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EXPLORING THE ROLE OF CONSISTENCY OF SOCIAL
VALUE ORIENTATIONS: TEMPORAL STABILITY,
RECIPROCAL COOPERATION, AND FORGIVENESS

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**Exploring the Role of Consistency of Social Value Orientations:
Temporal Stability, Reciprocal Cooperation, and Forgiveness**

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Abstract

Many studies of social interaction have incorporated the nature of social value orientations (pro-social vs. pro-self) as an important factor. This paper extends this literature by showing that the effect of the nature of social value orientations is moderated by the consistency of social value orientations (high vs. low). In three studies, we examined this moderating influence. In Study 1, we investigated the temporal stability of social value orientations and found that high consistent orientations are more stable than low consistent orientations. In Studies 2 and 3, we found evidence for the moderating impact of consistency of social value orientations on reciprocal cooperation and forgiveness. High consistent individuals were more likely to follow the nature of their social value orientation than low consistent individuals.

Key words: Social Value Orientation, Consistency, Temporal Stability, Reciprocity, Forgiveness

Exploring the Role of Consistency of Social Value Orientations: Temporal Stability, Reciprocal Cooperation, and Forgiveness

Current social psychological theorizing no longer departs from the assumption that self-interested motivations, such as tendencies toward enhancing one's personal outcomes either in an absolute sense (individualism) or in a relative sense (competition), are the sole orientations that people adopt in social interaction (Van Lange, 2000). Interpersonal orientations may also reflect tendencies toward enhancing joint outcomes (cooperation), enhancing equality in outcomes (equality), or enhancing other's outcomes (altruism). All these tendencies are often referred to as social value orientations, or preferences for particular patterns of distributions of outcomes for self and others (Messick & McClintock, 1968). Research on the nature of social value orientations often dichotomizes these tendencies into two broad categories: (1) a pro-social orientation (including cooperation, equality, altruism; see Van Lange, 1999, for an integrated analysis) and (2) a pro-self orientation (including individualism and competition; see Van Lange & Liebrand, 1991).

In addition, individuals also differ according the consistency in the choice pattern with which the nature of social value orientations is measured (Liebrand, 1984). Individuals with a high consistent orientation have a clear-cut decision preference or orientation, whereas individuals with a low consistent orientation do not (yet) have a clearly developed orientation. Hertel & Fiedler (1998) argued that high consistent orientations might reflect stronger dispositions than low consistent orientations. Therefore, any effects of the nature of social value orientations on cooperative behavior should be much stronger for individuals with a high consistent orientation than for individuals with a low consistent orientation. High consistent individuals are expected to behave mostly in close correspondence with the nature of their social value orientation (and with its associated cognitions and perceptions) in different situations. Cooperative behavior by low consistent individuals should rather be subject to situational influences (e.g., by default norms associated with particular situations, Hertel & Fiedler, 1998). Hitherto, the literature on social value orientations has paid only marginal attention to the role of consistency of social value orientations.

Smeesters, Warlop, Van Avermaet, Corneille, & Yzerbyt (2002) however have argued that consistency of social value orientations might moderate the impact of the nature of social value orientations in social interaction. This paper wants to make a significant contribution towards demonstrating this moderating role of consistency of social value orientations. The aim of our paper was twofold. First of all, we wanted to examine the assumption of Hertel & Fiedler (1998) that high consistent orientations reflect stronger dispositions than low consistent orientations by examining the temporal stability of high versus low consistent social value orientations (Study 1). Second, in two other studies we wanted to explore the moderating impact of consistency of social value orientations on cooperative behavior in two types of social interactions: one in which participants played against highly cooperative others (Study 2) and one in which they played against highly defective others (Study 3).

Social Value Orientations

Kelley & Thibaut's (1978) interdependence theory assumes that decision-making in a mixed-motive situation starts from a given matrix, which represents individualistic preferences. Individuals following this given matrix are dominated by a self-interested principle and only place value on their own outcomes. However, people may also place value on the outcomes of others. These individuals adopt broader preferences than self-interested individuals. In general, these preferences for specific self/other outcomes distributions are often called social value orientations (Messick & McClintock, 1968).

As stated earlier, the most commonly studied orientations are the pro-social orientation and the pro-self orientation. A large stream of research demonstrated that pro-socials behave more cooperatively than pro-selfs in various kinds of social interactions (e.g., De Dreu & Van Lange, 1995; Kramer, McClintock, & Messick, 1986; Kuhlman & Marshello, 1975; Van Vugt, Meertens, & Van Lange, 1995). In interaction with other individuals, pro-socials often tend to rely on a 'behavioral assimilation' principle (Kelley & Stahelski, 1970): pro-socials cooperate as long as they expect that other individuals are also willing to cooperate but turn to non-cooperative behavior when the others fail to cooperate. Pro-selfs mostly behave non-cooperatively, even in interaction with cooperative others. However, a few studies (e.g., Van Lange & Kuhlman, 1994; Van Lange & Semin-

Goossens, 1998) demonstrated that pro-selfs were more likely to resist the temptation to exploit cooperative others when these persons' cooperation was due to a moral personality.

Consistency of social value orientations

A recent study by Smeesters et al. (2002) argued that cooperative behavior might also be influenced by individual differences in consistency of social value orientations (see also Hertel & Fiedler, 1998). They used the Ring Measure of Social Values (Liebrand, 1984) to measure social value orientations. This is a computerized task presenting 24 choice trials, with each trial consisting of two different distributions of outcomes for self versus another person. Besides information about the nature of social value orientations (pro-social, pro-self), the Ring Measure also provides information about the decisional consistency of an individual's social value orientation. A maximal consistency score on the Ring Measure implies that the participant's preferred social value orientation remains consistent across all trials (i.e., s/he chooses all distributions of self/other outcomes consistent with his/her own social value orientation, Liebrand, 1984). The consistency score on the Ring Measure will decrease when individuals choose according another orientation on some trials. Hertel & Fiedler (1998) interpreted consistency in terms of a clear-cut decision strategy or orientation. Individuals with high consistency scores should be more certain in their decisions over trials than individuals with low consistency scores¹. They also found that consistency was positively correlated with the extremeness of a pretest measure. This pretest consisted of four sample trials designed to provide a rough baseline estimate of social value orientation prior to the experiment. Hertel & Fiedler (1998) argued that the extremeness of this pretest value reflected a clear-cut strategy, which suggested that a clear-cut preformed strategy is an essential ingredient for consistency.

Hertel & Fiedler (1998) also argued that these high consistent orientations reflect strong dispositions, which should be stable over time and of which the (pro-social or pro-self) nature should not become modified easily when confronted with different situational influences. Therefore, cooperative behavior of high consistent individuals should follow the nature of their social value orientation. The nature of a specific social value orientation includes all cognitions and perceptions associated with it.

