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Leader self-sacrifice and leadership effectiveness: The moderating role of leader self-confidence[☆]

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Abstract

The present research examined how self-sacrificial leadership predicts leadership effectiveness as a function of leader's display of self-confidence. Results from a scenario experiment, a laboratory experiment, and a cross-sectional survey yielded consistent evidence that the effects of both leadership elements are stronger in conjunction than on their own. Moreover, the experimental studies also showed that the interactive effect on leadership effectiveness was mediated by collective identification. It is concluded that more research is needed focusing on the interactions between different leadership behaviors and the psychological processes underlying these effects.

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Introduction

Effective leadership plays an important role in influencing employees' willingness to exert themselves on the job and to cooperate towards collective goals. Indeed, "leadership involves persuading other people to set aside for a period of time their individual concerns and to pursue a common goal that is important for the responsibilities and welfare of a group" (Hogan, Curby, & Hogan, 1994, p. 493). Theories of charismatic and transformational leadership in particular have highlighted the importance of leadership being able to elicit favorable leadership perceptions, willingness to cooperate with the leader towards collective goals, and personal involvement in the job (e.g., Bass, 1985; Burns, 1978; Conger & Kanungo, 1987; House, 1977; Shamir, House, & Arthur, 1993). Because organizations are dependent on the willingness of their employees to cooperate towards collective goals and to get personally involved in the job (cf. Katz, 1964; Smith, Carroll, & Ashford, 1995),

leadership may thus play a key role in organizational effectiveness. Accordingly, identifying leader's abilities to promote positive attitudes and behavior towards the job and the organization may be of great importance to the effective functioning of organizations (Dirks & Ferrin, 2002; Yukl, 1998). In the present study, we focus on the interactive effects of leader self-sacrifice and leader's display of self-confidence, two behaviors that may be considered exemplars of the kinds of behavior that have been advanced as effective in theories of charismatic and transformational leadership.

The effectiveness of leader self-sacrifice has recently attracted increasing attention from leadership researchers (e.g., Choi & Mai-Dalton, 1998, 1999; De Cremer, 2002; Yorges, Weiss, & Strickland, 1999), but to date relatively little is known about the potential moderators and mediators of the effects of leader self-sacrifice, and especially the possibility that the effectiveness of leader self-sacrifice may be contingent on other aspects of the leader's behavior has hardly received any attention. To address these issues, in the present study we tested the moderating effect of leader's display of self-confidence on the effects of self-sacrifice in a scenario experiment, a laboratory experiment, and a cross-sectional survey. In addition, we studied the role of collective identification as a mediating variable

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in the relationship between this interactive effect and leadership effectiveness.

Self-sacrifice and leadership effectiveness

Self-sacrifice indicates a person's willingness "to suffer the loss of types of things to maintain personal beliefs and values" (Yorges et al., 1999, p. 428), and has been noted to be a behavior observed among great leaders (Burns, 1978; cf. Conger & Kanungo, 1987). Through its extraordinary and unusual nature, and because it communicates the leader's commitment to the collective and its plight, leader self-sacrifice may elicit favorable leadership perceptions, including perceptions of charisma (Choi & Mai-Dalton, 1998, 1999; Conger & Kanungo, 1987; De Cremer, 2002; De Cremer & van Knippenberg, 2002; Shamir et al., 1993). Moreover, self-sacrifice is proposed to be related to criteria of leadership effectiveness such as follower organizational citizenship behavior and prosocial behavior (Choi & Mai-Dalton, 1998). The concept of self-sacrifice indicates that the leader is willing to incur personal costs (or run the risk of such costs) to serve the goals and mission of the group or organization (Conger & Kanungo, 1987; Shamir et al., 1993). If a leader is perceived to be self-sacrificing, perceptions of effectiveness and charisma, and cooperation are positively influenced (Choi & Mai-Dalton, 1999; Yorges et al., 1999). For example, Yorges et al. (1999) demonstrated that participants exposed to a self-sacrificing leader (vs. a self-benefiting leader) contributed more money to a charity fund. In a similar vein, Choi and Mai-Dalton (1999) showed that followers were most willing to reciprocate the behavior of a self-sacrificial leader, De Cremer (2002) showed that a self-sacrificial leader (vs. a self-benefiting leader) was more effective in motivating cooperative behavior in a public good dilemma, and van Knippenberg and van Knippenberg (in press) showed that leader self-sacrifice (vs. no self-sacrifice) motivated higher task performance.

Thus, these findings clearly suggest that self-sacrificial leadership is positively related to criteria of leadership effectiveness. One important psychological explanation for the fact that a self-sacrificial leader is able to motivate followers to go beyond their self-interest and to look to the welfare of the collective is that a self-sacrificing leader links followers' sense of identity to the organization and its mission and goals (cf. Lord, Brown, & Freiberg, 1999; Shamir et al., 1993). Leader self-sacrifice in pursuit of collective goals directs attention towards the collective and its goals and demonstrates the leader's commitment to the collective (Hogg & van Knippenberg, 2003; van Knippenberg & Hogg, 2003; van Knippenberg & van Knippenberg, in press). By exhibiting self-sacrificial behavior on behalf of the collective, the leader may thus identify the collective as a valued group, worthy of individuals' dedicated efforts. Both the

salience of the collective identity and the suggestion that the collective is worthy of one's dedicated effort may promote identification with the collective among followers (Hogg & Abrams, 1988). By fostering collective identification, a self-sacrificing leader may thus shift the emphasis from the pursuit of solely the own interests to the pursuit of group or organizational interests—an argument that aligns well with analyses of organizational effectiveness and cooperation that accord an important role to identification and collective-oriented motivations (e.g., Ashforth & Mael, 1989; De Cremer & van Dijk, 2002; Dutton, Dukerich, & Harquail, 1994; Tyler, 1999; van Knippenberg, 2000).

Corroborating this line of reasoning, De Cremer and van Knippenberg (2002) found that collective identification mediated the interactive effect of leader self-sacrifice and procedural fairness on cooperative behavior. Following this line of reasoning, we adopt the expectation that leader behavior that enhances, or attenuates, the effects of self-sacrifice on follower identification will moderate the effectiveness of leader self-sacrifice. Thus, this expectation implies that such moderating leader behavior variables will interact with self-sacrifice in influencing both mediating variables such as collective identification and dependent variables such as cooperation. We propose that leader's display of self-confidence is such a behavior.¹

Leader display of self-confidence as a moderator

It is widely acknowledged that the effectiveness of specific leadership styles or behavior may be contingent on a host of personal, situational, and organizational characteristics (for reviews, see e.g., Bass, 1985; Yukl, 1998). When it comes to the effectiveness of self-sacrifice and other leader behaviors that are proposed to be aspects of charismatic and transformational leadership, however, the possibility that the effectiveness of a particular leadership behavior may be contingent on other aspects of the leader's behavior has received far less attention (De Cremer & van Knippenberg, 2002;

¹ Identification is not the only mediating process proposed between leader self-sacrifice or other aspects of charismatic and transformational leadership. Yorges et al. (1999) suggested that attributions mediate the effects of self-sacrifice, and studies of other charismatic and transformational behaviors focused on self-efficacy (Shea & Howell, 1999), goal-setting (Kirkpatrick & Locke, 1996), and trust (Podsakoff, MacKenzie, Moorman, & Fetter, 1990). The present focus on identification follows directly from De Cremer and van Knippenberg (2002) who suggested that different aspects of leadership may interact in affecting identification and therefore in affecting leadership effectiveness. Moreover, the mediating role of identification seems to represent the greatest communality between theories of charismatic leadership (e.g., Conger, Kanungo, & Menon, 2000; Shamir et al., 1993). The bottom line, however, is that the present focus on identification is not to deny the potential role of other mediating processes.

Kirkpatrick & Locke, 1996). In an attempt to break new ground for research in leadership effectiveness, in particular in the effectiveness of leader self-sacrifice, the present study therefore focuses on the hypothesis that the effectiveness of leader self-sacrifice is contingent on another aspect of the leader's behavior that has been proposed to be important to a leader's effectiveness, that is, leader's display of self-confidence (note that our analysis concerns public display of confidence as a leader *behavior* rather than confidence as an intrapersonal quality; cf. Conger & Kanungo, 1987).

