichotomous variable), and second, how long willing helpers offered to stay and help (a scale variable). The experimenter asked participants if they would be willing to stay after their study session and help her collate papers into packets for another study. Because the experimenter was a stranger to participants, and described in the informed consent as a graduate student, she was an outgroup member to participants- especially those receiving the collective-interdependent prime stressing undergraduate students' commonalities.

Procedure

Students signed up via an online appointment system. Study appointments were 45 minutes long, although a typical session lasted 20-30 minutes in total. This discrepancy helped ensure that participants' busy schedules would not confound their willingness to stay after the study and help the researcher, since they should have had 15-25 minutes of unexpected free time after completing the study.

In the lab, participants read an Informed Consent form, discussed any concerns with the researcher, and signed the form. The researcher then gave participants the following instructions aloud:

“You will now fill out some surveys about your personality and your interactions with others. In total, these materials should take about 20 minutes to complete. Please follow all instructions and answer all questions. As part of the study design, I have to give you each survey

one at a time, so please come and let me know after you finish each one.”

Participants were then left to complete the QCAE in a room alone with the door closed, while the researcher worked quietly in a nearby room. Once participants completed the QCAE, they came to the researcher and were given the RIC scale. When participants again approached the researcher for the next survey, she claimed to have lost her copies of the third survey and asked the participant if they could wait a few moments as she made more. Only one participant claimed to be unable to wait a few extra moments. This participant was dismissed and granted credit. The resulting incomplete data were not included in the analysis.

In all other cases, the researcher thanked participants for their willingness to wait, and then asked for a small favor. There were six separate stacks of survey pages in the participants' workroom; the researcher claimed these were for a mass testing session she was running later that day, but she needed them collated into six-page packets and that she might be too busy to complete all the packets in time. Participants unanimously agreed to arrange packets while waiting for their next survey, and the researcher gave instructions on assembling the packets. She then left for five minutes. This mid-study disruption was designed to introduce participants to the helping task that would later constitute the outcome measure, and make the subsequent request for help appear convincing.

After five minutes, the researcher returned with the BFI scale and thanked the participant for the help. When the participant returned to the researcher with their completed BFI scale, the researcher explained that the next activity had instructions she had to read aloud, and accompanied the participant back to the participants' workroom. To ensure that she remained blind to SDFF condition, the researcher read the following from a cover sheet attached to the

SDFP:

“Please don’t turn past this blank page until I instruct you to. The next page will ask you to write your answers to an open-ended prompt. Please respond thoughtfully and however you interpret the prompt- don’t worry about whether your answers are ‘correct.’ Remember your answers will be confidential. When you’re ready, I’ll leave the room and time your 2-minute response time. As soon as I leave, you can turn past the blank page and begin.”

Once the researcher ensured that participants understood the instructions, she left the room and timed two minutes. She then returned and informed participants that they had one more sheet to complete before finishing the study. She asked if participants would be willing to stay after the end of the session and help with more of the packets, stressing that there was “no obligation” and this would not affect study credit.

Participants who did not agree to help were given the demographics sheet, then debriefed, and checked for suspicion that the request for help with packets was part of the study. Participants who agreed to help were asked how long they might be able to stay (if they did not offer a time spontaneously) and were then given a demographics sheet, debriefed, and checked for suspicion.

Demographics were collected at the end of the study, and the researcher did not mention that the final page was a demographics sheet while requesting help of participants. This was intended to ensure that thinking about one’s demographic categories did not interfere with the self-construal priming. The researcher noted participants’ suspicion or lack thereof, and their responses to the request to stay after and help, on the demographics sheet.

Results

Preliminary Analyses

Data were analyzed using PASW Statistics (SPSS) 20. Skewness and kurtosis were checked for all survey variables, and for the outcome variable of amount of helping time offered (see Appendix A). Of the 90 participants who agreed to stay and help afterwards, twelve offered to stay “as long as it takes.” Two options were considered for quantifying these responses. The first was to assign them the same value as the greatest specified amount of time offered by any participant, which was 90 minutes. The second was to assign these responses the value 2 standard deviations above the mean amount of time offered; that is, 62 minutes ($M = 25.2$, $SD = 18.4$). When the open-ended offers were quantified as 90 minutes, a skewed distribution resulted, $G = 1.04$, $SD = 0.25$. Skewness did not result when such offers were quantified at 62 minutes, $G = 0.73$, $SD = 0.25$. Therefore, all subsequent analyses of amount of time offered have coded “as long as it takes” responses as 62 minutes.

