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Victim sensitivity in groups: When is one a detriment to all?

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Abstract

Victim sensitivity (VS)—a personality trait reflecting the anxious expectation of being exploited—reliably predicts egoistic behavior in interpersonal situations. Here, we look at intragroup situations and investigate whether even one highly victim-sensitive individual can have a detrimental effect of solidarity and cooperativeness on the entire group. Two studies—one field study with community residents from Philippine villages who played a solidarity game ($N \approx 800$ individuals, 30 villages) and one lab study with participants in a small-group setting ($N = 144$ individuals, 48 groups) who played a public goods game—show that the highest VS score in a group negatively predicts solidarity and cooperation in the group, especially when external stressors (e.g., a natural disaster and a climate of distrust) are present and group-level resilience factors (e.g., in-group identification and task enjoyment) are absent. These results are relevant for research on the intragroup processes both from a basic as well as from an applied perspective.

1 | INTRODUCTION

Cooperation is a necessary element of groups. No matter which type of groups we are talking about—friends, work teams, and communities—the many social and economic benefits of groups can only be reaped if each individual group member is willing and able to devote their resources to the group and, thus, maximize its joint outcome. But the willingness to cooperate is highly contingent on mutual trust: trust is a form of social capital that helps maintaining group commitment and cooperation. If group members distrust each other, they are less willing to cooperate, which is detrimental to group outcomes. However, trust is like a house of cards that takes time and effort to be built, but that can collapse very quickly: people are well aware that trust can be violated and that one's gullibility may be exploited. People hate being the "sucker" (Kerr, 1983; Vohs et al., 2007), which is why they carefully weigh the costs and benefits of trusting others, both in interpersonal as well as in intra- and intergroup situations (Deutsch, 1958, 1973).

The aversion toward being exploited by others varies between individuals: some are extremely vigilant toward the slightest cue that is

associated with untrustworthiness, while others do not care as much. The personality variable that captures such individual differences has been referred to as "sensitivity to mean intentions" or simply "victim sensitivity" (Gollwitzer & Rothmund, 2009; Gollwitzer et al., 2005, 2013). Victim sensitivity (VS) is one of the four "justice sensitivity" perspectives: it has been defined as the extent to which individuals perceive—and emotionally respond to—injustices to their own disadvantage: people high in VS experience more anger and moral outrage as a reaction to experienced or suspected injustice at their own costs (Schmitt et al., 2005). Importantly, people high in VS harbor an anxious expectation of being exploited by others and, therefore, tend to behave "pre-emptively selfish" in socially uncertain situations whenever there is a (small) danger of being exploited (Gollwitzer & Rothmund, 2011; Gollwitzer et al., 2009, 2012; Maltese et al., 2016; Rothmund et al., 2017; Süssenbach & Gollwitzer, 2015; for a review, see Gollwitzer et al., 2013). Thus, being victim-sensitive is a barrier to (re)build mutual trust, for instance, in romantic relationships (Gerlach et al., 2012), but possibly also in groups. Notably, previous research on the antisocial effects of VS has mainly focused on dyadic interactions (e.g., Gollwitzer & Rothmund, 2011) and on the victim-sensitive

person's own willingness to trust and cooperate with others. In the present paper, we will address the question whether one victim-sensitive group member can affect the entire group's willingness to behave prosocially and cooperatively toward each other. The hypothesis we started with was that even one highly victim-sensitive group member can decrease solidarity and cooperation within the entire group, even when the other group members are comparably less victim-sensitive.

1.1 | (Dis)trust and cooperation in groups

The majority of empirical studies on trust in groups has focused on trust formation (e.g., Jones & George, 1998)—the necessary conditions for building mutual trust in the "forming" phase (Tuckman, 1965)—or the fragility of trust maintenance and the conditions (i.e., risk factors) for trust to erode in groups (e.g., Lewicki & Bunker, 1996; Sitkin & Roth, 1993). According to these studies, trust in groups erodes very quickly if one group member violates group-specific or generic norms of commitment, respect, or cooperation for the sake of maximizing their individual outcomes (i.e., free-riding or social loafing; Kerr, 1983). Notably, this literature focuses on the causal effect of *factual* free-riding behavior (of one group member) on mutual trust within the group. However, it is plausible to assume that even the mere *anticipation* of free-riding or social loafing can contribute to an erosion of trust and cooperation within a group. This assumption is backed up by empirical findings showing that cooperation is swiftly reduced when free-riding is non-costly (Fehr & Gächter, 2000) or difficult to observe and detect (Karau & Williams, 1993; Williams et al., 1981): in these situations, group members are more likely to free-ride because they expect other group members to free-ride themselves (i.e., the "matching of effort" explanation for social loafing, see Jackson & Harkins, 1985; Karau & Williams, 1993).

Building on the assumption that VS reflects the anxious expectation of being exploited by others and that victim-sensitive individuals display this anxious expectation either verbally (i.e., by explicitly expressing their suspiciousness), non-verbally (i.e., by looking grim), or even behaviorally (i.e., by failing to cooperate; see Gollwitzer et al., 2013), they likely raise suspicions about potential free-riding among the other group members (Gollwitzer et al., 2015; see also Kramer, 1994, 1999). This can then contribute to an erosion of trust and cooperation in the entire group, even though the remaining group members may not be victim-sensitive at all. In this regard, distrust is like a "virus" that can quickly spread in a group: one highly victim-sensitive individual may be enough to bring the fragile house of cards called interpersonal trust to collapse.

1.2 | Risk and resilience factors

Given the strong interdependence between trust and cooperation, it is plausible to assume that the virus of distrust in a group also considerably affects group members' willingness to cooperate with each other. Notably, however, there are both risk factors that

amplify the trust-cooperation effect, but also resilience factors that alleviate it. One risk factor is the extent to which conflicts of interest exist between members of the group, that is, when maximizing one's own individual payoff necessarily implies a reduction of the other group members' payoffs (i.e., negative interdependence, see Kelley & Thibaut, 1978), which is the case when valuable resources become scarce and, thus, no longer available to everybody to a sufficient degree. In line with this reasoning, Balliet and Van Lange (2013) meta-analytically showed that trust is a stronger predictor of cooperation in social dilemma situations characterized by strong (vs. weak) negative interdependence. Building on this and other findings, we expect groups that contain one highly victim-sensitive member to show less solidarity and cooperation than groups that do not contain a particularly victim-sensitive member, especially in times of crisis, when resources are scarce and conflicts of interest are strong.

Moreover, groups may also possess resources and resilience factors that stop the virus of distrust from spreading in the group. One of these resilience factors is the extent to which a group shares a sense of social identity—the extent to which group members conceptualize themselves in terms of "we" instead of "I." Groups with a strong social identity are more likely to cope with difficult group tasks (Haslam et al., 2004; Haslam & Reicher, 2006), with negative stereotypes and prejudices against the in-group (Branscombe et al., 1999), or with critical life events (Haslam et al., 2005; see also Jetten, Haslam, & Haslam, 2012). Thus, a strong and positive in-group identity may buffer the detrimental effect of containing one highly victim-sensitive group member on solidarity and cooperation within the group.