Leader display of self-confidence has been identified in a number of theoretical analyses of charismatic leadership as an important factor in leadership effectiveness, and as an antecedent of attributions of charisma (e.g., Conger & Kanungo, 1987; House, 1977; Shamir et al., 1993), and observations from the field seem to corroborate this analysis (Conger, 1989; Khurana, 2002). By communicating the expectation of success, leader self-confidence may render the leader more attractive and charismatic, and motivate involvement in the job (cf. Bandura, 1986; Vroom, 1964). A leader's display of self-confidence may thus feed into the leader's effectiveness. There is, however, not only reason to expect that displays of self-confidence render a leader more effective, but also that the display of self-confidence enhances the relationship between leader self-sacrifice and follower identification.

Leaders' display of self-confidence in pursuit of collective goals communicates the likelihood or expectation of collective success. Group or organizational success is one of the main antecedents of collective identification (Ashforth & Mael, 1989; Dutton et al., 1994; Hogg & Abrams, 1988). Moreover, the impact of the perception that the collective is worthy of one's dedication (e.g., as a result of leader self-sacrifice) is enhanced by this message of expected collective success, because people typically do not only need to value a cause but also need to believe in its attainability to commit themselves to it (Hollenbeck & Klein, 1987; van Knippenberg, 2000). As such, these beliefs of collective value and expected collective success parallel the concept of valence and expectancy, respectively, in expectancy theory (Vroom, 1964), and, in addition, extend the logic of this theory to the process of motivating followers to be committed to a leader's cause. Thus, by complementing the message of the value of the collective and its goals with the expectation of collective success, leader's display of self-confidence may enhance the effect of leader self-sacrifice on collective identification, and consequently on leadership effectiveness as is evident in leadership perceptions, willingness to cooperate with the leader towards collective goals, and followers' involvement in the job. In other words, if either the value (self-sacrifice) or expectancy (self-confidence) is low, motivation to follow a leader's cause is dramatically undercut, and if both components are high, motivation is substantially

enhanced, thus leading to an expected interaction (multiplicative relationships) between these components.

The present research

In sum then, we predict that leader self-sacrifice and leader self-confidence interact in determining leadership effectiveness and perceptions of charisma² such that the effects of self-sacrifice and self-confidence are stronger in conjunction than on their own. Although the main focus of the present study was on this interaction effect, we also included hypotheses about the main effects of self-sacrifice and self-confidence, because there is only limited experimental evidence for the effects of self-sacrifice (De Cremer, 2002; De Cremer & van Knippenberg, 2002; van Knippenberg & van Knippenberg, in press; Yorges et al., 1999) and to our knowledge no experimental evidence pertaining to the effects of self-confidence. Testing these main effects is therefore valuable.

Hypothesis 1. Leader self-sacrifice is positively related to leadership effectiveness and perceptions of charisma.

Hypothesis 2. Leader self-confidence is positively related to leadership effectiveness and perceptions of charisma.

Hypothesis 3. Leader self-sacrifice and self-confidence interact, such that the effects of self-sacrifice on leadership effectiveness and perceptions of charisma are stronger when self-confidence is high rather than low.

Leadership research has been criticized for establishing relationships between leader behavior and effectiveness criteria without providing evidence of the process through which these effects come about (Hunt, 1999; Yukl, 1999). An important feature of the present study, then, is that it also focused on the process mediating the effects of leader self-sacrifice and self-confidence. As may be clear from the above, theoretical as well as empirical (i.e., De Cremer & van Knippenberg, 2002) considerations tie the interactive effect of leader self-sacrifice and display of self-confidence to follower identification (cf. Conger & Kanungo, 1998; Conger et al., 2000; Kark, Shamir, & Chen, 2003; Shamir et al., 1993; Shamir, Zakay, Breinin, & Popper, 1998; van Knippenberg & Hogg, 2003). We therefore, propose that collective identification mediates the interactive effect of

²Note that theories of charismatic leadership propose that charismatic leadership *behavior* is positively related to leadership effectiveness, but not that *perceptions* of charisma fulfill a causal role in leadership effectiveness (cf. Bass, 1985; Conger & Kanungo, 1987; Shamir et al., 1993). Perceptions of charisma are therefore conceptualized here as a result of leader self-sacrifice and self-confidence correlated with leadership effectiveness rather than as having a causal relationship with leadership effectiveness.

self-sacrifice and self-confidence on leadership effectiveness and perceptions of charisma.

Hypothesis 4. Leader self-sacrifice and self-confidence interact, such that the effects of self-sacrifice on collective identification are stronger when self-confidence is high rather than low.

Hypothesis 5. Collective identification mediates the interactive effect of leader self-sacrifice and self-confidence on leadership effectiveness and perceptions of charisma.

Evidence for causality in the relationship between leadership and effectiveness criteria is scarce. Given that reverse causality often provides a plausible alternative explanation for observed relationships between leadership and effectiveness criteria (i.e., perceived leader effectiveness leading to more charismatic leader ratings; cf. Kirkpatrick & Locke, 1996), the scarcity of experimental research is an important impediment to the development of leadership theories (Yukl, 1999). Accordingly, our hypotheses should preferably (also) be tested in controlled experiments. However, this leaves open the question of whether the same processes may be observed in actual organizations. Therefore, we tested our main hypotheses in three different types of studies: A scenario experiment (Study 1), a laboratory experiment (Study 2), and a cross-sectional survey assessing perceptions of leadership in organizations (Study 3).

Both the scenario experiment and the lab experiment allowed us to draw conclusions concerning causality. They complemented each other in that the scenario experiment allowed us to maintain a higher degree of mundane realism than the lab experiment, whereas the lab experiment in contrast to the scenario allowed us to study people that were actually immersed in the leadership situation (i.e., yielding higher experimental realism). The field study provided a test of whether the interaction between leader self-sacrifice and leader self-confidence may also be obtained in a study of the perceptions of leadership in actual organizations. This combination of methods allowed us to benefit from the strengths of each method, and to compensate for the weaknesses of each method with the strengths of the other methods (Dipboye, 1990; cf. De Cremer & van Knippenberg, 2002). To further establish the robustness of the predicted interaction, each study focused on a different operationalization of leadership effectiveness following from our conceptualization of leadership effectiveness as the ability to engender positive perceptions of the leader, elicit the willingness to cooperate towards collective goals, and to involve followers in the job: Overall ratings of leadership effectiveness (Study 1), follower willingness to cooperate with the leader (Study 2), and follower job involvement (Study 3). In addition, both experimental studies were

designed to provide a test of the mediational role of collective identification.

Study 1

Method

Participants and design

Seventy-seven undergraduate students at a Dutch university participated voluntarily and were paid 10 Dutch Guilders (approximately 4 US dollars). They were randomly assigned to a 2 (self-sacrifice: High vs. low) \times 2 (self-confidence: High vs. low) between-subjects factorial design.

Procedure

After participating in an unrelated laboratory study, participants were asked to fill out a paper-and-pencil test. This test constituted the scenario study. Participants were asked to imagine that they personally had experienced the situation as described in the scenario. Then, participants started reading the scenario.³

The scenario first described the company “Micro-electronics,” which is a company that produces and distributes computers. The company is considered to be one of the best in the world, as witnessed in their steady growth during the last 20 years. Some time ago, the company learnt that the government wishes to reduce research funding to computer companies if they do not succeed in producing good research. If this reduction in funding would happen, many jobs would get lost. Thus, this governmental decision may have severe financial consequences.

Then, the manipulation of self-sacrifice was introduced (based on previous research of Choi & Maidalton, 1999; De Cremer, 2002; Yorges et al., 1999). In the *self-sacrifice* condition, the scenario said:

Eric Stuart, the boss of Micro-electronics has decided to respond to this possible decision in the following way. He has reduced his salary to the level of the salary of an average employee and he will not receive any bonuses or legal benefits. Also, he decides to stop using the special lounges and associated benefits for all the executives. This rescue operation will take so much of his time that he will have to spend less time with his family. Because of this he will have to delay the surprise holiday he wanted to give to his wife to celebrate their wedding anniversary. Finally, due to lack of time he will face a difficult task to maintain his image as researcher and company manager in the computer industry.

In the *self-benefiting* condition, the scenario said:

Eric Stuart, the boss of Micro-electronics has decided to respond to this possible decision in the following way. Because

³ All three studies were in Dutch, and material presented from these studies is translated from the Dutch.

he will have to take precautionary measures, he has decided to take 10% of the company budget to fund his personal costs. By taking all these measures and the heavy workload, Eric Stuart will meet many new investors and receive a lot of attention from other interesting companies. Due to this attention, he argues that he does not need to invest extra time in this rescue operation and does not need to attend workshops that can help him in dealing with this possible company crisis. In addition, he knows that from the many contacts he gets during this process, he will be able to obtain personal benefits. Taken together, his position as a researcher and company manager will remain strong, and knowing this, he is very motivated to obtain all the personal benefits possible.