Low consistent orientations are assumed to be weakly developed orientations (Hertel & Fiedler, 1998). Although these orientations are also either pro-social or pro-self by nature, it is assumed that they only play a strong role in ambiguous situations (i.e., situations with no relevant features guiding cooperative behavior) (Smeesters et al., 2002). In ambiguous situations, low consistent pro-socials are expected to behave more cooperatively than low consistent pro-selfs. However, the influences of low consistent orientations on cooperative behavior should be substantially weaker in unambiguous situations (i.e., situations with relevant situational features such as information about the personality of the interaction partner). According to Hertel & Fiedler (1998), low consistent orientations are not strong enough to resist situational influences. They argued that cooperative behavior of low consistent individuals in situations with relevant features might be determined by default norms associated with these situational features. High consistent individuals should be less inclined to follow these default norms but instead follow their own idiosyncratic norms determined by the nature of their own social value orientation.

Smeesters et al. (2002) measured both the nature and the consistency of social value orientations, before participants played a simultaneous prisoner's dilemma game against an anonymous partner. They also primed their participants unobtrusively, which affected the expectations about the other player(s) in the game. They found that all individuals behaved very selfishly when they expected to play against a presumed non-cooperative, mighty partner. However, when they thought they were playing against a cooperative, moral partner, all participants except high consistent pro-selfs behaved cooperatively. The latter exploited their partners, whom they believed to be very cooperative. Building upon the assumptions of Hertel & Fiedler (1998), the observed behavioral responses of high consistent pro-socials (behavioral assimilation) and high consistent pro-selfs (selfish behavior) are determined by the pro-social or pro-self nature of their social value orientation. This is congruent with previous models of social value orientations (see Van Lange, 1999). According to Hertel & Fiedler (1998), the observed behavioral responses of low consistent individuals (also behavioral assimilation) are assumed to reflect situational influences rather than a clear-cut decision routine or orientation. The direction of their behavioral responses might be determined by the default social norm associated with a

particular situation. For instance, when playing against a moral, cooperative person, reciprocal cooperative behavior is normative or desirable. When playing against a mighty, non-cooperative person, the default norm is to protect oneself by behaving non-cooperatively as well.

The present research

In this paper, we wanted to extend the very limited knowledge about consistency of social value orientations in two ways. First of all, in Study 1 we wanted to find additional evidence for Hertel & Fiedler's (1998) claim, that high consistent orientations reflect stronger dispositions than low consistent orientations, by demonstrating that high consistent orientations should be more stable over time than low consistent orientations. We also expected individuals with low consistent orientations to adopt variable orientations over time more easily than high consistent individuals. Second, we wanted to examine whether the influence of the (pro-social or pro-self) nature of social value orientations on cooperative behavior is stronger for high consistent individuals than for low consistent individuals. In studies 2 and 3, the impact of consistency of social value orientations was examined in two kinds of social interaction: a situation that could elicit reciprocal cooperation (Study 2) and a situation that could elicit forgiveness (Study 3). In general, we expected reciprocal cooperation and forgiveness to be more prevalent among high consistent pro-socials and to be least prevalent among high consistent pro-selfs, because of the pursuit of, respectively, a pro-social and pro-self orientation. We expected low consistent individuals to behave somewhere in between.

Study 1: Temporal Stability of Social Value Orientations

The temporal stability of high versus low consistent social value orientations has never been investigated. Van Lange (1999; Study 1) conducted a test-retest reliability study in which he measured social value orientations at two points in time (with a time lag of nineteen months) but in which consistency was not taken into account. The temporal stability of social value orientations was measured via a test-retest reliability score of social value orientations. He found a significant relationship between time 1 and time 2

classifications of social value orientations. In his study, 342 of 582 participants (58.8%) expressed the same orientations at time 1 and time 2. Van Lange (2000) concluded that “the stability of interpersonal orientation is somewhat lower than one would expect from a stable dispositional point of view, yet comparable to that found for other individual difference variables, which are argued to be relatively stable” (pp. 321).

However, as indicated earlier Hertel & Fiedler (1998) argued that high consistent orientations reflect stronger individual dispositions than low consistent orientations. Therefore, we expected the temporal stability of high consistent orientations to be substantially higher than that of low consistent orientations as indicated by the test-retest reliability of high versus low consistent orientations (cf. Van Lange). We conducted Study 1 to test this assumption. Compared to the study of Van Lange (1999), there were some procedural differences. First of all, Van Lange (1999) used the Triple-Dominance Measure of Social Values (see Van Lange, Otten, De Bruin, & Joireman, 1997) to assess social value orientations. This test in his study consisted of six decomposed games. Each decomposed game consisted of three different distributions of points for the self and for another person (i.e., a cooperative distribution, an individualistic distribution, and a competitive distribution). Because this test did not have many items, it was not really designed for measuring consistency. Therefore, we used the Ring Measure of Social Values (Liebrand, 1984), which consists of twenty-four different distributions of money for the self and for another person. Second, in our study the time lag was six months instead of a time lag of nineteen months as in Van Lange (1999).

Method

Participants

A total of 382 students participated at Time 1 for partial fulfillment of course requirements. Six months later, 285 of these 382 students participated at Time 2. Only students participating in both sessions were retained for the analysis.

Ring Measure of Social Values

At Time 1 and Time 2, we measured the nature and consistency of social value orientations of each participant using the Ring Measure of Social Values (Liebrand, 1984; Liebrand & McClintock, 1988). The Ring Measure is a computerized task that confronts participants with 24 decomposed games, each presenting a choice between two different money distributions among the self and an imaginary other person. Pay-offs for the self and for the other can be either positive or negative. An example of a pair is the choice between Alternative A: Bef. 1450 for the self and Bef. -390 for the other and Alternative B: Bef. 1300 for the self and Bef. -750 for the other². The 24 pairs of outcomes were sampled from a circle in the own/other outcome plane defined by two orthogonal dimensions: a horizontal dimension representing the outcomes for the self and a vertical dimension representing the outcomes for the other person. Specific own/other outcomes are defined as points in the plane. The center of the circle coincides with the origin of the outcome plane, i.e., the origin denotes Bef. 0 for the self and Bef. 0 for the other. The radius of the circle is Bef. 1500. Each pair consists of two equidistant own/other outcome distributions that are located next to each other on the circle. For each of the 24 pairs, participants were instructed to choose their most preferred alternative.

After the participants have made all their 24 choices, we calculated the total amount of money allocated to the self and to the other. These two totals can be represented as coordinates on the horizontal and vertical axis, defining a single point in the plane. This point provides an estimate of the direction of the participant's orientation vector in the outcome plane. This vector represents the participant's social value orientation. Each orientation reflects a unique pattern of choices. Participants are classified on the Ring Measure as making choices consistent with one of the orientations. Participants with orientation vectors falling between 22.5° and 112.5° are classified as pro-social, participants with orientation vectors falling between 22.5° and 292.5° (or -67.5°) as pro-self.