In addition to social identity, research on group dynamics and group performance has shown that the nature of the task and the group's motivation to work on it can counteract adverse circumstances within the group. More specifically, if the task is perceived as meaningful and enjoyable, a group can excel even when some group members are unlikely (i.e., unwilling or unable) to contribute to the joint outcome (Karau & Williams, 1997; Williams & Karau, 1991). Task meaningfulness or enjoyment motivates strong group members to compensate for weaker members (see also Kerr, 2001). Thus, task enjoyment is another factor that may buffer the detrimental effect of having one (or more) highly victim-sensitive member in one's group.

1.3 | The present research

In this article, we will test the idea that even one highly victim-sensitive individual can have a detrimental effect of solidarity and cooperativeness on the entire group—stated more technically, that the VS score of the most victim-sensitive group member negatively predicts solidarity and cooperation within the group, irrespective of the other group members' VS scores. In addition, we reasoned that this effect should be stronger in times of crisis, when resources are scarce and conflicts of interest are strong, and it should be alleviated by group-level in-group identification and task enjoyment. These hypotheses were tested in two studies. Study 1 is a field study conducted with

community residents from Philippine villages who played a solidarity game with their fellow villagers; Study 2 is a lab study with university students who were randomly assigned into small groups in which they first completed a collaborative group task and then, a public goods game measuring each group member's willingness to cooperate in their group. In both studies, the central predictor was the VS score of the most victim-sensitive individual in the group (VS-Max). This operationalization was preferred over other group-level aggregate measures, such as the average VS score in the group (VS-Mean): given our assumption that even one single victim-sensitive group member can be detrimental to group outcomes, VS-Max is a more suitable indicator than VS-Mean, which is not only affected by the most victim-sensitive group member, but also by the VS scores of the other group members.

Because both studies yield nested data (i.e., participants nested in groups), we employed multilevel modeling to test our hypotheses. In that regard, it is important to note that although VS-Max is a score derived from one individual, it is a feature of the group—in multilevel modeling terms, a group-level variable. To properly model the group-level (or "contextual") effect of VS-Max, within-group variability in VS scores needs to be statistically controlled for (Kreft et al., 1995; Snijders & Bosker, 2011). This was achieved by including both VS-Max on the group-level (i.e., level-2) and VS scores on the individual-level (i.e., level-1; centered around their group means) simultaneously into the multilevel models (see Enders, 2013; Enders & Tofighi, 2007).

2 | STUDY 1: VS-MAX REDUCES WITHIN-GROUP SOLIDARITY IN TIMES OF CRISIS

2.1 | Methods

Study 1 was conducted in the Western Visayas (Region VI) in the province of Iloilo, The Philippines. A two-stage random sampling procedure was applied to select coastal villages and participants in the first wave. First, 30 barangays (i.e., the lowest administrative level in the Philippines, comparable to a village in rural areas) were randomly selected. Second, 27 household heads or their spouses per barangay were approached and invited to participate in a study on personality, trust, and cooperation (for details, see Vollan, 2019). Notably, the study had two measurement occasions, one in 2012 and the second in 2016, and an effort was made in 2016 to invite the same people who had also taken part 4 years before. Between 2012 and 2016, people of the Philippines were confronted with two challenging or even traumatic incidents. First, a major typhoon ("Haiyan") hit the Philippines in November 2013. It was one of the strongest tropical cyclones ever recorded, and the deadliest Philippine typhoon on record. Our study site, Panay, was heavily affected by the typhoon with half of all houses being fully or partly destroyed. Given the low insurance coverage, people heavily depended on each other for mutual aid. The second major incident was the presidential election of Rodrigo Duterte in May 2016, 2 months before the second data collection took place. During the election campaign, Duterte divided

the country into his supporters and the outsiders, or "enemies" of the country. Such a populist rhetoric filled with anger and resentment typical for populist leaders continued during his presidency. Duterte especially dramatized the impact of drug cartels using a rhetoric of crisis and a wave of tough-on-crime policies.

Assuming that coping with Haiyan and the oppressive regime introduced in 2016 increased negative interdependence among participants within villages, we explored whether the effect of VS-Max (in a village) on solidarity was stronger in 2016 than in 2012.

2.1.1 | Sample

In the 2012 wave, data from 795 participants could be used. Four years later (2016), people from the same 30 villages were recruited for a second wave of the study. This time, 810 participants completed the study. Among the 795 who had taken part in the 2012 wave, 449 (i.e., 57%) also took part in the 2016 wave. Although the data from the two waves are not completely independent from each other, we will analyze the two waves separately here. Notably, the pattern of results remains robust (regarding significant and nonsignificant effects, see below) when the analysis is only based on the 449 participants who took part in both waves. The average age in 2012 was 41.29 years ($SD = 10.58$, range 18–76 years), and 53.2% were female. In 2016 the average age was 45.09 years ($SD = 10.91$, range 19–78 years), and 66.8% were female. If the data were analyzed exclusively on the group-level (i.e., villages), $n = 30$ would be considered relatively low: with this sample size, only effects larger than $f^2 = .28$ (equaling $R^2 = .22$) would become statistically detectable (based on $\alpha = .05$ and $1 - \beta = .80$; see Faul et al., 2009) in an ordinary least squares regression analysis. One reason for using multilevel modeling here was, therefore, to increase the statistical power to detect our hypothesized effect.

2.1.2 | Procedure

The setup and procedure was roughly the same in both waves: Participants arrived at the "lab" (typically the village's town hall) and were given an ID card and assigned seats and a short paper-pencil survey. Participants were told that they would be paid a show-up fee plus earning depending on the outcomes of the games. Next, participants completed several rounds of a solidarity game (see Selten & Ockenfels, 1998). Here, we report results from the first round of this game, in which solidarity transfers and solidarity beliefs were assessed. In subsequent rounds, several treatments (on the village-level) were introduced to study, for instance, the effect of individual and group insurance on solidarity and how insurance uptake can be explained by risk attitudes. These rounds were designed as part of a different research project and are irrelevant for the current research question (Vollan, 2019).

Importantly, the solidarity game was played in three-person groups. Groups consisted of three villagers, where each originally

invited person was matched with one peer and one anonymous player (who was a peer of someone else). Thus, two players in each group knew each other and one person was anonymous to both. This allowed us to measure participants' solidarity both toward a known peer and toward an anonymous person (from the same village). In our analysis, we focus on the latter measure because it is not tainted by any reputational or reciprocity concerns that participants may have had and, thus, a cleaner measure of group-directed solidarity.

After answering any comprehension questions that participants had, they commenced with the economic games. After the games, participants completed a battery of survey measures, including the VS items (see below). The whole procedure took about 4 hr per participant/group.