Correlations among scale predictor variables were assessed (see Table 5). Overall QCAE scores, agreeableness scores on the BFI, and relational, independent, and collective scores on the RIC were all statistically significantly correlated with one another. Correlations between the RIC subscales were much higher than those reported by Kashima and Hardie (2000).

Table 5

Correlations between QCAE, BFI-A, and RIC Subscales

	QCAE	BFI-A	RIC-R	RIC-I	RIC-C
QCAE	1.00	0.44**	0.23*	0.21*	0.24**
BFI-A		1.00	0.23*	0.24**	0.24**
RIC-R			1.00	0.99**	0.99**
RIC-I				1.00	0.98**
RIC-C					1.00

$p < .05$, ** $p < .01$

A chi-square test of independence was conducted to determine whether the proportion of participants agreeing to help afterwards differed between those who were suspicious of the experiment procedure and those who were not. Although a slightly higher percentage of non-suspicious participants offered help (see Table 6) the results were not statistically significant, $\chi^2(1, 119) = 0.27, p = 0.60$, and effect size was negligible, $V = .048$. In addition, an independent-samples t -test for differences in mean amount of help offered by suspicious and non-suspicious participants was conducted. Although non-suspicious helpers' mean time offered was higher ($M = 31.7, SD = 21.6$) than suspicious helpers' mean time offered ($M = 23.5, SD = 18.1$), the results were not statistically significant, $t(88) = 1.25, p = 0.22$. In addition, effect size was very small, $d = .018$. Suspicion of experiment design did not have a significant effect on participants' willingness to help or the amount of help they offered and therefore was not entered as a variable in subsequent analyses.

Table 6

Percentage of Helping and Non-helping Participants by Suspicion

	Suspicious	Not Suspicious	Total
Help	73.7%	76.7%	76.2%
No Help	26.3%	23.3%	23.8%

A 2 × 3 mixed-design ANOVA was conducted to assess systematic differences in responses to the RIC scale according to ethnicity. Independent variables consisted of subscale (within-subjects: Relational, Independent, and Collective) and ethnicity (between-subjects: simplified for statistical analyses to White and to all other categories combined). The dependent variable was participants' mean responses on each subscale. Mean RIC responses did not statistically significantly vary by subscale, and the effect size was close to zero, $F(2, 366) = 0.54, p = 0.58, \eta^2_p = .003$. The interaction between subscale and ethnic background was not statistically significant, and effect size was very close to zero, $F(2, 366) = .002, p = 0.99, \eta^2_p < .01$.

However, mean RIC responses varied significantly by ethnic background, $F(1, 366) = 22.5, p = .0001, \eta^2_p = .059$, a medium effect. Comparison of group means, as displayed in Table 7, reveals that participants with non-White ethnic backgrounds gave statistically significantly higher mean RIC responses than participants with a White-only ethnic background. Due to these results, subsequent analyses either controlled for ethnic background (as a simplified, dichotomous variable) or included it as a potential predictor.

Table 7

Mean Chronic Self-Construal as Measured by RIC Responses

	White	Mixed/Other	Total
Relational	6.20	6.38	6.29
Independent	6.18	6.37	6.27
Collective	6.15	6.33	6.24
Total	6.18	6.36	6.27

Range: 1 (not like me, not true of me) to 7 (like me, very true of me)

Main Analyses

A 2×3 analysis of covariance was conducted on amount of help offered. Independent variables consisted of gender and prime condition (relational, independent or collective). The covariate was ethnic background (white or all others). Adjustment by the covariate of ethnicity was not statistically significant and had an effect size close to zero, $F(5, 81) = 0.17, p = .683, \eta^2_p = .002$. Mean amount of help offered did not vary significantly with gender and had a small effect size, $F(5, 81) = 1.61, p = .208, \eta^2_p = .020$. The mean amount of help offered did not vary significantly with prime condition and had an effect size close to zero, $F(5, 81) = 0.10, p = .904, \eta^2_p = .003$. Nor was there a gender by prime condition interaction, $F(5, 81) = 0.47, p = .625$. Again, effect size was small, $\eta^2_p = .012$. Comparison of group means, as displayed in Table 8, shows a statistically nonsignificant trend of greater mean helping times offered by female participants than male participants.