Thereafter, participants read that to clarify the crisis situation, Eric Stuart, decides to mail a memo to all the employees, in which he asks everyone to support one another and to do their best to help the company.

Then, the self-confidence manipulation was introduced. In the *high self-confidence* condition, participants read:

The employees have the impression that Eric Stuart does have a lot of self-confidence. Despite the many efforts required, people notice that he really believes in his mission and that he is convinced that everything will work out really well.

In the *low self-confidence* condition, participants read:

The employees have the impression that Eric Stuart does not have a lot of self-confidence. Despite his efforts, people notice that he has doubts about his mission and that he is not really convinced that everything will work out really well.

Dependent measures

Manipulation checks

To test whether the manipulation of self-sacrificing vs. benefiting behavior was successful, we asked participants “To what extent does Eric Stuart show self-sacrificing behavior?” and “To what extent does Eric Stuart show self-benefiting behavior?” To test whether our self-confidence manipulation was successful, participants were asked “To what extent does Eric Stuart have confidence in himself?”

Perceptions of charisma

To assess perceptions of leader charisma, 18 items from the Conger and Kanungo (1998) charisma scale were used (e.g., “This leader has the respect of others” and “This leader has a vision that motivates everyone”; Cronbach’s $\alpha = .93$).

Collective identification

To assess participants’ level of identification with the company, they were asked two items: To what extent do you “consider yourself as a part of this company?” and “experience pride as a member of this company?” These items were combined to form one average score (Cronbach’s $\alpha = .86$).

Leadership effectiveness

To assess perceived leadership effectiveness, participants were asked two questions (taken from Rice, Instone, & Adams, 1984): How effective do you consider Eric Stuart to be “in fulfilling his leadership tasks?” and “in comparison to what you would normally expect from a leader?.” These items were combined to form one average score (Cronbach’s $\alpha = .79$).

Results

Intercorrelations of the measures

Calculation of intercorrelations showed that leadership effectiveness correlated with collective identification, $r = .34$, $p < .005$, and perceptions of charisma, $r = .47$, $p < .001$, and collective identification with perceptions of charisma, $r = .45$, $p < .001$. These correlations thus show that the constructs under inquiry here can be perceived as correlated, but not highly similar to one another, and therefore exhibited adequate discriminant validity.

Manipulation checks

A 2 (self-sacrifice) \times 2 (self-confidence) ANOVA of the sacrificing question yielded a significant main effect for self-sacrifice, $F(1, 73) = 283.40$, $p < .001$, $\eta^2 = .79$, indicating that the self-sacrificing leader was evaluated as more sacrificing than the benefiting leader ($M_s = 6.30$ vs. 2.18 , $SD_s = 0.83$ and 1.24 ; respectively). Neither the main effect of self-confidence, $F(1, 73) < 1$, nor the interaction, $F(1, 73) < 1$, were significant.

A 2×2 ANOVA of the benefiting question yielded a significant main effect for self-sacrifice, $F(1, 73) = 131.19$, $p < .001$, $\eta^2 = .64$, indicating that the benefiting leader was evaluated as more benefiting than the self-sacrificing leader ($M_s = 5.92$ vs. 2.53 , $SD_s = 0.81$ and 1.61 ; respectively). Neither the main effect of self-confidence, $F(1, 73) < 1$, nor the interaction, $F(1, 73) < 1$, were significant.

A 2×2 ANOVA of the check on the self-confidence manipulation question yielded a significant main effect for self-confidence, $F(1, 73) = 36.71$, $p < .001$, $\eta^2 = .33$, indicating that the high self-confident leader was evaluated as more self-confident than the low self-confident leader ($M_s = 5.61$ vs. 3.84 , $SD_s = 1.19$ and 1.40 ; respectively). Also a main effect of self-sacrifice was found, $F(1, 73) = 4.51$, $p < .05$, $\eta^2 = .05$. A sacrificing leader was perceived to be more self-confident than a self-benefiting leader ($M_s = 5.04$ vs. 4.42 , $SD_s = 1.48$ and 1.60 ; respectively). Most likely, the specific wording of the question may have elicited thoughts that leaders who self-sacrifice probably have great confidence in their abilities; a relationship that has been acknowledged in the charisma literature (Conger & Kanungo, 1998). The interaction was not significant, $F(1, 73) < 1$.

Leadership effectiveness

A 2×2 ANOVA on the average effectiveness score revealed a significant main effect of self-sacrifice (Hypothesis 1), $F(1, 73) = 19.88$, $p < .001$, $\eta^2 = .21$, showing that participants considered a self-sacrificing leader to be more effective than a benefiting leader ($M_s = 4.39$ vs. 3.25 , $SD_s = 1.34$ and 1.09 ; respectively). Also, a significant main effect of self-confidence was found (Hypothesis 2), $F(1, 73) = 11.54$, $p = .001$, $\eta^2 = .13$: Leaders high in self-confidence were evaluated as more effective than leaders low in self-confidence ($M_s = 4.25$ vs. 3.38 , $SD_s = 1.54$ and 0.93 ; respectively). Finally, an interaction effect between self-sacrifice and self-confidence emerged (Hypothesis 3), $F(1, 73) = 5.14$, $p < .05$, $\eta^2 = .07$ (see Fig. 1A).

Participants in the sacrificing leader condition evaluated the leader as more effective in the high confidence

condition ($M = 5.11$, $SD = 1.18$) rather than in the low confidence condition ($M = 3.66$, $SD = 1.09$), $F(1, 73) = 16.22$, $p < .001$, whereas in the self-benefiting conditions no significant difference in leadership effectiveness was found between the high ($M = 3.39$, $SD = 1.40$) and low confidence conditions ($M = 3.10$, $SD = 0.67$), $F(1, 73) = .63$, $p < .43$. In the high confidence conditions, the difference between the self-sacrifice and self-benefiting condition was significant, $F(1, 73) = 23.53$, $p < .001$, but this was not the case in the low confidence conditions, $F(1, 73) = 2.31$, $p < .14$.

Perceptions of charisma

A 2×2 ANOVA of the average charisma score revealed a main effect of self-sacrifice (Hypothesis 1), $F(1, 73) = 68.70$, $p < .001$, $\eta^2 = .48$, showing that a self-sacrificing leader was evaluated as more charismatic