2.1.3 | Materials

Solidarity game

The specific solidarity game we employed here was adapted from Selten and Ockenfels (1998; see also Ockenfels & Weimann, 1999). Participants were told they had 200 pesos to start. Whether they could keep the 200 pesos or not was determined by a random procedure, an opaque bag with 3 balls in it, one for each player in the group. Out of the three balls, there were two white balls and one red ball. If the participants drew a white ball they could keep the 200 pesos. If they drew a red ball they would lose the 200 pesos. This meant that one of the three players in each group would lose everything and two out of three would lose nothing. Before the draw, all players were asked whether and how much they would like to transfer to the other group members in case that they were unlucky, that is, if they drew a red ball and lost 200 pesos. They could transfer between 0 and 70 of the possible 200 pesos to the unlucky person. Importantly, we focused on the interaction with the unknown (i.e., randomly assigned) member of their three-person group; therefore, participants did not know who this other person was; they only knew s/he was also from their own village.

Amounts were in steps of 10 pesos starting at 0. Hence, possible transfers were 0, 10, 20, 30, 40, 50, 60, or 70. Participants were also asked how much they thought the other members in their group would transfer to them if *they* were the loser. Again, responses were given in 10-pesos increments from 0–70, and they could earn an extra 10 pesos for each correct guess. Thus, the two dependent variables we will focus on here are the amount of pesos transferred to the unlucky player ("solidarity behavior") and their guess about how much pesos their group members would transfer if they themselves were the losers ("solidarity expectations").

Survey measures

Victim Sensitivity was measured with two items adapted from the Justice Sensitivity Inventory (Schmitt et al., 2010: "I am upset when others are better off than me" and "I am upset when others are undeservingly better off than me"). The items were translated from English into Hiligaynon and back in order to minimize semantic

differences in item meaning. In the present sample, the item intercorrelation was $r = .48$ in 2012 and $r = .64$ in 2016. The VS score of the most victim-sensitive individual in a village (VS-Max) was the central predictor variable in our models, and within-village variations in VS between participants were statistically controlled for in order to estimate the contextual effect properly (Snijders & Bosker, 2011). We computed VS-Max on the village-level (instead of the group-level) because individuals knew their fellow villagers, but not who exactly they were playing with.

2.2 | Results and discussion

2.2.1 | Empty models

Given the nested structure of the data (i.e., individuals in groups—level-1, groups in villages—level-2, and villages—level-3), multilevel modeling was employed to analyze the data. First, "intercept-only" (or "empty") models were run to estimate the amount of variance in solidarity behavior and solidarity expectations on each level, for the 2012 and the 2016 data, respectively. In both years and for both variables, the largest amount of variance was due to differences between participants within groups (> 87.5%). The variability that was due to differences between groups within villages (i.e., level-2) and to differences between villages (i.e., level-3), respectively, were much smaller (<11.4%).

Means and standard deviations of solidarity behavior and solidarity expectations (based on all individuals who participated in 2012 and 2016, respectively), are reported in Table 1. The numbers clearly suggest that solidarity behavior decreased between 2012 and 2016. Looking only at the 449 individuals who participated in both waves (2012 and 2016) suggests an intraindividual reduction in solidarity behavior (mean difference: 4.70, two-tailed 95% CI [2.28, 7.12], $t(448) = 3.81$, $p < .001$; $d = .18$), but not in solidarity expectations (mean difference: 1.63, two-tailed 95% CI [−.73, 3.98], $t(448) = 1.36$, $p = .18$; $d = .06$).

2.2.2 | Hypothesis tests

We tested whether VS-Max (in a village) negatively predicts solidarity behavior and solidarity expectations, and we explored whether

TABLE 1 Descriptive statistics (Study 1)

	2012	2016
VS-Max (village-level)	4.64 (0.50)	4.08 (0.77)
VS (individual-level)	2.35 (1.15)	1.63 (0.92)
Solidarity behavior (individual-level)	30.42 (19.76)	25.98 (20.56)
Solidarity expectations (individual-level)	27.95 (19.10)	26.40 (20.75)

Note: Ns = 795 and 810 in 2012 and 2016, respectively. Standard deviations in parentheses.

TABLE 2 Estimated model parameters for multilevel models (Study 1)

	Solidarity behavior		Solidarity expectations	
	2012	2016	2012	2016
Fixed effects				
Intercept	30.53	37.39	30.48	36.71
VS-Max (between villages)	–.06	–2.78*	–.56	–2.51*
VS (within villages[a])	–.67	.18	–.05	.35
Random coefficients				
Level-3 random intercepts	4.08	28.69	.51	8.53
Level-2 random intercepts	42.92**	8.46	24.14*	[b]
Level-1 residual variance	343.27**	381.58**	340.20**	417.58**

[a]To estimate the contextual effect of VS-Max (on the village-level) properly, individual VS scores (centered around the village mean) were controlled.

[b]In this model, this parameter could not be estimated and was, therefore, set to 0.

*$p < .05$; **$p < .01$ (two-tailed).

this effect was stronger in 2016 (i.e., in times of crisis) than in 2012. Random-intercepts models were specified and model parameters were estimated with the Maximum Likelihood method. Models were run for the 2012 and the 2016 data, separately, because only 57% of those participating in 2012 also participated in 2016.[1] The results are displayed in Table 2.

In the 2012 data, VS-Max neither predicted solidarity behavior nor solidarity expectations. In the 2016 data, however, VS-Max had a significant negative effect on both dependent variables; in other words, the higher the VS score of the most victim-sensitive member of a particular village, the less did members of that village expect solidarity behavior from other villagers and the less they showed solidary behavior toward other villagers themselves. Solidarity behavior was highly correlated with solidarity expectations in both waves (2012: $r = .68$, $p < .001$; 2016: $r = .63$, $p < .001$). In addition, multilevel mediation analyses (conducted with M*plus* v8; Muthén & Muthén, 1998–2017; see also Christ et al., 2017; Zhang et al., 2009) suggest that, in 2016, VS-Max had a significant indirect effect on solidarity behavior via solidarity expectations ($B = -2.72$, $SE(B) = .50$, $p < .01$), while the direct effect of VS-Max on solidarity behavior was no longer significant after solidarity expectations had been controlled for ($B = -.05$, $SE(B) = .61$, $p = .94$; total effect: $B = -2.76$, $SE(B) = .91$, $p = .002$).

These findings are consistent with the idea that—especially in times of crisis—even one highly victim-sensitive group member can have a detrimental effect of solidarity within the entire group. That said, we cannot be sure whether the stronger effect of VS-Max on solidarity in 2016 compared to 2012 is causally due to the crises our participants were facing. We will discuss this potential limitation of our study in detail in the General Discussion.