Of the 285 participants at Time 1, 136 could be identified as pro-social and 127 could be identified as pro-self. Seventeen participants could not be identified because they had an orientation vector of exactly 22.5°. Five participants were also not classified because they had a consistency that was lower than 60%. This is in accordance with

Liebrand (1984) and Liebrand, Jansen, Rijken, & Suhre (1986) who included only those orientation vectors exceeding 60% of the maximal length as reliable indicators of social value orientations. We then classified the remaining 263 participants as high or low in consistency of their social value orientation by using a median split. As a consequence, we had 71 high consistent pro-socials, 65 low consistent pro-socials, 66 high consistent pro-selfs, and 61 low consistent pro-selfs³ at Time 1.

At Time 2, we classified participants according to the same criteria. We classified 73 participants as high consistent pro-socials, 66 as low consistent pro-socials, 61 as high consistent pro-selfs, 56 as low consistent pro-selfs. Twenty-one participants could not be classified because they had an orientation vector of exactly 22.5°. Eight participants were not classified because they exhibited a consistency that was lower than 60%.

Results

We found that 183 out of 263 classifiable participants (69.6%) at Time 1 expressed the same orientation at Time 2, indicating a relatively strong correspondence between Time 1 and Time 2 classifications ($\chi^2 [12, N = 263] = 399.85, p < .0001$; Gamma = 0.61, $p < .0001$). Furthermore, 120 out of 137 participants with a high consistent orientation at Time 1 (87.6%) expressed the same orientation at Time 2, indicating a very strong correspondence between Time 1 and Time 2 classification ($\chi^2 [4, N = 137] = 129.72, p < .0001$; Gamma = 0.97, $p < .0001$). Out of 71 high consistent pro-socials at Time 1, 64 (90.1%) had the same orientation at Time 2. Out of 66 high consistent pro-selfs at Time 1, 56 (84.8%) had the same orientation at Time 2. Of the participants with a low consistent orientation at Time 1, 63 out of 126 (50%) expressed the same orientation at Time 2, indicating a significant but weaker correspondence between Time 1 and Time 2 classifications ($\chi^2 [12, N = 126] = 17.73, p < .05$; Gamma = 0.23, $p < .05$). More specifically, 31 out of 65 low consistent pro-socials at Time 1 (47.7%) had the same orientation at Time 2. Thirty-two out of 61 low consistent pro-selfs at Time 1 (52.4%) expressed the same orientation at Time 2. Table 1 represents these percentages.

Insert Table 1 about here

Table 1 also shows which new orientation participants adopted when changing their orientation from Time 1 to Time 2. Of the high consistent pro-socials at Time 1, 8.4% adopted a low consistent pro-social orientation at Time 2. Of the low consistent pro-socials at Time 1, 9.2% adopted a high consistent pro-social orientation and 29.2% of them adopted a low consistent pro-self orientation at Time 2. Of the high consistent pro-selfs at Time 1, 1.5% adopted a low consistent pro-social orientation and 6.0% adopted a low consistent pro-self orientation at Time 2. Finally, of the low consistent pro-selfs at Time 1, 36.1% adopted a low consistent pro-social orientation and 6.6% adopted a high consistent pro-self orientation at Time 2.

Discussion

The results clearly indicated that the temporal stability of high consistent orientations is much higher than that of low consistent orientations, as measured by the test-retest reliability scores of high versus low consistent social value orientations. Correspondence of Time 1 and Time 2 classifications of social value orientations was much higher for high consistent individuals than for low consistent individuals (87.6% vs. 50%). The overall stability in our study was higher than in the study of Van Lange (1999) (69.6% vs. 58.8%). A variety of reasons may be responsible. Obviously, the differences in temporal stability between the two studies might be attributed to the different measures used, namely the Triple-Dominance Measure of Social Values in the study of Van Lange (1999) and the Ring Measure of Social Values in our study. Second, differences in the composition of the samples used may also have had an influence. We used a student sample, whereas Van Lange (1999) used a sample of individuals who were representative for the Dutch adult population. Third, in our study the social value orientation measure at Time 1 as well as at Time 2 was administered as the first of a series of questionnaires. In the study of Van Lange (1999), the social value orientation measure at Time 2 was preceded by other questionnaires. The results may therefore reflect tiredness or unforeseeable carryover effects from these preceding questionnaires. Finally, the time lag between the two measures was shorter in our study than in the study of Van Lange (1999) (6 months vs. 19 months). It is reasonable to assume that temporal stability may decrease

with longer time lags. Future research might examine whether this decrease is the same for high and low consistent individuals.

We were also interested in assessing which new orientation individuals adopted at Time 2 when changing their orientation. It appeared that the few high consistent individuals at Time 1 who changed their orientations became low consistent individuals of the same nature (i.e., high consistent pro-socials at Time 1 became low consistent pro-socials at Time 2; high consistent pro-selfs at Time 1 became low consistent pro-selfs at Time 2). A minority of low consistent individuals at Time 1 who changed their orientations became high consistent individuals of the same nature but a majority became low consistent individuals of another nature (i.e., low consistent pro-socials at Time 1 became low consistent pro-selfs at Time 2; low consistent pro-selfs at Time 1 became low consistent pro-socials at Time 2).

The results of Study 1 provided clear evidence for the assumption of Hertel & Fiedler (1998) that high consistent orientations reflect strong dispositions. Indeed, the temporal stability of high consistent orientations was very high. Low consistent orientations reflect weaker dispositions, as temporal stability was substantially lower. Compared to high consistent individuals, low consistent individuals chose not only less consistent with their orientation at Time 1, but they were also more inclined to change their orientation at Time 2. This study therefore offers additional evidence that low consistent orientations are relatively unstable orientations and are, therefore, potentially more malleable by the context of the social interaction. In Studies 2 and 3 we tested more directly whether the influence of the nature of social value orientation on cooperative behavior is much stronger for individuals with a high consistent orientation than for individuals with a low consistent orientation.

Study 2: Reciprocal Cooperation

A first setting in which we wanted to observe whether consistency of social value orientations could moderate the impact of the nature of social value orientations was in a social interaction that elicits reciprocal cooperation. Overall, reciprocal cooperation of pro-socials does not depend strongly on impressions of others. Van Lange & Semin-Goossens

(1998) showed that pro-socials reciprocated maximal cooperation of others perceived as honest, intelligent, or unintelligent⁴. In contrast, pro-selfs only reciprocated cooperation of others perceived as honest. Smeesters et al. (2002) however argued that the latter effect might perhaps be moderated by consistency of social value orientations, as only low consistent pro-selfs might reciprocate cooperation of honest others whereas high consistent pro-selfs might exploit them. This possible difference in reciprocal cooperation between high and low consistent pro-selfs can be predicted on the basis of their differential susceptibility to situational influences. High consistent pro-selfs should follow the nature of their social value orientation, and as a pro-self orientation is globally defined by maximizing own outcomes (Van Lange & Liebrand, 1989) they should be expected to behave non-cooperatively irrespective of partner's personality. In contrast, low consistent pro-selfs are expected to behave cooperatively in this instance, because their behavior will at least partly be determined by a situational source, for instance from the fair norm to reward honest others for their cooperative behavior.