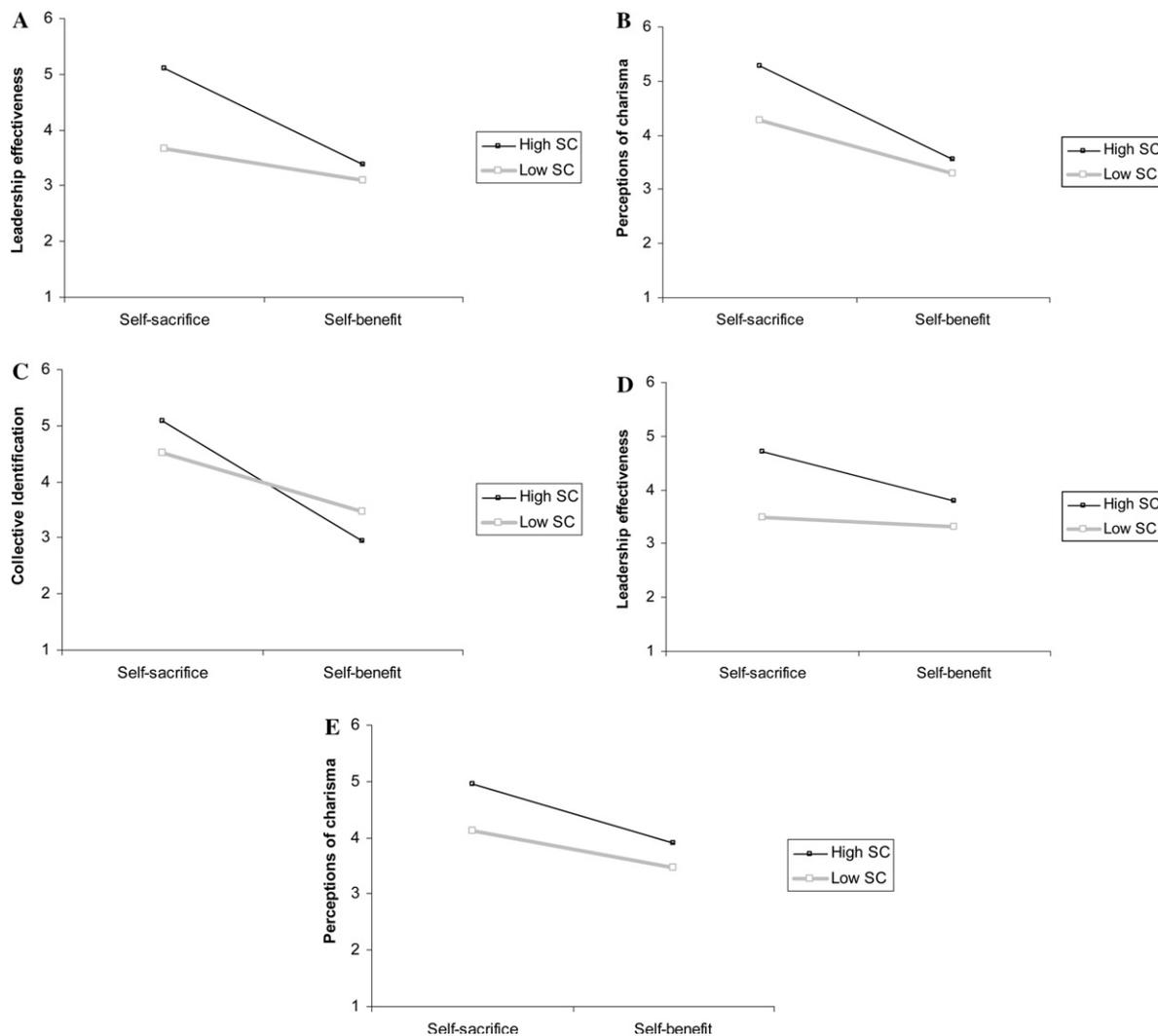


Fig. 1. (A) The relationship between self-sacrifice and leadership effectiveness as a function of self-confidence (Study 1). (B) The relationship between self-sacrifice and charisma perceptions as a function of self-confidence (Study 1). (C) The relationship between self-sacrifice and collective identification as a function of self-confidence (Study 1). (D) The relationship between self-sacrifice and leadership effectiveness as a function of self-confidence after controlling for collective identification (Study 1). (E) The relationship between self-sacrifice and charisma perceptions as a function of self-confidence after controlling for collective identification (Study 1).

than a benefiting leader ($M_s = 4.79$ vs. 3.43 , $SD_s = 0.77$ and 0.83 ; respectively). Also, a significant main effect of self-confidence was found (Hypothesis 2), $F(1, 73) = 15.20$, $p < .001$, $\eta^2 = .17$: A leader exhibiting high self-confidence was evaluated as more charismatic than a leader exhibiting low self-confidence ($M_s = 4.43$ vs. 3.79 , $SD_s = 1.16$ and 0.81 ; respectively). Finally, an interaction effect between self-sacrifice and self-confidence emerged (Hypothesis 3), $F(1, 73) = 5.34$, $p < .05$, $\eta^2 = .07$ (see Fig. 1B).

Participants in the sacrificing leader condition evaluated the leader as more charismatic in the high confidence condition ($M = 5.29$, $SD = 0.51$) rather than in the low confidence condition ($M = 4.28$, $SD = 0.64$), $F(1, 73) = 19.48$, $p = .001$, whereas in the self-benefiting conditions no significant difference in perceived charisma was found between the high ($M = 3.56$, $SD = 0.97$) and low confidence conditions ($M = 3.30$, $SD = 0.67$), $F(1, 73) = 1.25$, $p < .27$. In the high confidence conditions, the difference between the self-sacrifice and self-benefiting condition was significantly more pronounced, $F(1, 73) = 58.41$, $p < .001$, than in the low confidence conditions, $F(1, 73) = 17.21$, $p < .001$.

Collective identification

A 2×2 ANOVA on the average identification score revealed a significant main effect of self-sacrifice, $F(1, 73) = 46.79$, $p < .001$, $\eta^2 = .39$, showing that participants identified stronger with the organization when the leader exhibited self-sacrificing behavior rather than benefiting behavior ($M_s = 4.81$ vs. 3.21 , $SD_s = 1.07$ and 1.01 ; respectively). Further, an interaction effect between self-sacrificing and self-confidence emerged (Hypothesis 4), $F(1, 73) = 5.46$, $p < .05$, $\eta^2 = .07$ (see Fig. 1C).

In the high confidence conditions, the difference between the self-sacrifice ($M = 5.09$, $SD = 0.99$) and self-benefiting condition ($M = 2.94$, $SD = 1.11$) was significantly more pronounced, $F(1, 73) = 43.78$, $p < .001$, than in the low confidence conditions ($M_s = 4.52$ vs. 3.47 , $SD_s = 1.11$ and 0.85 ; respectively), $F(1, 73) = 9.77$, $p < .005$. The main effect of confidence was significant in neither the sacrificing leader condition, $F(1, 73) = 2.97$, $p < .10$, nor the self-benefiting condition, $F(1, 73) = 2.50$, $p < .12$.

Mediation analyses

To test for mediation, four steps need to be taken (see Baron & Kenny, 1986). First, the effect of the independent variable on the dependent variable has to be significant. Second, the proposed mediating variable has to influence significantly the dependent variable. Third, the independent variable has to influence significantly the mediating variable. Fourth, the effect of the independent variable on the dependent variable has to be reduced when accounting for the mediating variable. Step one and three have already been demonstrated and, there-

fore, we conducted 2×2 ANCOVAs for effectiveness and charisma, with collective identification as a covariate, to test steps two and four.

The analysis for leadership effectiveness revealed a significant main effect for the covariate, $\beta = .40$, $F(1, 72) = 9.45$, $p < .001$, showing that identification was related to leadership effectiveness. More importantly, however, and in line with Hypothesis 5 and step 4 of the mediation analysis, this analysis also revealed that the interaction between self-sacrifice and self-confidence, $F(1, 72) = 2.25$, $p = .14$ (i.e., original analysis, $F(1, 73) = 5.14$, $p < .05$), disappeared (see Fig. 1D). This reduction is significant ($z = 1.96$, $p = .05$; cf. Sobel, 1982) and suggests that the effect of leader behavior was mediated by collective identification (although the interaction was not entirely eliminated given that the two lines in Fig. 1D are not completely parallel). The main effect of self-confidence remained significant, $F(1, 72) = 12.65$, $p = .001$, and the effect of self-sacrifice became marginally significant, $F(1, 72) = 3.08$, $p < .09$, suggesting that these main effects were (partly) mediated by other variables.

For charisma perceptions, the ANCOVA showed that the regression was significant, $\beta = .43$, $F(1, 72) = 18.47$, $p < .001$, with identification being positively related to perceptions of charisma. As predicted in Hypothesis 5, the interaction between self-sacrifice and self-confidence, $F(1, 72) = 1.82$, $p < .19$ (original analysis, $F(1, 73) = 5.34$, $p < .05$), was no longer significant (see Fig. 1E). This reduction is significant ($z = 2.09$, $p < .05$) and suggests that the interactive effect of leader behavior self-sacrifice and self-confidence was mediated by collective identification. The main effects of self-sacrifice, $F(1, 72) = 20.41$, $p < .001$, and self-confidence, $F(1, 72) = 18.46$, $p < .001$, remained significant, however, suggesting that other mediating variables account for the main effects.

Discussion

Study 1 replicated earlier experimental findings that leader's self-sacrifice has a positive effect on perceptions of leadership effectiveness and leader charisma (Hypothesis 1; cf. De Cremer, 2002; De Cremer & van Knippenberg, 2002; van Knippenberg & van Knippenberg, in press; Yorges et al., 1999). Moreover, it provides the first experimental evidence that leader self-confidence affects perceptions of leadership effectiveness and leader charisma (Hypothesis 2). Of primary importance, self-sacrifice and self-confidence had stronger effects in conjunction with each other (Hypotheses 3 and 4). Also, the mediation analysis showed that this interactive effect on leadership effectiveness was mediated by collective identification (Hypothesis 5).

To our knowledge, this is the first demonstration of the interactive effect of self-sacrifice and self-confidence,

and one of the first of the interactive effects of different aspects of leader behavior (cf. De Cremer & van Knippenberg, 2002), and an important aspect of Study 1 is that it allows us to establish causality in this relationship. However, Study 1 is a scenario study and therefore Study 2 aimed to extend these findings by manipulating the two leadership elements in a controlled laboratory setting, where we created ad hoc groups doing a group task with a leader appointed to regulate and monitor the outcomes of this task. This set-up allowed for an experimental test in which, in contrast to the scenario experiment, participants were actually immersed in the leadership situation. In addition, Study 2 also aimed to replicate the findings for the mediating role of collective identification and for perceptions of charisma from Study 1, thus determining the robustness of these findings.