3 | STUDY 2: IN-GROUP IDENTIFICATION AND TASK ENJOYMENT BUFFER THE EFFECT OF VS-MAX ON GROUP COOPERATION

Study 2 was designed to replicate the effect of VS-Max on group members' willingness to cooperate with each other in a more strongly controlled lab experiment. In this study, participants were invited (independently) into the lab and randomly assigned into groups of three. Cooperation was operationalized as participants' individual contributions in a public goods game—a standard measure of cooperation in behavioral economics (e.g., Allison & Messick, 1990; Van Dijk & Wilke, 1995). Before participants completed the public goods game individually, they spent some time working on a group task together. After that, task enjoyment and in-group identification were measured. This was done to test the hypothesized buffering effect of these two group-level factors on the (presumably detrimental) effect of VS-Max on group cooperation (Haslam et al., 2004; Haslam & Reicher, 2006; Karau & Williams, 1997).

3.1 | Methods

3.1.1 | Participants

This study took place in a German university-supported research lab. Students who are interested in participating in studies that are running in the lab can sign up for the participant pool and are informed about upcoming studies via email. Based on an *a priori* power analysis (detecting a medium-size interaction effect of $f^2 = .15$ with a power of .80 would require a sample size of 55 groups in an ordinary least squares regression analysis conducted at the group-level without taking the multilevel structure of the data into account), we aimed for 55 groups × 3 members per group = 165 participants. Within the 2 weeks in which the lab was available to us, 144 participants could be recruited, who were assigned to a total of 48 groups. Mean age was 26.41 ($SD = 9.53$, range 18–70), and 61.8% were female.

3.1.2 | Procedure

Participants arrived at the lab and registered with the lab manager. Next, they were randomly assigned a participant number and given a standing card with their participant number written on it. They were

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[1]We also ran a model in which "wave" was included as a moderator (coded Wave 2/2016 = 0 and Wave 1/2012 = 1). Mirroring the results reported in Table 3, we found a significant effect of VS-Max ($p = .03$), but no significant moderating effect of wave ($p = .13$). It should be noted, however, that this model violates the assumption of independent errors given that more than half of the participants took part in both waves of the study.

instructed to keep this card with them for the duration of the session. Once the session began, all participants were first given a consent form to read and sign. Next, they were given tablet computers to complete online survey materials (see below: *Phase 1*). When they were finished, the experimenter directed participants into rooms according to their participant number so that there were two novel groups of three in two separate rooms. Groups were given printed instructions for the group task and the experimenter asked each group if they had any questions before they began working on an enjoyable puzzle task (see below: *Phase 2*). The experimenter stopped the group work after 20 min regardless of how many puzzles participants had completed.

Next, participants completed measures about the group work and their perceptions of their group members (see below: *Phase 3*). To do so, participants had their number cards visible on the table in order to facilitate the anonymous identification of other group members. Next, participants read the instructions for a public goods game on the tablet. When they finished reading the instructions, participants were given a response sheet for the public goods game (see below: *Phase 4*). Finally, the experimenter calculated the payoff and reported this information to the lab manager. The participants were then dismissed one at a time to collect their reward from the lab manager; later, they received an email with a full debriefing.

3.1.3 | Measures

Phase 1: Survey measures
The measures participants completed before the start of the experiment were: Age, gender, major, semester, nationality, mother tongue, a 10-item *Victim Sensitivity* scale (Schmitt et al., 2010; $\alpha = .790$), and the Big-Five trait scales *Openness* ($\alpha = .751$), *Neuroticism* ($\alpha = .715$), *Conscientiousness* ($\alpha = .679$), *Extraversion* ($\alpha = .828$), and *Agreeableness* ($\alpha = .581$) taken from the German short version (Rammstedt & John, 2005) of the Big-Five Inventory (John et al., 1991). Response scales ranged between 0 ("do not agree at all") to 5 ("agree completely").

Phase 2: Puzzle task
The task was to solve a total of eight group puzzles that were adapted from www.escape-team.com. This site provides printable materials and an accompanying app, which gave feedback if the answer was correct. Participants could not move on to subsequent puzzles without entering the correct five-digit answer code which was the solution to the puzzle. Groups worked on this task for exactly 20 min, and they solved between 1 and 5 puzzles during that time ($M = 1.92$, $SD = 1.21$).

Phase 3: Group perceptions
After the puzzle phase participants first gave their impressions about working with their group as a whole on 6-point Likert scales ranging from 0 ("do not agree at all") to 5 ("agree completely"): *Task*

Enjoyment, eight items developed specifically for the purpose of the present study (e.g., "I enjoyed the group work." $\alpha = .93$), and *In-Group Identification,* eight items put together from other established measures, including the single-item measure of identification proposed by Postmes et al. (2013) as well as items from Leach et al.'s (2008) self-investment scale (e.g., "I feel solidarity with my group." $\alpha = .93$).

Phase 4: Public goods game
The main dependent variable here was participants' behavior in the public goods game. The public goods game we used was with continuous contributions and without a threshold. Participants were told they had 10 points (i.e., initial endowment, with 3 points worth 1 €) and asked how many points they wished to contribute to the group pot. Any points contributed to the pot were multiplied by 2 and the pot would be divided evenly between the three members in the group. Any points not in the pot were kept by the participant. The range for possible outcomes for payout was 6.66 points (if a participant put in their whole pot and neither of the other players contributed anything) to 20 points (if everyone contributed all of their points to the pot). Therefore, from this part of the experiment, participants could earn between 2.20 and 6.60 € (rounded to full decimals).

3.2 | Results and discussion

3.2.1 | Empty models

Given the nested structure of the data (participants nested in groups), multilevel modeling was employed to analyze the data and test our hypotheses. First, intercept-only ("empty") models were run to estimate the amount of variance in contribution on each level. The largest amount of variance was due to differences between participants within groups (94%), while 6% of the variance was due to differences between groups.

3.2.2 | Hypothesis tests

We predicted that VS-Max decreases an individual's contribution to the public good, and that this effect is attenuated by task enjoyment and in-group identification. This hypothesis also implies multilevel modeling. Therefore, within-group VS (centered around the group mean) was added as a covariate in order to properly estimate the hypothesized contextual effect (Snijders & Bosker, 2011). Three models were specified, one without any moderator variable (Model 1), one including the moderator *Task Enjoyment* (Model 2), and one including the moderator *In-Group Identification* (Model 3). In its random part, each model includes level-2 random intercepts, random slopes (of within-group VS), the covariance between intercepts and slopes, and a level-1 error term. Model parameters were estimated via Maximum Likelihood; effects based on directional hypotheses

TABLE 3 Estimated model parameters for multilevel models (Study 2)

	Model 1	Model 2	Model 3
Fixed effects			
Intercept	11.16	47.44	34.23
VS-Max (Level-2)	−.72[†]	−9.05*	−6.25*
VS within groups (Level-1)	−.01	−.03	−.06
Moderator Level-2[a]		−7.39*	−6.79[†]
Moderator Level-1[a]		.15	−.003
VS-Max × Level-2 Moderator		1.70*	1.63[†]
Random coefficients			
Level-2 random intercept variance	.68	.41	.45
Level-2 random slope variance	2.31	2.22	2.23
Level-2 intercept-slope covariance	1.08	.83	[b]
Level-1 error variance	5.38**	5.39**	5.40**

[a]In Model 2, the moderator was task enjoyment. In Model 3, the moderator was in-group identification.