To demonstrate the moderating impact of consistency of social value orientations, we therefore replicated the study of Van Lange & Semin-Goossens (1998). We expected high consistent individuals' reciprocal cooperation to be fully determined by the nature of their social value orientation. High consistent pro-socials were expected to reciprocate cooperation of all relevant others and high consistent pro-selfs were expected to show no reciprocal cooperation at all. We expected cooperative behavior of low consistent individuals to be determined by default norms. In situations with maximally cooperative others, being fair and cooperative could be normative or desirable (cf. Van der Pligt & Eiser, 1984). However, this might not be normative in all situations. It might be the case that being fair and cooperative is only normative toward others described as having good personality characteristics. Honesty and intelligence are good personality characteristics, referring respectively to being socially good and intellectually good, whereas unintelligence is a bad personality characteristic, referring to being intellectually bad (Rosenberg & Sedlak, 1972). Moreover, honest and intelligent others generally elicit more favorable impressions than unintelligent others (De Bruin & Van Lange, 1999a, 1999b). Therefore, the default norm might be to not reciprocate cooperative unintelligent others⁵ (see also De Bruin & Van Lange, 1999a). As a consequence, we expected low consistent individuals to

only show reciprocal cooperation towards honest and intelligent others, but not to unintelligent others.

Method

Participants and design. Participants were 73 undergraduates who participated for partial fulfillment of course requirements. The experimental design included three factors. These factors were social value orientation (pro-social vs. pro-self), consistency (high vs. low), and partner's personality (honest vs. intelligent vs. unintelligent), with the last factor as a within-participants variable.

Procedure. After participants were welcomed in the lab, each participant was seated in an individual cubicle. The experiment started by assessing each participant's nature and consistency of social value orientation by the Ring Measure of Social Values (Liebrand, 1984). Participants were classified according the same criteria as in Study 1. Two participants could not be classified because they had an orientation vector of 22.5° and two participants could not be classified because they had a consistency score lower than 60%. Of 69 classifiable participants, we identified 16 high consistent pro-socials, 17 low consistent pro-socials, 18 high consistent pro-selfs and 18 low consistent pro-selfs.

Subsequently, participants played nine independent one-trial give-some games (e.g., Van Lange & Kuhlman, 1994). In each of the nine games, each participant was asked to imagine that (s)he had been given four yellow chips and that the other had been given four blue chips. Each own chip had a value of 10 Belgian francs for the participant, and a value of 20 Belgian francs for the other player. Similarly, each chip held by the other had a value of 10 Belgian francs to the other, and a value of 20 Belgian francs to the participant. The participant's task was to decide how many chips of his/her four chips to give to the other. Maximal cooperation is to give four chips and maximal non-cooperation is to give zero chips. All participants understood this task well.

We instructed participants that they would be paired with a number of others, and that all of these others sufficiently understood the dilemma task and had already made a choice in the dilemma task. As in Van Lange & Semin-Goossens (1998), participants were

led to believe that the others also had filled out a personality questionnaire, which provided measures of a number of personality characteristics. Participants were paired with nine others. Three of them were relevant for the experiment. These three others all decided to give away four chips. One of these three relevant others was described as having a score in the upper 20% on 'honesty'. A second relevant other was described as having a score in the upper 20% on 'intelligence' and a third relevant other was described as having a score in the lower 20% on 'intelligence'. The six 'filler' others were described as having high or low scores on irrelevant dimensions (e.g., adventurous, artistic, patient). They also made different choices than the three relevant others, to make participants believe that individuals may make choices other than giving away all four chips. The order of presenting the others was randomized for each participant.

Dependent measures. Participants were asked how many chips to give to each of the others (none, one, two, three, or four).

Results

A 2 (social value orientation: pro-socials vs. pro-self) x 2 (consistency: high vs. low) x 3 (partner's personality: honest vs. intelligent vs. unintelligent) ANOVA with the last variable as a within-participants factor was conducted on reciprocal cooperation. We obtained significant main effects of social value orientation and partner's personality. The main effect of social value orientation, $F(1, 65) = 30.01, p < .0001$, revealed that pro-socials ($M = 2.87$) displayed more reciprocal cooperation than pro-selfs ($M = 1.70$). The main effect of partner's personality, $F(2, 130) = 37.46, p < .0001$, revealed that honest others ($M = 2.78$) and intelligent others ($M = 2.62$) elicited more reciprocal cooperation than unintelligent others ($M = 1.47$).

These main effects were qualified by a significant three-way interaction between social value orientation, consistency and partner's personality, $F(2, 130) = 3.12, p < .05$. The means of this interaction are presented in Table 2.

Insert Table 2 about here

To check our hypotheses we examined the effect of partner's personality for each group of individuals (i.e., high consistent pro-socials, high consistent pro-selfs, low consistent pro-socials, and low consistent pro-selfs). There was no significant effect of partner's personality for high consistent pro-socials, $F(2,130) = 2.46$, *ns*, whereas the effect was significant for low consistent pro-socials, $F(2,130) = 21.04$, $p < .0001$. Pairwise comparisons revealed that these participants showed lower levels of reciprocal cooperation towards unintelligent others ($M = 1.35$) than towards honest others ($M = 3.41$), $F(1,16) = 25.65$, $p < .001$, and intelligent others ($M = 2.94$), $F(1,16) = 24.40$, $p < .0001$. The contrast of honest versus intelligent others was not significant, $F(1,16) = 1.99$, *ns*.

There was no significant effect of partner's personality for high consistent pro-selfs, $F(2,130) < 1$, *ns*, whereas the effect of was significant for low consistent pro-selfs, $F(2,130) = 38.19$, $p < .0001$. These participants exhibited lower levels of reciprocal cooperation towards unintelligent others ($M = 0.78$) than towards honest others ($M = 3.17$), $F(1,16) = 54.10$, $p < .0001$, and intelligent others ($M = 3.28$), $F(1,17) = 39.43$, $p < .0001$. The contrast of honest versus intelligent others was not significant, $F(1,17) < 1$, *ns*.