Study 2

Method

Participants and design

One hundred and two Dutch undergraduate students (82 women and 20 men; average age = 20.19 years, $SD = 2.65$) participated voluntarily in exchange for course credits. They were randomly assigned to a 2 (self-sacrifice) \times 2 (self-confidence) between-subjects factorial design.

Procedure

Participants arrived at the laboratory in groups of four. Each participant was seated in a separate cubicle with a personal computer. All instructions were given via the computer.

Introduction to the group task

After participating in an unrelated task, participants were told that they would perform a group task. Each group member would receive four word tasks, which each of them had to solve individually. The task was introduced as an analogical reasoning task. For each of the four trials, participants were first presented three words and were asked to think which word these three words would have in common. That is, which word would be related to the three other words? It was told that each group member would complete this task, and that all answers provided by the four group members would be combined to form a group product. To enhance feelings of commitment to the task and to the quality of leadership, we told participants that the groups that would perform best would receive a financial bonus after the experiment was finished.

After participants finished the four individual trials, they were told that to resemble real-life groups, someone would be appointed as the group leader. In addition to

other tasks, this leader would check the answers that each group member generated and would then forward the whole package to the experimenter (who would check which groups would win the financial bonus). Thereafter, participants were told that this group leader would be someone that was participating in another study (and as such was not a member of the four-person group) and who was asked to serve as the leader. It was said that this person was explained the word-task and was asked to write his or her opinion about this task and how he or she would deal with the task. This opinion (which constituted the self-sacrifice and self-confidence manipulation) was enclosed in a file that was lying next to the participant's computer. Participants were then asked to read this opinion before proceeding with the study.

Self-sacrificing vs. self-benefiting behavior manipulation

In the self-sacrificing condition, the note from the leader started with the following:

I have already read the task assignment and I wish to engage myself in this task for a full 100% (despite the fact that as a leader I also have other tasks to do). I will solve the task myself, and compare my solution with the solutions of each of you. Because it is important that we do well as a group, I will, if necessary, use extra time (and sacrifice my personal tasks) to make our group solution as perfect as possible.

In the benefiting condition, the note from the leader started with the following:

I have not read the task assignment very well and I wish to wait before I decide whether I will engage in this task for a full 100% (as the leader, I still have other tasks to do). I will not solve the task myself, but instead I will wait for your solutions. If extra time is required to make the group solution more perfect, I will not do this, because I wish to fulfill my other personal tasks very well.

Confidence manipulation

After this first paragraph, the confidence manipulation was introduced in the second paragraph of the note.

In the *high confidence* condition, the note said the following:

I have the greatest confidence that we as a group will perform really well. I love these word games and I am really good at them. I consider everything that has something to do with languages as an interesting challenge.

In the *low confidence* condition, the note said the following:

I do not have much confidence that we as a group will perform really well. I do not like these word games and I am not good at them. I consider everything that has something to do with languages as annoying and I prefer to avoid such situations.

Dependent measures

All answers were assessed on 7-point scales ranging from *not at all* (1) to *very much so* (7).

Manipulation checks

To test whether the manipulation of self-sacrificing vs. benefiting behavior was successful, we asked participants “To what extent does this leader show self-sacrificing behavior?” and “To what extent does this leader show self-benefiting behavior?”. To test whether our self-confidence manipulation was successful, participants were asked “To what extent does this leader have confidence in him/herself?”.

Perceptions of charisma

To assess perceived charisma, 11 items from the Conger and Kanungo (1998) charisma scale were used (e.g., “This leader has the respect of others” and “This leader has a vision that motivates everyone”); Cronbach’s $\alpha = .94$.

Collective identification

To assess participants’ level of identification with the task group, they were asked two questions: To what extent do you “identify with this group,” and “feel you belong to this group” (Cronbach’s $\alpha = .76$).

Cooperation

To assess participants’ willingness to cooperate (as an indicator of leadership effectiveness), four items were used: To what extent will you cooperate with this leader?, “To what extent will you support this leader?,” “To what extent does this leader motivate you to work for the benefit of the group?,” and “To what extent will the leader make this group perform well?” (Cronbach’s $\alpha = .88$).

Results

Intercorrelations of the measures

Calculation of intercorrelations showed that perceptions of charisma correlated with collective identification, $r = .33$, $p < .05$, and cooperation, $r = .59$, $p < .001$, and collective identification with cooperation, $r = .71$, $p < .001$. As in Study 1, these correlations again show that the constructs under inquiry here can be perceived as correlated, but not highly similar to one another, as such exhibiting adequate discriminant validity.

Manipulation checks

A 2 (self-sacrifice) \times 2 (self-confidence) ANOVA on the sacrificing question yielded a significant main effect for Self-sacrifice, $F(1, 98) = 413.91$, $p < .001$, $\eta^2 = .80$, indicating that the self-sacrificing leader was evaluated as more sacrificing than the benefiting leader ($M_s = 6.25$ vs. 1.92, $SD_s = 0.88$ and 1.24; respectively). Neither the main effect of self-confidence, $F(1, 98) < 1$, nor the interaction, $F(1, 98) = 1.89$, $p < .18$, were significant.

A 2-way ANOVA on the benefiting question yielded a significant main effect for self-sacrifice, $F(1, 98) = 76.87$, $p < .001$, $\eta^2 = .44$, indicating that the benefiting leader was evaluated as more benefiting than the self-sacrificing leader ($M_s = 5.46$ vs. 2.86, $SD_s = 1.50$ and 1.51; respectively). Neither the main effect of self-confidence, $F(1, 98) = 3.43$, $p < .10$, nor the interaction, $F(1, 98) < 1$, were significant.

A 2-way ANOVA on the self-confidence question yielded a significant main effect for self-confidence, $F(1, 98) = 135.90$, $p < .001$, $\eta^2 = .58$, indicating that the leader in the high self-confidence condition was evaluated as someone who had more confidence in him/herself than the leader in the low self-confidence condition ($M_s = 5.93$ vs. 2.41, $SD_s = 1.48$ and 1.59; respectively). Neither the main effect of Self-sacrifice, $F(1, 98) = 1.62$, $p < .21$, nor the interaction, $F(1, 98) = 1.43$, $p < .24$, were significant.

Cooperation

A 2-way ANOVA on participants’ cooperation score revealed significant main effects of self-sacrifice (Hypothesis 1), $F(1, 98) = 96.95$, $p < .001$, $\eta^2 = .49$, and Confidence (Hypothesis 2), $F(1, 98) = 15.73$, $p < .001$, $\eta^2 = .13$, and the predicted interaction (Hypothesis 3), $F(1, 98) = 5.77$, $p < .05$, $\eta^2 = .05$ (see Fig. 2A).

As predicted, participants in the sacrificing leader condition were more cooperative in the high confidence condition ($M = 5.03$, $SD = 1.04$) than in the low confidence condition ($M = 3.81$, $SD = 0.84$), $F(1, 98) = 20.69$, $p < .001$, whereas in the self-benefiting conditions no significant difference in cooperation was found between the high ($M = 2.69$, $SD = 0.87$) and low confidence conditions ($M = 2.39$, $SD = 1.08$), $F(1, 98) = 1.20$, $p < .28$. In the high confidence conditions, the difference between the self-sacrifice and self-benefiting condition was more pronounced, $F(1, 98) = 75.02$, $p < .001$, than in the low confidence conditions, $F(1, 98) = 27.71$, $p < .001$.

Perceptions of charisma

A 2-way ANOVA on the average charisma score revealed a main effect of self-sacrifice (Hypothesis 1), $F(1, 98) = 142.84$, $p < .001$, $\eta^2 = .59$, a main effect of self-confidence (Hypothesis 2), $F(1, 98) = 44.37$, $p < .001$, $\eta^2 = .31$, and an interaction between self-sacrifice and self-confidence (Hypothesis 3), $F(1, 98) = 17.41$, $p < .001$, $\eta^2 = .15$ (see Fig. 2B).