[b]This parameter could not be estimated due to a lack of convergence; thus, it was fixed to 0.

[†]$p < .10$; *$p < .05$; **$p < .01$ (two-tailed).

will be interpreted on the basis of one-tailed tests. The results are displayed in Table 3.

In line with our theorizing, both task enjoyment (one-tailed 95% CI [.42, +∞]) and in-group identification (one-tailed 95% CI [.16, +∞]) moderated the effect of VS-Max on cooperation. These two interaction effects are graphically displayed in Figure 1. Looking at the simple effects, VS-Max only reduced cooperation when collective task enjoyment ($B = −1.96$, $SE(B) = .69$, $p = .004$) and/or collective in-group identification ($B = −1.30$, $SE(B) = .58$, $p = .03$) were low (i.e., 1 SD below the grand mean), but not when they were high (i.e., 1 SD above the grand mean; task enjoyment: $B = .15$, $SE(B) = .54$, $p = .79$; in-group identification: $B = .56$, $SE(B) = .80$, $p = .42$).

To scrutinize the specific effect of VS (over and above broader personality traits such as the "Big Five;" Digman, 1990) more strictly, we re-ran our models by including the "big five" as covariates on the individual-level. In Model 1 (without any moderator variables; see Table 3), we found significant negative effects of conscientiousness ($B = −.75$; $SE(B) = .30$; $p = .01$) and extraversion ($B = −.48$; $SE(B) = .23$; $p = .04$) on cooperation in the public goods game, but, importantly, the main effect of VS-Max still remained significant and even became stronger ($B = −.90$, $SE(B) = .42$; $p = .04$) after controlling for these traits. Also, the interaction effect between VS-Max and task enjoyment in Model 2 ($B = 1.55$, $SE(B) = .76$; $p = .05$) and the marginal interaction effect between VS-Max and in-group identification in Model 3 ($B = 1.56$, $SE(B) = .85$; $p = .07$) were unaffected by including the "Big Five" into the respective models. This suggests that the effect of VS that we found here is indeed specific and cannot be reduced to the effects of broader personality traits.

4 | GENERAL DISCUSSION

In two studies, we found that the most victim-sensitive member in a group—in other words, the "VS-Max" score of a group—can reduce solidarity and cooperation within the group, especially in times of crisis (Study 1). Task enjoyment and in-group identification, however, can buffer this effect (Study 2). The victim sensitivity of a single individual can, thus, affect an entire group's outcomes, a finding that is not only theoretically, but also practically relevant, and that may inspire future research looking at the complex inter- and interpersonal effects that personality traits (such as VS) can have on group outcomes—a field that has been growing over the last 25 years (e.g., Barrick et al., 1998; Driskell, Salas, & Driskell, 2018; Kozlowski & Chao, 2018; Kramer et al., 2014; Ostermeier et al., 2020).

Both studies used diverse methodological approaches and samples, which can be regarded both an asset and a problem. Study 1 sampled participants from 30 villages in the Philippines at two measurement occasions: before (2012) and during (2016) a time of societal challenges, both ecologically (i.e., before and after a major Typhoon hit many of these villages) and politically (i.e., before and after the election of a tough-on-crime leader). The results show that VS-Max negatively predicted participants' solidarity in a standardized economic game during, but not before these societal challenges occurred. Although this finding is consistent with our reasoning that VS-Max has a stronger detrimental effect in times of crisis, it is important to note that we can only *assume* that 2016 was more of a "time-of-crisis" year in the Philippines than 2012. Many other factors might be responsible for the different results found in 2016 versus 2012, so the empirical evidence obtained in Study 1 must be considered preliminary. Also, regarding the second issue, we do not know exactly which social and/or cognitive processes underlie the effect of VS-Max on solidarity in 2016. Thus, more direct evidence is needed to test the idea that in times of crisis, the virus of distrust spreads more easily and decreases group members' willingness to help each other.

Study 2 was conducted in a more strongly controlled setting: participants were assigned randomly into groups in the lab, and in a first phase, these groups worked together on a puzzle task. This task allowed them to experience their groupness and to establish a level of mutual trust and, more importantly, a sense of in-group identification. Afterward, we measured each group members' willingness to contribute to the group (i.e., their cooperation) in a public goods game. Again, in line with our theorizing, we found a detrimental effect of the most victim-sensitive group member's VS score on cooperation, unless the group enjoyed their task and/or identified strongly with their group. This finding suggests that task enjoyment and in-group identification can buffer the detrimental effect of having a highly victim-sensitive member in the group. Of course, from the data obtained in Study 2, we cannot specify which aspects of the group work in Phase 1 (i.e., the puzzle task) contributed to a shared sense of task enjoyment or made participants identify with their group, but due to our random assignment of participants into groups, we can eliminate the possibility that such identification processes
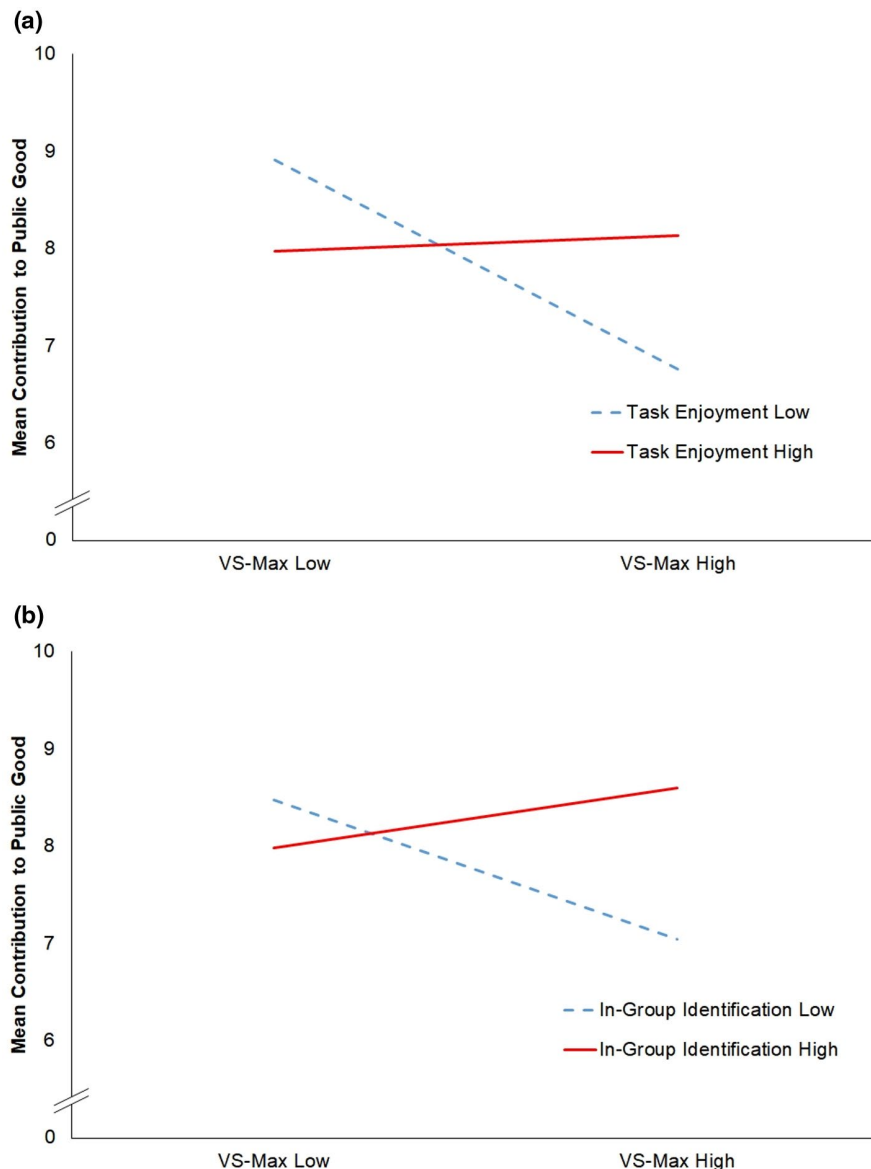
(a)