To further explore the three-way interaction between social value orientation, consistency, and partner's personality we conducted 2 (consistency) x 2 (partner's personality) ANOVAs separately for pro-socials and pro-selfs, focusing thereby on the contrast of (a) honest versus intelligent others, (b) honest versus unintelligent others, and (c) intelligent versus unintelligent others. First, we conducted these analyses for pro-socials and they revealed significant interactions of consistency with the contrasts of (b) honest versus unintelligent others, $F(1,65) = 8.23$, $p < .01$, and (c) intelligent versus unintelligent others, $F(1,65) = 4.07$, $p < .05$. These findings indicate that differences in reciprocal cooperation of high consistent pro-socials versus low consistent pro-socials are greater when the other is perceived as unintelligent than when the other is honest or intelligent.

Next, we conducted these analyses for pro-selfs. We obtained significant interactions of consistency with the contrast of (b) honest versus unintelligent others, $F(1,65) = 24.79$, $p < .0001$, and of (c) intelligent versus unintelligent others, $F(1,65) = 32.65$, $p < .0001$. These findings indicate that differences in reciprocal cooperation of high

consistent pro-selfs versus low consistent pro-selfs are greater when the other is perceived as either honest or intelligent than when the others is perceived as unintelligent.

Discussion

As expected, reciprocal cooperation of high consistent pro-socials and high consistent pro-selfs was not influenced by partner's personality. High consistent pro-socials reciprocated maximal cooperation of all others. High consistent pro-selfs did not show any reciprocal cooperation. Their general level of reciprocity was also much lower than that of other participants, which means that they basically behaved selfishly. Even when others' cooperation could be due to their trustworthiness (honest others), high consistent pro-selfs took advantage of them.

Low consistent pro-socials and low consistent pro-selfs displayed the same pattern of reciprocal cooperation. They only exhibited reciprocal cooperation towards others described with 'good' personality characteristics (being socially or intellectually good). Low consistent individuals differed from high consistent individuals with the same nature of social value orientation. Low consistent pro-socials differed from high consistent pro-socials because they did not reciprocate maximal cooperation of unintelligent others. Low consistent pro-selfs differed from high consistent pro-selfs because they showed reciprocal cooperation towards honest and intelligent others. Cooperative behavior of low consistent individuals might therefore be determined strongly by default norms. The small pretest (see footnote 4) we had conducted clearly indicated that this could indeed be the case. This test showed that it is in general less desirable to reciprocate maximal cooperation of unintelligent others than maximal cooperation of honest and intelligent others.

The fact that, unlike low consistent pro-selfs, high consistent pro-selfs did not show any reciprocal cooperation towards honest others (see also Smeesters et al., 2002) qualifies earlier findings (Van Lange & Kuhlman, 1994; Van Lange & Semin-Goossens, 1998), which allegedly demonstrated that pro-selfs tend to reciprocate cooperative behavior of honest others. Apparently, high consistent pro-selfs could not resist the temptation to exploit cooperative others.

Study 3: Forgiveness

Study 2 demonstrated that among different social value orientations (different in terms of nature and consistency) there exist differences in reciprocity towards cooperative others varying in personality characteristics. To further explore how individuals with different social value orientations deal with others varying in personality characteristics we conducted a study on forgiveness behavior: do individuals forgive defective behavior of others?

Research on how we deal with defective behavior of others has shown that we do not easily forgive. When individuals discover that others have already defected in a prisoner's dilemma, they are heavily inclined to act individualistically (Shafir & Tversky, 1992; Van Lange, 2000). Research on social value orientations has led to the conclusion that individuals will not easily forgive others because an altruistic motivation is virtually nonexistent in a prisoner's dilemma (e.g., McClintock & Liebrand, 1988). However, Batson and colleagues (Batson & Ahmad, 2001; Batson & Moran, 1999) expressed doubts about this general conclusion and they argued that one should not look for a general disposition to maximize the other's outcomes. Instead, one should search for specific instances in which individuals might be expected to behave cooperatively towards a defective other (e.g., when they feel empathy for a particular individual). Also personality characteristics of the defective other might have an important impact on the decision to forgive him or her.

In Study 3 we tested to which extent forgiveness was influenced by the nature and consistency of social value orientations. Before participants started the game we informed them that because the others had to play first in the game, this could have influenced their behavior⁶.

Forgiveness by high consistent individuals should be fully determined by the nature of their social value orientation. High consistent pro-selfs can be expected to show no forgiveness, regardless of the personality of their opponent. High consistent pro-socials on the other hand may be expected to forgive defective behavior when coming from an honest and intelligent other but not when coming from an unintelligent other. They may interpret the defective behavior of an honest other, not as a reflection of a malevolent intention but

as cautious behavior, resulting from the fact that the other had to choose first. As only individuals guided by pro-social orientations might see intelligence as potentially co-occurring with honesty (Van Lange & Kuhlman, 1994), the defective behavior of an intelligent other may also not be interpreted as a reflection of a malevolent intention but rather as a reflection of cautious behavior.

As in Study 2, we expected cooperative behavior of low consistent individuals to be determined by default norms. When confronted with maximally defective others, non-cooperative behavior might be the default norm. However, this norm might be different for others varying in personality. As only individuals who follow the nature of a pro-social orientation might see honesty and intelligence as potentially co-occurring, the general perception for other individuals might be to see them as independent personality characteristics (Van Lange & Kuhlman, 1994). If intelligence is not perceived as potentially co-occurring with trustworthiness, the default norm for most people might be to not forgive defective intelligent others. Low consistent individuals should be influenced by default norms (Hertel & Fiedler, 1998) and therefore, we expected them to only forgive defective honest others⁷.

Method

Participants and design. Seventy-one students participated in this study for partial fulfillment of course requirements. The experimental design included the same three factors as in Study 2.

Procedure. The procedure used in Study 3 was very similar to the one in Study 2. After participants were welcomed in the lab, they were led to their individual cubicles. First of all, we assessed for each participant's the nature and consistency of social value orientation with the Ring Measure of Social Values. Three participants could not be classified: one participant had an orientation vector of 22.5° and two participants had a consistency score of less than 60%. Sixty-eight participants could be classified: 18 high consistent pro-socials, 16 low consistent pro-socials, 16 high consistent pro-selfs, and 18 low consistent pro-selfs.

Next, as in Study 2 participants engaged in nine independent one-trial give-some games. These games had to be played against nine others, three relevant and six irrelevant. Participants in Study 3 received the same information on personality characteristics and cooperative behavior of these six irrelevant others as in Study 2. The three relevant others were characterized by the following personality characteristics: honest, intelligent, and unintelligent. Contrary to Study 2, these three relevant others all displayed maximal non-cooperation or defection, i.e. they gave away zero chips. Before playing these nine independent games, participants were told that because the others knew that they had to choose first, this could have influenced their choices. Participants had to decide for all others how many chips to give to each of them.