Participants in the sacrificing leader condition evaluated the leader as more charismatic in the high confidence condition ($M = 4.93$, $SD = 0.69$) than in the low confidence condition ($M = 3.22$, $SD = 0.75$), $F(1, 98) = 59.87$, $p < .001$, whereas in the self-benefiting conditions a marginal significant difference in perceived charisma was found between the high ($M = 2.38$, $SD = 0.76$) and low confidence conditions ($M = 1.99$, $SD = 0.95$),

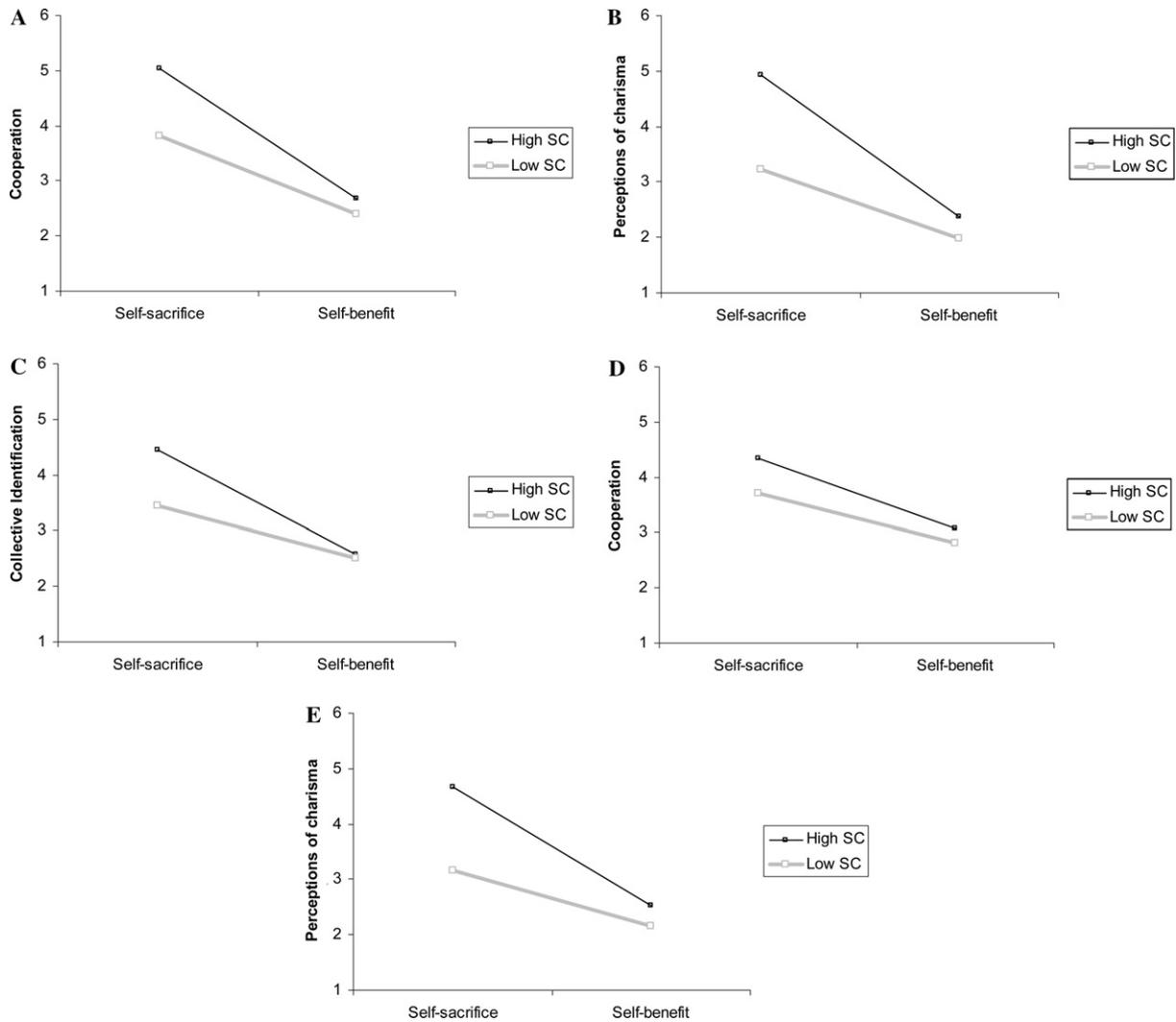


Fig. 2. (A) The relationship between self-sacrifice and cooperation as a function of self-confidence (Study 2). (B) The relationship between self-sacrifice and charisma perceptions as a function of self-confidence (Study 2). (C) The relationship between self-sacrifice and collective identification as a function of self-confidence (Study 2). (D) The relationship between self-sacrifice and cooperation as a function of self-confidence after controlling for collective identification (Study 2). (E) The relationship between self-sacrifice and charisma perceptions as a function of self-confidence after controlling for collective identification (Study 2).

$F(1, 98) = 3.04, p < .09$. In the high confidence conditions, the difference between the self-sacrifice and self-benefiting condition was significantly more pronounced, $F(1, 98) = 130.00, p < .001$, than in the low confidence conditions, $F(1, 98) = 30.25, p < .001$.

Collective identification

A 2-way ANOVA on participants' collective identification score revealed significant main effects of self-sacrifice, $F(1, 98) = 34.43, p < .001, \eta^2 = .26$, and Confidence, $F(1, 98) = 5.10, p < .05, \eta^2 = .05$, and the predicted interaction (Hypothesis 4), $F(1, 98) = 3.70, p = .05, \eta^2 = .04$ (see Fig. 2C).

As predicted, participants in the sacrificing leader condition exhibited stronger collective identification in the high confidence condition ($M = 4.44, SD = 1.39$)

rather than in the low confidence condition ($M = 3.44, SD = 1.32$), $F(1, 98) = 8.93, p < .005$, whereas in the self-benefiting conditions no significant difference in collective identification was found between the high ($M = 2.58, SD = 0.86$) and low confidence conditions ($M = 2.50, SD = 1.16$), $F(1, 98) = .05, p < .82$. In the high confidence conditions, the difference between the self-sacrifice and self-benefiting condition was significantly more pronounced, $F(1, 98) = 30.36, p < .001$, than in the low confidence conditions, $F(1, 98) = 7.77, p < .01$.

Mediation analysis

To examine whether the interaction of Self-sacrifice and Confidence on cooperation and perceptions of charisma was mediated by collective identification

(Hypothesis 5), we conducted mediation analyses. Again, we followed the four steps as described by Baron and Kenny (1986). In the preceding analyses, we already demonstrated that the effect of the independent variable on the dependent variable was significant and that the independent variable significantly influenced the mediating variable. As such, we still have to demonstrate first that the mediating variable significantly influenced the dependent variable. In line with this, a 2-way ANCOVA of the cooperation measure with collective identification as covariate indeed yielded a significant effect for the covariate, $\beta = .59$, $F(1, 97) = 104.38$, $p < .001$, indicating a positive link between collective identification and cooperation. However, what is more important and interesting (and in line with Hypothesis 5) is that the analysis showed that the interaction effect disappeared, $F(1, 97) = 2.04$, $p < .16$, as compared with $F(1, 98) = 5.77$, $p < .05$ in the original analysis (see Fig. 2D). This satisfied the fourth condition that the effect of the independent variable on the dependent variable has to be reduced when accounting for the mediating variable. Further, this reduction approached traditional significance ($z = 1.89$, $p = .058$; cf. Sobel, 1982), as such suggesting that the self-sacrifice \times self-confidence interaction on cooperation is mediated by collective identification (i.e., in Fig. 2D can also be seen that the two lines are almost parallel). The main effects of self-sacrifice, $F(1, 97) = 48.06$, $p < .001$, and self-confidence, $F(1, 97) = 10.69$, $p = .001$, remained significant, suggesting that these were mediated by other variables.

A similar analysis for perceptions of charisma yielded a significant and positive relationship between identification and charisma, $\beta = .28$, $F(1, 97) = 12.33$, $p < .001$. The interaction of self-Sacrifice and self-confidence was substantially reduced, $z = 1.79$, $p = .07$, but remained significant, $F(1, 97) = 13.37$, $p = .0001$, suggesting that in Study 2 identification only partly mediated the interactive effect on charisma. Fig. 2E displays the interactive effect on charisma after controlling for identification, showing that the interaction was indeed not eliminated given that the two lines came closer but did not completely parallel. The main effects of self-sacrifice, $F(1, 97) = 82.25$, $p < .001$ and self-confidence, $F(1, 97) = 36.95$, $p < .001$, also remained significant, suggesting that these effects were mediated by other variables.

Discussion

As in Study 1, the findings of Study 2 show that, in a controlled laboratory setting, leaders' self-sacrifice and self-confidence interact to affect cooperation with the leader. Both studies thus reveal strong causal evidence for the significant main effects of self-sacrifice and self-confidence and the interactive effect between these two

leadership behaviors. Again, the mediational analysis showed that this interactive effect was mediated by collective identification.