(b)

FIGURE 1   Effect of VS-Max on cooperation moderated by (a) task enjoyment (upper panel) and (b) in-group identification (lower panel) (Study 2)

were simply due to a better knowledge of each other or a shared group history.

It is important to repeat that, based on our findings and the methodology of both studies, we cannot pinpoint the exact inter- or intrapersonal processes underlying the effect of VS-Max on solidarity and cooperation in groups. Our hypothesis was based on the idea that victim-sensitive individuals are strongly motivated to avoid being duped (Gollwitzer & Rothmund, 2009; Gollwitzer et al., 2013), and that this avoidance motivation is picked up by the other group members, either because it is verbally or non-verbally communicated or manifests behaviorally in uncooperative behavior ("pre-emptive selfishness"), thus producing a self-fulfilling prophecy (Gollwitzer et al., 2015). In other words, the latent distrust harbored by victim-sensitive individuals is like a "virus" that spreads quickly in a group and contributes to a collapse of mutual trust and, when negative interdependence is strong, also to cooperation. Future research should elaborate on this "virus" analogy and the specific inter- and intrapersonal processes underlying this effect.

One specific idea could be to investigate communicative processes in groups. Based on the idea that negative interdependence amplifies the effect of mutual trust on cooperation (Balliet & Van Lange, 2013), victim-sensitive group members may exert a greater communicative influence in such negative interdependence situations. In situations characterized by less negative (or maybe even positive) interdependence, in contrast, victim-sensitive group members may have a weaker social influence on others. Here, it is easier for groups to create a climate of social acceptance and procedural justice (Tyler & Lind, 1992) than to anxiously assess each other's commitment and trustworthiness.

4.1 | Limitations and open questions

Victim sensitivity—the central predictor variable in this research— was always measured, never manipulated in any of our studies. This is, of course, justifiable given that VS represents a personality trait

(Schmitt et al., 2005, 2010), but from an experimentalist's perspective, one might wonder whether we can make any causal claims with our research. Indeed, we believe that we can. First, it is very implausible to assume a reverse causal effect, that is, that participants' solidarity (Study 1) or cooperation (Study 2) causally influenced their VS. Second, in both studies, we showed that—under certain circumstances—the VS score of the most victim-sensitive group member impacts the entire groups' solidarity and cooperation. Again, given the random assignment procedure, the effect of VS-Max on solidarity or cooperation is unlikely to be confounded by contextual factors. Third, by measuring the "Big Five" in Study 2, we were able to rule out that the effect of VS-Max can be reduced to the effects of broader personality traits. Thus, taken together, the risk that our findings might not reflect causal effects of VS-Max on group outcomes can be considered relatively small.

That said, future research might well try to test this causal effect more rigidly by attempting to manipulate or amplify VS experimentally. Some studies suggest that this is doable: For instance, Süssenbach and Gollwitzer (2015; Study 2) and Süssenbach et al. (2016; Study 2) manipulated the risk of being exploited experimentally and showed that victim-sensitive individuals reacted more strongly to such a manipulation than victim-insensitive individuals. Such a manipulation could be used in future studies to test the hypothesis that VS-Max causally affects group outcomes more rigidly.

Related to this issue, it is important to see that neither of the moderator variables investigated in the present studies (time of crisis in Study 1; task enjoyment and in-group identification in Study 2) was experimentally manipulated here. This is definitely a limitation of the present research. Future research should (a) define the conditions amplifying or alleviating an effect of VS-Max on solidarity or cooperation within the group more specifically and (b) manipulate the respective moderator variables experimentally. For instance, groups could be artificially put into a challenging situation—similar to the challenges we discussed in the context of Study 1—by installing a tough, abusive (vs. generous, supportive) group leader or by confronting the group with aversive, but uncontrollable events in the course of their group work. Likewise, task enjoyment could be experimentally manipulated using either an objectively enjoyable (vs. tedious) task in the forming phase of the group. In sum, future research should use stronger experimental designs and larger samples to illuminate the effect of VS-Max on solidarity and cooperation in groups as well as the processes underlying this effect more strictly. Stronger studies with potent manipulations of boundary conditions should also result in effect sizes that are larger than the ones we observed in the two studies presented here.

It should also be noted that the list of boundary conditions that we investigated here is far from exhaustive. Other boundary conditions of the effect of VS-Max on group outcomes are conceivable and should be systematically investigated by future research. For instance, group size, group homo- versus heterogeneity, physical proximity between group members, the possibility to interact with group members, tight versus loose group roles, the presence of a group leader, leadership styles, etc. may moderate the effect of VS-Max on group outcomes. In addition, culture, organizational climate, and other macro-level factors may play an important role. Importantly, the present research draws attention to the possibility that a single personality trait of a single individual deteriorates group functioning and group outcomes. Future research in personality and social psychology may thrive from a better understanding of which personality factors are likely to act virus-like in groups and which personality factors and/or situational factors vaccinate against that influence. With regard to a virus-like influence, the "dark triad" traits (Paulhus & Williams, 2002) are likely candidates as having one person in a group with high values on either narcissism, Machiavellianism, or psychopathy could be considered a breeding ground for negative group dynamics.

4.2 | Conclusion

Trust and cooperation in groups are difficult to maintain when group members anxiously expect others to exploit them. Here, we showed for the first time that even one single victim-sensitive member of a group can reduce solidarity and cooperation within the group under certain circumstances. Establishing this empirical knowledge is important for basic as well as for applied research. Basic research needs to elucidate the specific inter- and intrapersonal processes underlying the effect of group-level VS on solidarity and cooperation. Applied research should use this knowledge to develop effective intervention strategies to reduce the detrimental effects of victim sensitivity in groups in order to facilitate a climate of trust and to maximize a collective willingness to help and cooperate with each other.