Table 8

Mean Helping Times Offered by Gender and Prime Condition

	REL	IND	COL	Total
Male	21.4	25.0	27.1	25.0
Female	32.9	34.5	27.3	31.8
Total	30.8	32.4	27.2	30.2

Forward stepwise binary logistic regression was conducted to determine which independent variables (gender, agreeableness, empathy, chronic relational self-construal, chronic independent self-construal, chronic collective self-construal, and primed self-construal) were predictors of agreeing or not agreeing to help (see Table 9 for predictors). Regression results indicated that independent self-construal was a statistically significant predictor of whether participants agreed to help, $-2 \text{ Log Likelihood} = 126.040, \chi^2 (1, 119) = 4.42, p = .035$. The prediction was positive; participants with higher chronic self-construal were more likely to help. The model correctly classified 75% of the cases; however, this is the same classification accuracy as the 0-block model with no predictors of helping, indicating that the model does not increase accuracy of predictions.

Table 9

Potential Predictors for Binary Logistic Regression of Help Decision

Potential Predictor	<i>p</i> -value
Sex	0.075
REL Prime	0.176
IND Prime	0.427
COL Prime	0.565
Empathy	0.864
Agreeableness	0.474
Chronic REL	0.043*
Chronic IND	0.034*
Chronic COL	0.049*

**p* < .05

Stepwise multiple regression was conducted to determine which independent variables (gender, ethnic background, agreeableness, empathy, chronic relational self-construal, chronic independent self-construal, chronic collective self-construal, and self-construal prime) were predictors of amount of help offered (see Table 10 for predictors not entered into the regression). Regression results indicated an overall model of one predictor (empathy) that significantly predicted amount of help offered, $R^2 = .053$, $R^2_{adj} = .041$, $F(1, 85) = 4.72$, $p = .033$. This model accounted for 5.3% of the variance in amount of help offered. The positive standardized coefficient, $B = 13.73$, indicates that for every one-point increase in QCAE score, mean amount of help offered increased by 13.73 minutes.

Table 10

Potential Predictors Not Entered into Regression Model of Helping Amount

Potential Predictor	β	t	p -value
Sex	0.101	0.944	0.348
Ethnicity*	-0.025	-0.236	0.814
REL Prime	0.047	0.441	0.660
IND Prime	0.044	0.413	0.681
COL Prime	-0.020	-0.848	0.399
Agreeableness	0.061	0.506	0.614
Chronic REL	0.078	0.723	0.472
Chronic IND	0.087	0.807	0.422
Chronic COL	0.105	0.969	0.335

*Ethnicity was a dichotomous variable with categories “White” and “Other or White and Other”

Post-Hoc Analysis

Although participants’ suspicion of the purpose of the study was not predictive of helping in preliminary analyses, it was decided that it would be wise to examine any potential differences in mean chronic independence by participants’ suspicions (or lack thereof) and agreement or refusal to help. (For more information, see Discussion.) To this end, a post-hoc 2×2 between-subjects ANOVA was conducted on chronic independence scores. Independent variables consisted of whether participants agreed to help, and whether they were suspicious that the help request was part of the study design. The dependent variable was participants’ mean scores of chronic independent self-construal as assessed by the RIC scale. Mean independence scores

differed significantly between helpers and non-helpers, $F(1, 118) = 4.02, p = .047$, which falls in line with results of the binary logistic regression on decision to help. The effect size was small, $\eta^2_p = .033$. No statistically significant difference was found between suspicious and non-suspicious participants' mean independence scores, and effect size was close to zero, $F(1, 118) = 0.08, p = .783, \eta^2_p = .001$. Nor was there a significant interaction between help decision and suspicion; again, effect size was close to zero, $F(1, 118) = 0.24, p = .627, \eta^2_p = .002$.

Table 11

Mean Chronic Independent Self-Constraint by Suspicion and Helping

	Suspicious	Not Suspicious	Total
Help	6.34	6.31	6.32
No Help	6.08	6.16	6.14
Total	6.27	6.28	6.28

Range: 1 (not like me, not true of me) to 7 (like me, very true of me)

Discussion

The results of the current study are a mixed bag of supported and unsupported hypotheses. Although it was hypothesized that primed self-construal would predict helping, in fact, only chronic independence (for which no specific hypotheses were made) predicted helping. Moreover, chronic independence only predicted the decision to help, and not the amount of help offered. Empathy positively correlated with amount of help offered, as hypothesized, but did not predict the decision to help. Despite hypotheses that women and more agreeable participants would help more, agreeableness and gender had no significant impact on helping in this study. It is worth noting that the lack of gender differences may, in fact, reflect success in choosing a ‘gender-neutral’ help request scenario for the study design.