Results

A 2 (social value orientation pro-social vs. pro-self) x 2 (consistency: high vs. low) x 3 (partner's personality: honest vs. intelligent vs. unintelligent) ANOVA with the last variable as a within-participants factor was conducted on forgiveness. We obtained significant main effects of social value orientation and of partner's personality. The main effect for social value orientation, $F(1,64) = 22.85, p < .0001$, revealed that pro-socials ($M = 1.36$) forgave defective others more than pro-selfs ($M = 0.61$). The main effect of partner's personality, $F(2,128) = 46.26, p < .0001$, revealed that honest others ($M = 1.68$) elicited more forgiveness than intelligent others ($M = 0.90$), who in turn elicited more forgiveness than unintelligent others ($M = 0.37$).

These main effects were qualified by a significant three-way interaction between social value orientation, consistency, and partner's personality, $F(2,128) = 3.45, p < .05$. The means of this interaction are presented in Table 3.

Insert Table 3 about here

To test our hypotheses, we examined the effect of partner's personality for each group of individuals. There was a significant effect of partner's personality for high

consistent pro-socials, $F(2,128) = 40.24$, $p < .0001$. Subsequent pairwise comparisons among high consistent pro-socials revealed that honest others ($M = 2.67$) elicited more forgiveness than unintelligent others ($M = 0.44$), $F(1,17) = 48.57$, $p < .0001$. Intelligent others ($M = 2.28$) elicited more forgiveness than unintelligent others ($M = 0.44$), $F(1,17) = 31.64$, $p < .0001$. The contrast of honest versus intelligent others was not significant, $F(1,17) = 2.28$, *ns*.

The effect of partner's personality was also significant for low consistent pro-socials, $F(2,128) = 22.75$, $p < .0001$. Low consistent pro-socials forgave honest others ($M = 2.00$) more easily than intelligent others ($M = 0.50$), $F(1,15) = 27.00$, $p < .001$, and unintelligent others ($M = 0.25$), $F(1,15) = 31.96$, $p < .0001$. The contrast of intelligent versus unintelligent others was not significant, $F(1,15) = 1.67$, *ns*.

The effect of partner's personality was not significant for high consistent pro-selfs, $F(2,128) < 1$, *ns*, whereas it was significant for low consistent pro-selfs, $F(3,192) = 13.31$, $p < .0001$. Subsequent pairwise comparisons revealed that they forgave honest others ($M = 1.67$) more easily than intelligent others ($M = 0.39$), $F(1,17) = 25.47$, $p < .0001$, and unintelligent others ($M = 0.61$), $F(1,17) = 7.94$, $p < .05$. The contrast of intelligent versus unintelligent others was not significant, $F(1,17) < 1$, *ns*.

As in Study 2 we further explored the significant three-way interaction by conducting 2 (consistency) \times 2 (partner's personality) ANOVAs separately for pro-socials and pro-selfs, focusing thereby on the contrast of (a) honest versus intelligent others, (b) honest versus unintelligent others, and (c) intelligent versus unintelligent others. The analyses for pro-socials revealed significant interactions of consistency with the contrasts of (a) honest versus intelligent others, $F(1,64) = 10.32$, $p < .01$, and of (c) intelligent versus unintelligent others, $F(1,64) = 18.46$, $p < .0001$. These findings indicate that differences in forgiveness between high consistent pro-socials and low consistent pro-socials are significantly greater when the other is perceived as intelligent than when the other is perceived as honest or unintelligent. The analyses for pro-selfs revealed a significant interaction of consistency with the contrast of (a) honest versus intelligent others, $F(1,64) = 15.02$, $p < .001$, and a marginally significant interaction with the contrast of (b) honest versus unintelligent others, $F(1,64) = 3.94$, $p < .06$. These findings indicate that differences in forgiveness between high consistent pro-selfs and low consistent pro-selfs are greater

when the other is perceived as honest than when the others is perceived as intelligent or unintelligent.

Discussion

As expected, high consistent pro-socials forgave defective behavior of honest and intelligent others but not of unintelligent others. High consistent pro-selfs did not show any forgiveness. We assumed that forgiveness of high consistent pro-socials follows from the pro-social nature of their social value orientation. Pro-socials might see intelligence or honesty as potentially co-occurring with each other (Van Lange & Kuhlman, 1994). Participants were made aware that the others' behavior could have been influenced by the sequential nature of the game: the others had to choose first, knowing that this could make them vulnerable for exploitation when they would cooperate. Therefore, high consistent pro-socials might have interpreted defective behavior of honest and intelligent others as cautious behavior. Low consistent individuals differed clearly from high consistent individuals with the same nature of social value orientation. Low consistent pro-socials differed from high consistent pro-socials because they did not forgive defective behavior of intelligent others. Low consistent pro-selfs differed from high consistent pro-selfs because they forgave defective behavior of honest others. Their forgiving behavior might be strongly determined by default norms. A small pretest (see footnote 5) showed that it is in general more desirable to forgive defective behavior of honest others than defective behavior of intelligent and unintelligent others. Viewed against this background, it is all the more remarkable that high consistent pro-socials' forgiveness towards intelligent others did not correspond with the default norm.

Our results are consistent with Batson and Ahmad (2001), who suggested that there should be cases in which defective others can be forgiven. They obtained evidence that individuals were willing to forgive a defective female, who just broke up her relationship and lamented about this. Imagining the feelings of this person was enough to take her welfare into consideration. Our results are somewhat stronger as we did not induce any empathy. A mere report of personality characteristics might initiate forgiveness (depending on one's social value orientation). This means that in some cases, individuals want to benefit an unknown person without receiving anything from him/her, and although it would

be in their best interest to defect. This study demonstrated that some individuals are more easily forgiven than others, and that the interaction partner's perceived personality could be decisive.

General Discussion

This paper wanted to contribute to the extensive literature on social value orientations. Past research on social value orientation tended to assume that social value orientations are relatively stable over time (e.g., Kuhlman, Camac, & Cunha, 1986). However, Van Lange (2000) found that the stability of orientations is somewhat lower than one would expect from a dispositional point of view. In addition, Hertel & Fiedler (1998) argued that there might also be differences in the consistency of social value orientations (high vs. low) and that high consistent orientations reflect stronger dispositions than low consistent orientations. This consistency factor could have an important impact on social interaction by moderating the impact of the nature of social value orientations.

We explored the role of consistency of social value orientations in three separate studies. In a first study, we examined the temporal stability of social value orientations. We demonstrated that low consistent orientations have a much lower temporal stability than high consistent orientations, which indicated that low consistent individuals (measured at Time 1) have a higher chance to adopt another orientation at Time 2 than high consistent individuals (measured at Time 1). Van Lange (2000) argued that individuals might differ in the probability with which orientations are activated. We believe that this probability is higher for low consistent individuals than for high consistent individuals. High consistent individuals have developed a clear-cut decision preference that they maintain over time. Therefore, high consistent individuals are expected to behave almost always according to the nature of their social value orientation. Situational features should not have a major impact on their behavior (Hertel & Fiedler, 1998). Low consistent individuals have not (yet) developed a clear decision preference and the nature of their social value orientation might not play a strong role in unambiguous situations. In these situations cooperative behavior of low consistent individuals could rather become influenced by default norms. This was illustrated in Study 2 and 3.