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REFERENCES
Allison, S. T., & Messick, D. M. (1990). Social decision heuristics in the use of shared resources. *Journal of Behavioral Decision Making*, *3*, 195–204. https://doi.org/10.1002/bdm.3960030304
Balliet, D., & Van Lange, P. A. M. (2013). Trust, conflict, and cooperation: A meta-analysis. *Psychological Bulletin*, *139*, 1090–1112. https://doi.org/10.1037/a0030939

Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, *83*, 377–391. https://doi.org/10.1037/0021-9010.83.3.377

Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology*, *77*, 135–149. https://doi.org/10.1037/0022-3514.77.1.135

Christ, O., Hewstone, M., Schmid, K., Green, E. G. T., Sarrasin, O., Gollwitzer, M., & Wagner, U. (2017). Advanced multilevel modeling for a science of groups: A short primer on multilevel structural equation modeling. *Group Dynamics: Theory, Research, and Practice*, *21*, 121–134. https://doi.org/10.1037/gdn0000065

Deutsch, M. (1958). Trust and suspicion. *Journal of Conflict Resolution*, *2*, 265–279. https://doi.org/10.1177/002200275800200401

Deutsch, M. (1973). *The resolution of conflict*. Yale University Press.

Digman, J. M. (1990). Personality structure: Emergence of the five factor model. *Annual Review of Psychology*, *41*, 417–440. https://doi.org/10.1146/annurev.ps.41.020190.002221

Driskell, J. E., Salas, E., & Driskell, T. (2018). Foundations of teamwork and cooperation. *American Psychologist*, *73*, 334–358. https://doi.org/10.1037/amp0000241

Enders, C. K. (2013). Centering predictors and contextual effects. In M. A. Scott, J. S. Simonoff, & B. D. Marx (Eds.), *The SAGE handbook of multilevel modeling* (pp. 89–108). Sage. https://doi.org/10.4135/9781446247600.n6

Enders, C. K., & Tofighi, D. (2007). Centering predictor variables in cross-sectional multilevel models: A new look at an old issue. *Psychological Methods*, *12*, 121–138. https://doi.org/10.1037/1082-989X.12.2.121

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*, 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Fehr, E., & Gächter, S. (2000). Cooperation and punishment in public goods experiments. *American Economic Review*, *90*, 890–994. http://www.jstor.org/stable/117319

Gerlach, T. M., Allemand, M., Agroskin, D., & Denissen, J. J. A. (2012). Justice sensitivity and forgiveness in close interpersonal relationships: The mediating role of mistrustful, legitimizing, and pro-relationship cognitions. *Journal of Personality*, *80*, 1373–1413. https://doi.org/10.1111/j.1467-6494.2012.00762.x

Gollwitzer, M., & Rothmund, T. (2009). When the need to trust results in unethical behavior: The Sensitivity to Mean Intentions (SeMI) Model. In D. De Cremer (Ed.), *Psychological perspectives on ethical behavior and decision making* (pp. 135–152). Information Age.

Gollwitzer, M., & Rothmund, T. (2011). What exactly are victim-sensitive persons sensitive to? *Journal of Research in Personality*, *45*, 448–455. https://doi.org/10.1016/j.jrp.2011.05.003

Gollwitzer, M., Rothmund, T., Alt, B., & Jekel, M. (2012). Victim sensitivity and the accuracy of social perceptions. *Personality and Social Psychology Bulletin*, *38*, 975–984. https://doi.org/10.1177/0146167212440887

Gollwitzer, M., Rothmund, T., Pfeiffer, A., & Ensenbach, C. (2009). Why and when justice sensitivity leads to pro- and antisocial behavior. *Journal of Research in Personality*, *43*, 999–1005. https://doi.org/10.1016/j.jrp.2009.07.003

Gollwitzer, M., Rothmund, T., & Süssenbach, P. (2013). The Sensitivity to Mean Intentions (SeMI) model: Basic assumptions, recent findings, and potential avenues for future research. *Social and Personality Psychology Compass*, *7*, 415–426. https://doi.org/10.1111/spc3.12041

Gollwitzer, M., Schmitt, M., Schalke, R., Maes, J., & Baer, A. (2005). Asymmetrical effects of justice sensitivity perspectives on prosocial and antisocial behavior. *Social Justice Research*, *18*, 183–201. https://doi.org/10.1007/s11211-005-7368-1

Gollwitzer, M., Süssenbach, P., & Hannuschke, M. (2015). Victimization experiences and the stabilization of victim sensitivity. *Frontiers in Psychology*, *6*, 439. https://doi.org/10.3389/fpsyg.2015.00439

Haslam, S. A., Jetten, J., O'Brien, A., & Jacobs, E. (2004). Social identity, social influence, and reactions to potentially stressful tasks: Support for the self-categorization model of stress. *Stress and Health*, *20*, 3–9. https://doi.org/10.1002/smi.995

Haslam, S. A., O'Brien, A., Jetten, J., Vormedal, K., & Penna, S. (2005). Taking the strain: Social identity, social support, and the experience of stress. *British Journal of Social Psychology*, *44*, 355–370. https://doi.org/10.1348/014466605X37468

Haslam, S. A., & Reicher, S. (2006). Stressing the group: Social identity and the unfolding dynamics of responses to stress. *Journal of Applied Psychology*, *91*, 1037–1052. https://doi.org/10.1037/0021-9010.91.5.1037

Jackson, J. M., & Harkins, S. G. (1985). Equity in effort: An explanation of the social loafing effect. *Journal of Personality and Social Psychology*, *49*, 1199–1206. https://doi.org/10.1037/0022-3514.49.5.1199

Jetten, J., Haslam, C., & Haslam, S. A. (Eds.) (2012). *The social cure: Identity, health and well-being*. Psychology Press.

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). *The Big Five Inventory—Versions 4a and 5*. University of California, Berkeley, Institute of Personality and Social Research.

Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, *23*, 531–546. https://doi.org/10.5465/amr.1998.926625

Karau, S. J., & Williams, K. D. (1993). Social loafing: A meta-analytic review and theoretical integration. *Journal of Personality and Social Psychology*, *65*, 681–706. https://doi.org/10.1037/0022-3514.65.4.681

Karau, S. J., & Williams, K. D. (1997). The effects of group cohesiveness on social loafing and social compensation. *Group Dynamics: Theory, Research, and Practice*, *1*, 156–168. https://doi.org/10.1037/1089-2699.1.2.156

Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. Wiley.

Kerr, N. L. (1983). Motivation losses in small groups: A social dilemma analysis. *Journal of Personality and Social Psychology*, *45*, 819–828. https://doi.org/10.1037/0022-3514.45.4.819

Kerr, N. L. (2001). Motivation gains in performance groups: Aspects and prospects. In J. P. Forgas, K. D. Williams, & L. Wheeler (Eds.), *The social mind: Cognitive and motivational aspects of interpersonal behavior* (pp. 350–370). Cambridge University Press.