Even so, an obvious question is whether this interactive effect may also be observed among employees working in actual organizational settings. Study 3 was designed to address that question by distributing surveys among participants from a wide variety of organizations. In Study 3, as a measure of leadership effectiveness we assessed job involvement. Effective leaders are proposed to link the job and the organization's mission to the self-concept of employees, and thus to heighten employee involvement in the job at hand (Conger & Kanungo, 1998; Shamir et al., 1993; cf. van Knippenberg & van Schie, 2000). Accordingly, we expected Hypotheses 1–3 to be supported for job involvement as an indicator of leadership effectiveness.

Study 3

Method

Sample

Respondents were 118 MBA students in a class on organization theory, who participated voluntarily as part of a classroom illustration. Eighty percent of the respondents were male, and all were between 19 and 26 years of age. At the beginning of the class, a questionnaire assessing the study variables was administered. All respondents were employed (average tenure $M = 2.12$ years, $SD = 2.41$) and reported about their direct supervisor. As a consequence of the nature of the sample, respondents were from a wide range of organizations and fulfilled a wide variety of (mostly lower-level) tasks. More precise, most jobs were administrative, in sales, or in the service industry.

Measures

All items were in Dutch and answered on 5-point scales (1 = *disagree*, 5 = *agree*).

Self-sacrifice was assessed with five items inspired by the work of Conger and Kanungo (1998): "My supervisor is willing to make personal sacrifices in the team's interest," "My supervisor is willing to stand up for the team members' interest, even when it is at the expense of his/her own interest," "My supervisor is willing to risk his/her position, if he/she believes the goals of the team can be reached that way," "My supervisor is always among the first to sacrifice free time, privileges, or comfort if that is important for the team's mission," and "I can always count on my supervisor to help me in times of trouble, even if it is at costs to him/her."

Self-confidence was assessed with two items, “My supervisor displays a lot of self-confidence,” and “My supervisor is sure of his/her case.”

Job involvement was assessed with three items from van Knippenberg and van Schie (2000), including “I believe my job is worth investing a lot of effort,” and “I do my best to do the best job possible.”

Results

As can be seen in Table 1, the reliability estimates for our three measures and the intercorrelations between them clearly showed that items that constitute each measure were internally consistent and that the measures exhibited adequate discriminant validity.

To test our hypotheses, following Aiken and West (1991) we conducted hierarchical regression analysis. In the first step, job involvement was predicted by the main effects of self-sacrifice and self-confidence. In Step 2, the interaction term was entered. Following Aiken and West (1991), self-sacrifice and self-confidence were centered (i.e., by subtracting the mean from each score) and the interaction term was based on these centered scores. Table 2 shows the regression results. After Step 2, there was only weak evidence of the predicted main effects ($ps < .10$; cf. Hypotheses 1 and 2), but the interaction (Hypothesis 3) that was the main focus of the study was significant (see Fig. 3). Simple slopes analysis was conducted to further analyze this interaction (Aiken & West, 1991). When leader self-confidence was high (1 *SD* above the mean), leader self-sacrifice had a positive

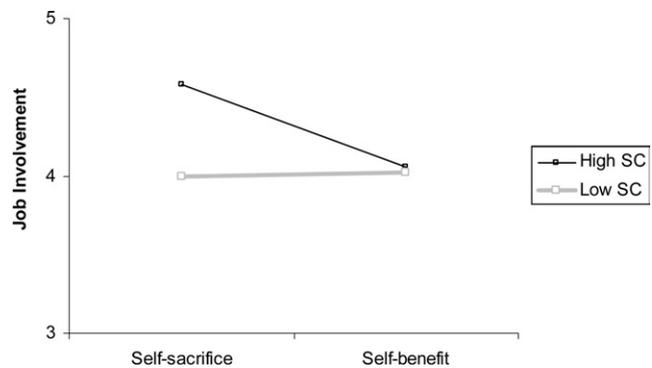


Fig. 3. The relationship between self-sacrifice and job involvement as a function of self-confidence (Study 3).

relationship with follower job involvement, $\beta = .36$, $p = .01$, whereas when leader self-confidence was low (1 *SD* below the mean), leader self-sacrifice and follower job involvement were unrelated; $\beta = -.00$, *ns.* (see Fig. 3).⁴

Discussion

The results of Study 3 show that the predicted interaction between self-sacrifice and self-confidence can also be found when tested among employees from a variety of organizations: Job involvement was strongest when the leader was evaluated as high in self-sacrifice and self-confidence. Combining the results of our survey with those of the two experimental studies provides us strong evidence for the hypotheses tested in both an external and internal valid manner.

General discussion

Self-sacrificial leadership has recently been championed as an effective form of leadership (Choi & Mair-Dalton, 1998, 1999; De Cremer, 2002; De Cremer & van Knippenberg, 2002; Yorges et al., 1999). Obviously, then, deeper insight in the conditions under which, and the mechanisms through which, self-sacrifice translates in effective leadership are crucial to our understanding of leadership effectiveness. The main findings of the present study concern the interaction between leader self-sacrifice and self-confidence. Consistent over studies, self-sacrifice and self-confidence had stronger effects in conjunction than on their own on leadership effectiveness and perceptions of charisma, and Studies 1 and 2 showed that this effect is mediated by collective iden-

Table 1
Descriptive statistics for study variables, Study 3

	<i>M</i>	<i>SD</i>	1	2	3
1. Self-sacrifice	3.18	0.90	(.84)		
2. Self-confidence	3.83	1.05	.47***	(.91)	
3. Job involvement	4.23	0.72	.25**	.21*	(.86)

Note. *N* = 115, listwise. Higher scores indicate higher self-sacrifice, etc. Entries on the diagonal are reliability coefficients.

* $p < .05$.
 ** $p = .01$.
 *** $p < .001$.

Table 2
Results of hierarchical regression analysis of job involvement on self-sacrifice and self-confidence, Study 3

	β	<i>R</i> ²	<i>R</i> ² _{change}	<i>df</i>
Step 1		.07	.07*	2, 112
Self-sacrifice	.18**			
Self-confidence	.22**			
Step 2		.11	.03*	1, 111
Sacrifice \times Confidence	.21*			

Note. *N* = 115, listwise. β s for main effects are results after Step 2.
 * $p < .05$.
 ** $p < .10$.

⁴ Because interactions in regression may reflect quadratic effects of the variables involved in the interaction, we conducted an additional analysis to test the quadratic effects of leader self-sacrifice and self-confidence. Neither effect was significant ($ts < 1$, $ps > .70$).

tification. In the following paragraphs, we discuss the implications of these findings.

In view of the growing evidence that leader self-sacrifice contributes to leadership effectiveness, it is of obvious importance to identify contingencies of the effectiveness of self-sacrificial behavior—especially because self-sacrifice is, in principle, under the leader's volitional control and insights into the working of leader self-sacrifice may thus feed relatively easily into organizational practice. For this reason alone, then, identifying leader displays of self-confidence as a moderator of the effectiveness of self-sacrificial behavior would seem valuable. The contribution of identifying leader displays of self-confidence as a moderator goes beyond this point, however. As noted in the introduction, even though leadership research is sensitive to the contingencies of leadership effectiveness, other leader behaviors have typically not been studied as moderators of the effectiveness of a particular leader behavior (Kirkpatrick & Locke, 1996). The present findings thus also point to the value of studying the interactive effects of different leader behaviors.

Of special interest in this respect is the fact that we focused on two leadership behaviors that are identified in the literature as elements of charismatic leadership (Choi & Mai-Dalton, 1998; Conger & Kanungo, 1987; House, 1977; Shamir et al., 1993; Yorges et al., 1999). Corroborating these analyses, our findings show that both leader behaviors lead to perceptions of charismatic leadership. More importantly, however, our findings show that both behaviors interact. As such, the present findings support Kirkpatrick and Locke's (1996) proposition that different aspects of charismatic leadership should interact in determining leadership effectiveness. Moreover, they provide the first evidence of such an interactive effects (Kirkpatrick & Locke, 1996, predicted an interaction, but only found main effects). Of course, based on the present findings we cannot conclude that other aspects of charismatic leadership interact as well, but the present findings do suggest that for charismatic leadership research in particular it might be worthwhile to pursue the possibility that different aspects of leader behavior interact in affecting leadership effectiveness.