The contribution of independent self-construal to prosocial behavior falls somewhat in line with the results found by Finlay & Trafimow (1998), in that both studies show independent self-construal can enhance prosocial tendencies. Independent self-construal appears to enhance goodwill and helping toward out-group members, whether stigmatized (such as a person with AIDS; Finlay & Trafimow, 1998), or not stigmatized (such as a graduate student whom the undergraduate participants had never met). However, Finlay and Trafimow (1998) highlighted the ability of an independence *prime* to increase helping; in the current study only *unprimed*, chronic independence predicted helping. Questions remain about the different mechanisms underlying chronic versus primed independence, and their relationship to helping.

Given that independence predicts the businesslike ‘exchange orientation’ in social dilemmas, aiming to maximize benefits to the self via ‘fair’ repayments for cooperating with others (Bresnahan, Chiu & Levine, 2004), it is possible that highly independent participants in

the current study were more likely to help because they expected something in return, such as extra credit for their efforts. Indeed, research by Finkelstein and colleagues has found that chronic independence does not hamper prosociality, but steers it via relatively self-focused motives such as bolstering one's own reputation (DeLeon & Finkelstein, 2011) or career objectives (Finkelstein, 2010). Along this line of logic, one might expect helpful participants who expressed suspicion about the true goal of the study to score higher in chronic independence than non-suspicious helpers. However, the ANOVA conducted to explore this possibility found neither a significant main effect of suspicion, nor a significant interaction between suspicion and willingness to help, on mean chronic independence scores. Thus, self-interest motives for helping were not a significant influence on more independent participants' greater agreement to help.

The next question considered is why the SDFF prime did not significantly impact helping. Oyserman and Lee (2008) report that the SDFF has one of the best track records in self-construal priming literature, along with the popular Sumerian Warrior Story used by Finlay and Trafimow (1998). Nonetheless, it is worth noting that when Oyserman and Lee examined the SDFF's use with prosocial outcome variables in particular, they collected and examined only three studies, which could undermine their attempts to statistically account for unpublished studies when calculating an effect size.

As an alternative explanation, a clue might lie in a difference between the original SDFF and the version used in the current study. Trafimow, Triandis and Goto (1991) concluded their SDFF primes with the question "What do you expect yourself to do?" (independent condition) and "What do they expect you to do?" (interdependent condition; "they" are the participant's

family and friends.) In the current study these questions were dropped, out of concern that their vagueness might confuse participants.

However, it may have been that contemplating these questions, and visualizing oneself performing the expected behaviors as required in the Trafimow et al. procedure, helped to bolster participants' state self-construal via self-perception processes (Bem, 1965). Therefore, despite the ineffectiveness of the SDFF in the current study, the current author would encourage future use of the SDFF (including the original question about expectations), and especially attempts to create separate collective and relational SDFF prompts. If the tripartite paradigm is to replace older conceptualizations of self-construal, it needs its own experimental primes in order to do so; the SDFF's generally positive track record, and easier adaptability to the tripartite model than the Sumerian Warrior Story, make it a strong candidate for tripartite designs.

It is encouraging that trait empathy predicted amount of helping in the current study, given the wealth of research linking prosocial behavior to both state empathy (see Batson & Moran, 1999; Batson et al, 1995; Eisenberg & Miller, 1987; Finlay & Trafimow, 1998; Toi & Batson, 1982) and trait empathy (see Davis, 1983b; Eisenberg & Miller, 1987; Eisenberg et al, 2005; Rameson, Morelli & Lieberman, 2011). Again, the current results complement but do not mirror Finlay and Trafimow's (1998) findings, in which state empathy moderated the influence of an independence prime on willingness to help and the amount of help given.