Kozlowski, S. W. J., & Chao, G. T. (2018). Unpacking team process dynamics and emergent phenomena: Challenges, conceptual advances, and innovative methods. *American Psychologist*, *73*, 576–592. https://doi.org/10.1037/amp0000245

Kramer, A., Bhave, D. P., & Johnson, T. D. (2014). Personality and group performance: The importance of personality composition and work tasks. *Personality and Individual Differences*, *58*, 132–137. https://doi.org/10.1016/j.paid.2013.10.019

Kramer, R. M. (1994). The sinister attribution error: Paranoid cognition and collective distrust in organizations. *Motivation and Emotion*, *18*, 199–230. https://doi.org/10.1007/BF02249399

Kramer, R. M. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual Review of Psychology*, *50*, 569–598. https://doi.org/10.1146/annurev.psych.50.1.569

Kreft, I. G. G., de Leeuw, J., & Aiken, L. S. (1995). The effect of different forms of centering in hierarchical linear models. *Multivariate Behavioral Research*, *30*, 1–21. https://doi.org/10.1207/s15327906mbr3001_1

Leach, C. W., van Zomeren, M., Zebel, S., Vliek, M. L. W., Pennekamp, S. F., Doosje, B., Ouwerkerk, J. W., & Spears, R. (2008). Group-level self-definition and self-investment: A hierarchical (multicomponent) model of in-group identification. *Journal of Personality and Social Psychology*, *95*, 144–165. https://doi.org/10.1037/0022-3514.95.1.144

Lewicki, R. J., & Bunker, B. B. (1996). Developing and maintaining trust in work relationships. In R. M. Kramer & T. R. Tyler (Eds.), *Trust in organizations: Frontiers of theory and research* (pp. 114–139). Sage.

Maltese, S., Baumert, A., Schmitt, M., & MacLeod, C. (2016). How victim sensitivity leads to uncooperative behavior via expectancies of injustice. *Frontiers in Psychology*, *6*, 2059. https://doi.org/10.3389/fpsyg.2015.02059

Muthén, L. K., & Muthén, B. O. (1998–2017). *Mplus user's guide* (8th ed.). Muthén & Muthén.

Ockenfels, A., & Weimann, J. (1999). Types and patterns: An experimental East-West-German comparison of cooperation and solidarity. *Journal of Public Economics*, *71*, 275–287. https://doi.org/10.1016/S0047-2727(98)00072-3

Ostermeier, K., Davis, M., & Pavur, R. (2020). Personality configurations in teams: A comparison of compilation and composition models. *Team Performance Management*, *26*, 227–246. https://doi.org/10.1108/TPM-09-2019-0097

Paulhus, D. L., & Williams, K. M. (2002). The Dark Triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, *36*, 556–563. https://doi.org/10.1016/S0092-6566(02)00505-6

Postmes, T., Haslam, S. A., & Jans, L. (2013). A single-item measure of social identification: Reliability, validity, and utility. *British Journal of Social Psychology*, *52*, 597–617. https://doi.org/10.1111/bjso.12006

Rammstedt, B., & John, O. P. (2005). Kurzversion des Big Five Inventory (BFI-K) [Short Version of the Big Five Inventory (BFI-K)]. *Diagnostica*, *51*, 195–206. https://doi.org/10.1026/0012-1924.51.4.195

Rothmund, T., Stavrova, O., & Schlösser, T. (2017). Justice concerns can feed nationalistic concerns and impede solidarity in the Euro crisis: How victim sensitivity translates into political attitudes. *Social Justice Research*, *30*, 48–71. https://doi.org/10.1007/s11211-017-0280-7

Schmitt, M., Baumert, A., Gollwitzer, M., & Maes, J. (2010). The Justice Sensitivity Inventory: Factorial validity, location in the personality facet space, demographic pattern, and normative data. *Social Justice Research*, *23*, 211–238. https://doi.org/10.1007/s11211-010-0115-2

Schmitt, M., Gollwitzer, M., Maes, J., & Arbach, D. (2005). Justice sensitivity: Assessment and location in the personality space. *European Journal of Psychological Assessment*, *21*, 202–211. https://doi.org/10.1027/1015-5759.21.3.202

Selten, R., & Ockenfels, A. (1998). An experimental solidarity game. *Journal of Economic Behavior & Organization*, *34*, 517–539. https://doi.org/10.1016/S0167-2681(97)00107-8

Sitkin, S. B., & Roth, N. L. (1993). Explaining the limited effectiveness of legalistic "remedies" for trust/distrust. *Organization Science*, *4*, 367–392. https://doi.org/10.1287/orsc.4.3.367

Snijders, T. A. B., & Bosker, R. J. (2011). *Multilevel analysis* (2nd ed.). Sage.

Süssenbach, P., & Gollwitzer, M. (2015). Us (ed): The role of victim sensitivity in potentially exploitative intergroup relationships. *Group Processes & Intergroup Relations*, *18*(2), 241–255. https://doi.org/10.1177/1368430214556700

Süssenbach, P., Gollwitzer, M., Mieth, L., Buchner, A., & Bell, R. (2016). Trustworthy tricksters: Violating a negative social expectation affects source memory and person perception when fear of exploitation is high. *Frontiers in Psychology*, *7*, 2037. https://doi.org/10.3389/fpsyg.2016.02037

Tuckman, B. W. (1965). Development sequence in small groups. *Psychological Bulletin*, *63*, 384–399. https://doi.org/10.1037/h0022100

Tyler, T. R., & Lind, E. A. (1992). A relational model of authority in groups. *Advances in Experimental Social Psychology*, *25*, 115–192. https://doi.org/10.1016/S0065-2601(08)60283-X

Van Dijk, E., & Wilke, H. (1995). Coordination rules in asymmetric social dilemmas: A comparison between public good dilemmas and resource dilemmas. *Journal of Experimental Social Psychology*, *31*, 1–27. https://doi.org/10.1006/jesp.1995.1001

Vohs, K. D., Baumeister, R. F., & Chin, J. (2007). Feeling duped: Emotional, motivational, and cognitive aspects of being exploited by others. *Review of General Psychology*, *11*, 127–141. https://doi.org/10.1037/1089-2680.11.2.127

Vollan, B. (2019). The shadow of the future and the shadow of the past: Studying the impact of climate change on human behaviour. *Research Ideas and Outcomes*, *5*, e34451. https://doi.org/10.3897/rio.5.e34451

Williams, K. D., Harkins, S. G., & Latané, B. (1981). Identifiability as a deterrent to social loafing: Two cheering experiments. *Journal of Personality and Social Psychology*, *40*, 303–311. https://doi.org/10.1037/0022-3514.40.2.303

Williams, K. D., & Karau, S. J. (1991). Social loafing and social compensation: The effects of expectations of co-worker performance. *Journal of Personality and Social Psychology*, *61*, 570–581. https://doi.org/10.1037/0022-3514.61.4.570

Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, *12*, 695–719. https://doi.org/10.1177/1094428108327450