The results of these studies clearly showed that the effects of the nature of social value orientation on reciprocal cooperation were moderated by the consistency of social value orientation. Reciprocal cooperation and forgiveness by high consistent pro-socials and high consistent pro-selfs were fully determined by, respectively, a pro-social orientation and a pro-self orientation. Low consistent individuals behaved sometimes differently from high consistent individuals, although they shared a similar social value orientation. This suggests that for low consistent individuals cooperative behavior is strongly influenced by relevant situational features (Hertel & Fiedler, 1998). Indeed, cooperative behavior of low consistent individuals corresponded strongly with default norms about reciprocal cooperation and forgiveness towards others. High consistent individuals appear to behave less in correspondence with default norms but instead more in correspondence with idiosyncratic norms, formed by cognitions and perceptions associated with the nature of their own social value orientation. Idiosyncratic norms of high consistent pro-socials sometimes deviated from default norms (such as when not reciprocating cooperative behavior of unintelligent others or when not forgiving defective behavior of intelligent others). High consistent pro-selfs apparently have only one 'self-interested' norm.

The present research suggested that low consistent individuals follow the nature of their orientation less often than high consistent individuals. Differences in consistency do not by themselves explain this observation. Future research should search for correlates that could explain how consistency exerts its influence in situations. For instance, differences in consistency might be associated with corresponding differences in self-monitoring (Snyder, 1979). For individuals who monitor and regulate their behavioral choices on the basis of situational information (high self-monitoring individuals), the impact of situational and interpersonal cues to social desirableness should be considerable. For these high self-monitoring individuals the correspondence between social behavior and underlying dispositions should be minimal. By contrast, individuals whose behavioral choices are guided by relevant inner dispositions (low self-monitoring individuals) should be less responsive to situational norms. For these low self-monitoring individuals the covariation between social behavior and underlying dispositions should be substantial. According to this formulation in terms of self-monitoring, high consistent individuals

would rather qualify as low self-monitors and low consistent individuals as high self-monitors. Other factors such as locus of control (Rotter, 1966) could also explain the differences between low and high consistent individuals. Specifically, individuals with an internal locus of control are those whose behavior should be relatively expressive of their attitudes and dispositions. In contrast, individuals with an external locus of control are those whose behavior should be relatively insensitive to their own dispositions but highly sensitive to situational cues and norms. Many studies have shown that individuals whose locus of control is internal typically exert more disposition-based behavior than do individuals whose locus of control is external (e.g., Brown & Strickland, 1972; Kahle, 1980). High consistent individuals might rather have an internal locus of control, whereas low consistent individuals might rather have an external locus of control.

This paper wanted to make a contribution to the literature on social value orientation by demonstrating that incorporating the factor consistency of social value orientation does make a difference. We doubt that anybody would have come up with our predictions (and findings) without considering the role of consistency. We therefore suggest that future research on social value orientation will benefit by incorporating this factor when designing studies. Our paper is a first step in this direction.

References:

- Batson, C.D., & Ahmad, N. (2001). Empathy-induced altruism in a prisoner's dilemma II: What if the target of empathy has defected? European Journal of Social Psychology, *31*, 25-36.
- Batson, C.D., & Morant, T. (1999). Empathy-induced altruism in a prisoner's dilemma. European Journal of Social Psychology, *29*, 909-924.
- Brown, J.C., & Strickland, B.R. (1972). Belief in internal-external control of reinforcement and reaction to frustration. Journal of Personality and Social Psychology, *25*, 35-44.
- De Bruin, E.N.M., & Van Lange, P.A.M. (1999a). Impression formation and cooperative behavior. European Journal of Social Psychology, *29*, 305-328.
- De Bruin, E.N.M., & Van Lange, P.A.M. (1999b). The double meaning of a single act: Influences of the perceiver and the perceived on cooperative behavior. European Journal of Personality, *13*, 165-182.
- Hertel, G., & Fiedler, K. (1998). Fair and dependent versus egoistic and free: Effects of semantic and evaluative priming on the 'Ring Measure of Social Values'. European Journal of Social Psychology, *28*, 49-70.
- Kahle, L.R. (1980). Stimulus condition self-selection by males in the interaction of locus of control and skill-chance situations. Journal of Personality and Social Psychology, *38*, 50-56.
- Kelley, H.H., & Stahelski, A.J. (1970). Social interaction basis of cooperators' and competitors' beliefs about others. Journal of Personality and Social Psychology, *16*, 66-91.
- Kelley, H.H., & Thibaut, J. (1978). Interpersonal relations. New York: Wiley.
- Kramer, R.M., McClintock, C.G., & Messick, D.M. (1986). Social values and cooperative response to a simulated resource conservation crisis. Journal of Personality, *54*, 101-117.
- Kuhlman, D.M., Camac, C., & Cunha, D.A. (1986). Individual differences in social orientation. In H. Wilke, C. Messick, & C. Rutte (Eds.), Social dilemmas: Theoretical issues and research findings (pp. 151-176). New York; Verlag Peter Lang.

- Kuhlman, D.M., & Marshello, A. (1975). Individual differences in game motivation as moderators of preprogrammed strategic effects in prisoner's dilemma. Journal of Personality and Social Psychology, 32, 922-931.
- Liebrand, W.B.G. (1984). The effect of social motives, communication and group size on behavior in an N-person multi-stage, mixed-motive game. European Journal of Social Psychology, 14, 239-246.
- Liebrand, W.B.G., & McClintock, C.G. (1988). The ring measure of social values: A computerized procedure for assessing individual differences in information processing and social value orientation. European Journal of Personality, 2, 217-230.
- Liebrand, W.B.G., Jansen, R.W.T.L., Rijken, V.M., & Suhre C.J.M. (1986). Might over morality: The interaction between social values and the interpretation of decision-making in experimental games. Journal of Experimental Social Psychology, 22, 203-215.
- McClintock, C.G., & Liebrand, W.B.G. (1988). Role of interdependence structure, individual value orientation and another's strategy in social decision making: A transformational analysis. Journal of Personality and Social Psychology, 55, 396-409.
- Messick, D.M., & McClintock, C.G. (1968). Motivational bases of choice in experimental games. Journal of Experimental Social Psychology, 4, 1-25.
- Rosenberg, S., & Sedlak, A. (1972). Structural representations of implicit personality theory. In L. Berkowitz (Eds.), Advances in Experimental Social Psychology (Vol. 6, pp. 235-297). San Diego, CA: Academic Press.
- Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 80, Whole Issue.
- Shafir, E., & Tversky, A. (1992). Thinking about uncertainty: Nonconsequential reasoning and choice. Cognitive Psychology, 24, 449-474.
- Smeesters, D., Warlop, L., Van Avermaet, E., Corneille, O., & Yzerbyt, V. (2002). Do not prime hawks with doves: The interplay of construct activation and consistency of social value orientation on cooperative behavior. Unpublished manuscript, Katholieke Universiteit Leuven, Belgium.
- Snyder, M. (1979). Self-monitoring processes. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (Vol. 12). New York: Academic Press.