The current study and that of Finlay and Trafimow (1998) are not the only two studies to suggest independence and empathy can both enhance the same prosocial-behavior outcomes. Pavey, Greitemeyer and Sparks (2012) found the influence of empathy on willingness to help the subject in a tragic vignette was moderated by increases in personal and intrinsic (i.e., independent) but not in social and extrinsic (that i.e., interdependent) motives for helping. Batson

et al (1995) found that empathy-induced helping aimed toward one individual can trump group justice concerns. Thus, several studies present the possibility of independence and empathy working in concert to increase individual-to-individual helping. In the current study, one might speculate that chronic independence acted as a sort of ‘dimmer switch,’ guiding the dichotomous decision to help. Once agreement to help was ‘turned on,’ so to speak, trait empathy (the ‘slider’ on the dimmer switch) was then free to influence the amount of help given. At this point, the methods for assessing and/or priming empathy, independence, and helping behavior, and the resultant specific pathways among them, are ripe for future exploration.

Results of the current study meet with several challenges, principal among them the nonsignificant effect of the modified SDFP primes. In addition, the lack of predictive value for agreeableness on prosociality was surprising; as were the high correlations between the RIC subscales. The correlations between the RIC subscales in the current study were much higher than those found by Kashima and Hardie (2000). Many of their participants completed the RIC in group sessions, while the current study’s participants worked alone, so perhaps an audience effect influenced response styles. Kashima and Hardie’s participants completed the RIC scale immediately following the Twenty Statements Test (TST; Kuhn & McPartland, 1954). In contrast, participants in the current study completed the RIC immediately following the QCAE. One might speculate that the TST’s open-response format and emphasis on the ‘self’ may have primed Kashima and Hardie’s (2000) participants to consider nuanced differences between their self-construals, in ways that an empathy survey like the QCAE would not.

Yet several encouraging results emerged. Factors influencing both the decision to help and the amount of help given were identified. The current study avoided the problematic floor effect seen in the work of Finlay and Trafimow (1998) by decreasing the stakes of the helping

task, and also utilized a new interdependence prime condition developed from the SDFF. The current study also adds to the broad field of literature linking empathy and helping, with successful use of the relatively new QCAE scale to assess empathy (Reniers et al, 2011), which was found to be predictive of actual helping behavior.

Although the present self-construal priming was not effective, the author believes that attempts to prime relational and collective interdependence separately will be highly useful in future self-construal research. Considering the past success of the SDFF with the “what do you/they expect you to do?” question included, reinstating this question in a tripartite SDFF seems a logical first step.

Prosocial behavior research remains fertile ground, with opportunities for manipulating the person-in-need’s gender, in-group/out-group status, or specific help request; as well as broadening studies across participants’ age groups and cultures. Any of these areas of inquiry could be combined with self-construal, whether chronic or primed, to discover how gender- and culture-shaped self-concepts impact our willingness to reach out to assist another human being.

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Appendix

Descriptive Statistics of Scale Variables

	N	Min	Max	Mean	SD	Skewness	Kurtosis
BFIA	119	2.7	4.1	3.574	0.278	-0.313	-0.254
RICR	119	5.2	6.9	6.287	0.3503	-0.536	0.472
RICI	119	5.1	6.9	6.269	0.364	-0.580	0.521
RICC	119	5.1	6.9	6.239	0.360	-0.529	0.716
QCAE	119	2.1	3.9	3.059	0.341	-0.283	-0.090
Age	117	18	27	18.906	1.280	2.891*	13.605*
Time90Max	90	0	90	34.333	27.942	1.037**	-0.153
Time2SDMax	90	0	90	30.600	21.262	0.728	-0.329
MAHDist	119	-0.75	0.64	-0.003	0.262	-0.449	0.545

Variables assessed: Big Five Inventory, Agreeableness score (BFIA); Relational, Individual and Collective Self-Aspects (RIC) Scale, relational subscale (RICR), individual subscale (RICI), and collective subscale (RICC); Questionnaire of Cognitive & Affective Empathy, overall score (QCAE); participant age in years; time participants offered to help, with “as much as it takes” coded as 90 minutes (Time90Max) or as 62 minutes (Time2SDMax); and Mahalanobis Distances of each participant’s scale variables combined (MAHDist).

*The demographic variable of age demonstrated positive skew and platykurtosis which would be problematic if analyses were conducted on this variable. However, age was reported

only for demographic thoroughness and not entered as a variable in any statistical tests.

******When “as long as it takes” responses to the question of amount of helping time were coded as the maximum time actually offered (90 minutes), the resulting distribution demonstrated positive skew. Therefore, “as long as it takes” responses were recoded to 2 standard deviations above the mean amount of time offered (62 minutes).