Findings from Studies 1 and 2 showed that the interactive effect of leader self-sacrifice and self-confidence on leadership effectiveness and perceived charisma was mediated by follower collective identification (Hypotheses 4 and 5), although in Study 2 mediation for charisma was only partial. The finding that support for Hypothesis 5 was more conclusive for leadership effectiveness than for perceptions of charisma may be attributable to the possibility that leadership effectiveness more than perceived charisma reflects leader influence on follower motivation, and collective identification is primarily proposed to underlie leadership effectiveness through its motivational effects (van Knippenberg &

Hogg, 2003; cf. Shamir et al., 1993). These findings in support of Hypothesis 5 complement and extend the findings from De Cremer and van Knippenberg (2002), and provide support for theoretical analyses of leadership that argue for the important role of identification as mediating variable (e.g., Shamir et al., 1993; van Knippenberg & Hogg, 2003). Identifying identification as a mediating variable is important for several reasons. First, to date only a limited number of empirical studies have shown that leader behaviors are related to follower identification (Conger et al., 2000; De Cremer & van Knippenberg, 2002; Kark et al., 2003; Shamir et al., 1998), and only De Cremer and van Knippenberg and Kark et al. were able to demonstrate that identification mediated the effect of leader behavior on leadership effectiveness. The present findings thus add important new evidence for the role of identification. Second, leadership research has been criticized for providing little information about the possible mechanisms through which leader behavior influences followers (e.g., Dirks & Ferrin, 2002; Hunt, 1999; Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Yukl, 1999). The finding that collective identification mediated the interactive effect of self-sacrifice and self-confidence thus is a step forward in uncovering the processes through which leadership affects followers (see also Lord et al., 1999).

Although leadership effects on identification provide an account for the interactive effect of leader sacrifice and confidence, the main effects of leader self-sacrifice and leader self-confidence were not mediated by identification. As we noted in footnote 1, a mediating role of identification does not preclude the role of other processes in translating leader self-sacrifice and self-confidence in follower responses to leadership (cf. Shamir et al., 1993), and indeed the main effects of sacrifice and confidence appear to be attributable to other processes. Following the reasoning outlined in the introduction, we may propose that the expectation of success communicated by leader self-confidence may not only affect identification, but also follower self-efficacy and collective efficacy. Both self-efficacy and collective efficacy may be expected to enhance the motivation for the leader's cause (cf. Shamir et al., 1993; Shea & Howell, 1999), and may thus underlie the main effect of self-confidence on leadership effectiveness and perceptions of charisma. Leader self-sacrifice similarly may be linked to other possible mediators in addition to identification. van Knippenberg and van Knippenberg (in press) argued and showed that leader self-sacrifice engenders trust in the leader's group-orientedness, which may lay a basis for self-sacrifice's effect on leadership effectiveness and perceptions of charisma. Future research will have to shed more light on the merits of these propositions. In contrast to the more common practice in leadership research to focus on only one mediating variable (e.g., De Cremer & van Knippenberg, 2002; Podsakoff et al.,

1990; Shea & Howell, 1999), this would require assessing the role of multiple (potential) mediators simultaneously (e.g., Kark et al., 2003), which would seem an important step in uncovering the processes underlying the effectiveness of (charismatic) leadership. In addition, this line of reasoning highlights the fact that our findings should be regarded as evidence in support of the role of collective identification and not in denial of the role of other processes.

In this respect, it is of particular interest that our theoretical analysis suggests that leader self-sacrifice and leader self-confidence interact because they affect collective identification through slightly different routes. Self-sacrifice is proposed to affect identification because it communicates that the collective is valuable and worthy of one's dedicated efforts, self-confidence is proposed to affect identification because it communicates perceived likelihood or expectation of collective success. This suggests, then, that the interactive effect of leader self-sacrifice and self-confidence on identification and leadership effectiveness derives from self-sacrifice's influence on the perceived value of the collective and self-confidence's influence on the expected success of the collective—that is, an interaction of perceived value of the collective and perceived successfulness of the collective analogous to the interaction articulated in expectancy theory (Vroom, 1964).⁵ Accordingly, following up on the present analysis, it would seem especially worthwhile to also assess the perceived value of the collective and its goals, and the expected success of the collective as mediators of leadership's effects on follower identification in future research.

A strength of the present study is that it employed different operationalizations of leadership effectiveness, assessing leadership perceptions, willingness to cooperate with the leader towards collective goals, and involvement in the job. In doing so, it build on other studies using yet partially different operationalizations of leadership effectiveness (Choi & Mai-Dalton, 1999; De Cremer, 2002; De Cremer & van Knippenberg, 2002; van Knippenberg & van Knippenberg, in press; Yorges et al., 1999). This raises the question of how these different operationalizations relate to each other as indicators of leadership effectiveness. Starting point of our analysis of leadership effectiveness was the proposition that the essence of leadership is influencing others (Yukl, 1998), and more specifically that effective leadership in organizations entails engendering favorable perceptions of the leader, eliciting the motivation to work together with the leader towards collective goals, and influencing followers to get personally involved in the job at hand (e.g., Hogan et al., 1994). Accordingly, we aimed to assess the three elements of this conceptualization of

leadership effectiveness: favorable perceptions of leadership, willingness to cooperate with the leader, and job involvement. Previous studies of leader self-sacrifice also reflect this conceptualization of leadership effectiveness. Yorges et al. (1999) assessed contributions to a cause promoted by the leader, De Cremer (2002) and De Cremer and van Knippenberg (2002) focused on cooperation in achieving a collective good, and van Knippenberg and van Knippenberg (in press) studied performance as contribution to a group product. Moreover, all these studies showed that leader self-sacrifice elicits favorable leadership perceptions (i.e., effectiveness, charisma). Together, then, these studies yield a consistent picture of leader self-sacrifice as an effective act of leadership. The present study more specifically shows that the effectiveness of self-sacrifice is contingent on leader self-confidence, and that leader self-confidence in itself is a source of leadership effectiveness (indeed, the present study provides the first experimental evidence in this respect). Moreover, testifying to the validity of our multiple-indicators conceptualization of leadership effectiveness, the present study not only yields evidence that self-sacrifice and self-confidence have similar effects on these indicators, but also that the same psychological process (i.e., collective identification) underlies these effects (cf. De Cremer & van Knippenberg, 2002).

Even though we would advance the use of different operationalizations of leadership effectiveness as a strength of the present study, it should be noted that a limitation in this respect is that these were all non-behavioral measures. Including measures of actual behavior in future research would therefore be an important extension of the current study. Although for leader self-sacrifice related research has shown that self-sacrifice affects behavioral measures of leadership effectiveness like cooperation (De Cremer, 2002; De Cremer & van Knippenberg, 2002) and task performance (van Knippenberg & van Knippenberg, in press), for the time being the fact that we did not assess actual behavior should be regarded as a limitation to the conclusions of the present research.

Another limitation is that participants in our experimental studies had no face-to-face contact with the leader. In the scenario experiment the leader was of course hypothetical, but in the laboratory experiment too the (simulated) leader's communication was computer-mediated and written on notes. Although this may in fact be representative of a lot of acts of leadership in contemporary organizations, it should be acknowledged that our studies do not yield experimental evidence for the effectiveness of leader self-sacrifice and leader self-confidence in the face-to-face leadership that is presumably most common in most organizations. The fact that we replicated our main findings in Study 3, which surveyed responses to face-to-face leadership in on-

⁵ We are grateful to an anonymous reviewer for suggesting this underlying expectancy \times value process.

going relationships goes a long way in addressing this issue, but it should of course be acknowledged that this study was correlational in nature. It would therefore, seem important that future research provides experimental evidence for the observed relationships in face-to-face leadership situations.

A major strength of the present research is that it used a variety of research methods. Even though experiments are not conducted in a quest for external validity (Brown & Lord, 1999; Mook, 1983) and combinations of laboratory experiments and field research typically suggest that the lab and the field yield similar results (Dipboye, 1990), reports of experimental research may always elicit questions of external validity among their readership. Accordingly, an important aspect of the present study is that whereas Study 1 and especially Study 2 yielded experimental evidence with high internal validity, Study 3, for which concerns about external validity pose less of a problem, also yielded support for our hypotheses. Conversely, Study 3 might be criticized for being correlational in nature (i.e., rendering it mute in matters of causality), for relying on ratings of leader behavior, and for the fact that all variables were assessed in a single questionnaire (i.e., making common method variance a potential problem—note, however, that common method variance cannot account for interactions in regression; Evans, 1985). Yet, in combination with the experimental design of Studies 1 and 2, these concerns are less of a threat to the overall conclusions of the present research.

In sum, then, we would conclude that the present study not only demonstrates the potential to advance our understanding of leadership effectiveness, and charismatic leadership in particular, by studying the interactive effects of different (charismatic) leader behaviors, but also illustrates the added value of studying leadership using multiple methods.

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