- Van der Pligt, J., & Eiser, J.R. (1984). Dimensional salience, judgment, and attitudes. In J.R. Eiser (Ed.), Attitudinal Judgment (pp. 161-177). New York: Springer.
- Van Lange, P.A.M. (1999). The pursuit of joint outcomes and equality in outcomes: An integrative model of social value orientation. Journal of Personality and Social Psychology, *77*, 337-349.
- Van Lange, P.A.M. (2000). Beyond self-interest: A set of propositions relevant to interpersonal orientations. In W. Stroebe & M. Hewstone (Eds.), European Review of Social Psychology (Vol. 11, pp. 297-331). New York: Wiley.
- Van Lange, P.A.M., & Kuhlman, D.M. (1994). Social value orientations and impressions of a partner's honesty and intelligence: A test of the might versus morality effect. Journal of Personality and Social Psychology, *67*, 126-141.
- Van Lange, P.A.M., & Liebrand, W.B.G. (1991). Social value orientation and intelligence: A test of the goal-prescribes-rationality principle. European Journal of Social Psychology, *21*, 273-292.
- Van Lange, P.A.M., Otten, W., De Bruin, E.N.M., & Joireman, J.A. (1997). Development of pro-social, individualistic, and competitive orientations: Theory and preliminary evidence. Journal of Personality and Social Psychology, *73*, 733-746.
- Van Lange, P.A.M., & Semin-Goossens, A. (1998). The boundaries of reciprocal cooperation. European Journal of Social Psychology, *28*, 847-854.
- Van Vugt, M., Meertens, R.M., & van Lange, P.A.M. (1995). Car versus public transportation? The role of social value orientations in a real-life social dilemma. Journal of Applied Social Psychology, *25*, 258-278.

Footnotes

¹ When individuals are categorized as being either pro-social or pro-self in nature, a median split can be performed on the consistency score within the group of pro-socials and pro-selfs to categorize individuals as either high consistent individuals or low consistent individuals.

² At the time we conducted this experiment, the euro was not yet introduced in the countries of the European Union and the experiment was still conducted with the Belgian Franc as currency. One euro is Bef. 40.34.

³ In all our studies we never found differences between low consistent individualists and low consistent competitors and between high consistent individualists and high consistent competitors. Therefore we only speak about low consistent pro-selfs and about high consistent pro-selfs.

⁴ As in the study of Van Lange & Semin-Goossens (1998) we dropped dishonest others from our study, because neither pro-socials nor pro-selfs associate dishonesty with cooperation. As they argued, we believe that comparisons of dishonest others with each of the three relevant others would be somewhat difficult to interpret because a dishonest other who exhibits maximal cooperation is more conflicting with a priori expectations of both pro-socials and pro-selfs than maximal cooperation of honest, intelligent, or unintelligent others.

⁵ We tested this assumption empirically in a short study by asking 30 students to rate (on a 7-point Likert scale) how desirable it would be to reciprocate cooperative behavior of honest, intelligent, and unintelligent others. This study revealed a significant effect of personality, $F(2,58) = 35.56$, $p < .0001$. It appeared that it is less desirable to reciprocate cooperative behavior of unintelligent others ($M = 3.87$) than that of honest others ($M = 6.13$), $F(1,29) = 45.67$, $p < .0001$, and intelligent others ($M = 5.90$), $F(1,29) = 47.98$, $p < .0001$. The contrast of honest others versus intelligent others was not significant, $F(1,29) < 1$, ns.

⁶ We introduced this sentence because otherwise we believed that none of our participants would forgive defective behavior of the others.

⁷ We also tested this assumption empirically. We asked 30 students to rate (on a 7-point Likert scale) how desirable it would be to forgive defective behavior of honest, intelligent, and unintelligent others. We obtained a significant effect of personality, $F(2,58) = 42.28$, $p < .0001$. It appeared that it is more desirable to forgive defective honest others ($M = 4.10$) than defective intelligent others ($M = 1.76$), $F(1,29) = 57.30$, $p < .0001$, and defective unintelligent others ($M = 1.56$), $F(1,29) = 51.95$, $p < .0001$. The contrast of intelligent versus unintelligent others was not significant, $F(1,29) < 1$, ns.

Table 1.

Classification of Social Value Orientations at Time 2 as a Function of Time 1

Social Value Orientation at Time 1	Social Value Orientation at Time 2				
	High consistent pro-social	Low consistent pro-social	High consistent pro-self	Low consistent pro-self	Not classified at Time 2
High consistent pro- social (n=71)	90.1% (64)	8.4% (6)	0% (0)	0% (0)	1.4% (1)
Low consistent pro- social (n=65)	9.2% (6)	47.7% (31)	0% (0)	29.2% (19)	13.8% (9)
High consistent pro- self (n=66)	0% (0)	1.5% (1)	84.8% (56)	6% (4)	7.6% (5)
Low consistent pro- self (n=61)	0% (0)	36.1% (22)	6.6% (4)	52.4% (32)	4.9% (3)

Table 2.

Reciprocal Cooperation towards Cooperative Others

Social value orientation	Personality characteristic		
	Honest	Intelligent	Unintelligent
High consistent pro-social	3.44 ^a ₁	3.37 ^a ₁	2.75 ^a ₁
Low consistent pro-social	3.41 ^a ₁	2.94 ^a ₁	1.35 ^b ₂
High consistent pro-self	1.11 ^b ₁	0.89 ^b ₁	1.00 ^b ₁
Low consistent pro-self	3.17 ^a ₁	3.28 ^a ₁	0.78 ^b ₂

Note. Within columns, means that do not share a common superscript differ significantly ($p < .05$). Within rows, means that do not share a common subscript differ significantly ($p < .05$).

Table 3.

Forgiveness towards Defective Others

Social value orientation	Personality characteristic		
	Honest	Intelligent	Unintelligent
High consistent pro-social	2.67 ^a ₁	2.28 ^a ₁	0.44 ^a ₂
Low consistent pro-social	2.00 ^b ₁	0.50 ^b ₂	0.25 ^a ₂
High consistent pro-self	0.37 ^c ₁	0.44 ^b ₁	0.19 ^a ₁
Low consistent pro-self	1.67 ^b ₁	0.39 ^b ₂	0.61 ^a ₂

Note. Within columns, means that do not share a common superscript differ significantly ($p < .05$). Within rows, means that do not share a common subscript differ significantly ($p < .05$).²