Journal of Applied Psychology
2005, Vol. 90, No. 1, 25–37

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0021-9010/05/$12.00 DOI: 10.1037/0021-9010.90.1.25

Leader Self-Sacrifice and Leadership Effectiveness: The Moderating Role of Leader Prototypicality

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Self-sacrificing behavior of the leader and the extent to which the leader is representative of the group (i.e., group prototypical) are proposed to interact to influence leadership effectiveness. The authors expected self-sacrificing leaders to be considered more effective and to be able to push subordinates to a higher performance level than non-self-sacrificing leaders, and these effects were expected to be more pronounced for less prototypical leaders than for more prototypical leaders. The results of a laboratory experiment showed that, as expected, productivity levels, effectiveness ratings, and perceived leader group-orientedness and charisma were positively affected by leader self-sacrifice, especially when leader prototypicality was low. The main results were replicated in a scenario experiment and 2 surveys.

For decades, practitioners and scientists have been intrigued by those components of leadership that motivate people to higher levels of effort and performance. Leadership researchers studied leader traits, behavioral style, and situational contingencies to look for cues that may explain why some leaders seem more effective than others. In the past 2 decades, scientists' attention has been turned to the effects of charismatic and transformational leadership, pointing, among others, to the importance of the leader's focus on the collective (Bass, 1985; Bass & Avolio, 1993; Conger & Kanungo, 1998; Shamir, House, & Arthur, 1993). In acknowledgment of the notion that group-oriented leaders may be highly effective, the present study focuses on the effects of self-sacrificing behavior as a primary exemplar of such group-oriented behavior (Choi & Mai-Dalton, 1998; Conger & Kanungo, 1987; Shamir et al., 1993). This conceptualization of leader self-sacrifice as group-oriented behavior invites an integration of these notions from theories of charismatic and transformational leadership with the social-identity analysis of leadership in which leader group-orientedness is a core element (Hogg & van Knippenberg, 2003; van Knippenberg & Hogg, 2003). On the basis of this social-identity analysis, we argue that the characteristics of the leader as a group member play a key role in leadership effectiveness and that self-sacrifice may be especially important for leaders that are not group *prototypical* (i.e., representative of the group; Hogg, 2001) of the group they supervise. In addition to pursuing this integration of notions from theories of charismatic and transformational leadership with propositions from the social-identity analysis, a secondary aim of the study is to provide first, and causal, evidence that leader self-sacrifice may positively affect follower performance.

Self-Sacrifice and Leadership Effectiveness

Many stories about great leaders, be it political leaders, military leaders, religious leaders, or leaders of organizations, tell about the self-sacrifice the leader was willing to make for the benefit of the greater good. Clearly, people are inspired and astonished by self-sacrificing behavior of others and assign meaning and purpose to these acts. In general, it is assumed that these exceptional leaders have a profound effect on their followers and, eventually, on social systems.

Recently, leader self-sacrifice and the proposed effects of this behavior have come under the increased attention of researchers (Avolio & Locke, 2002; Choi & Mai-Dalton, 1998, 1999; de Cremer, 2002; de Cremer & van Knippenberg, 2002; Yorges, Weiss, & Strickland, 1999). Evidently, these researchers were inspired by theories of charismatic and transformational leadership (Bass, 1985; Bass & Avolio, 1993; Conger & Kanungo, 1987, 1998; House, 1977; Shamir et al., 1993). In general, transformational and charismatic leadership is considered to result in an increased sense of collective identity and common mission, higher leader effectiveness, greater levels of commitment and motivation, the willingness to make personal sacrifices, and, ultimately, heightened performance (Bass & Avolio, 1993; Lowe, Kroeck, & Sivasubramaniam, 1996; Shamir et al., 1993). Although different theories of charismatic and transformational leadership may have their own explanation for why exactly these effects on followers occur and may accentuate different aspects of leader behavior, most of them emphasize behaviors of the leader that show his or her dedication to the group and its mission (cf. Kark, Shamir, & Chen, 2003). These leaders, for instance, show their group-mindedness by making more references to the collective history, the collective identity and interest, and collective efficacy than

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Netherlands Organization for Scientific Research (NWO) is gratefully acknowledged for funding this project (MAGW, Grant 490–01–200). We thank Steven Dumpel for his help with the data collection for Study 4.

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noncharismatic and nontransformational leaders do (Shamir, Arthur, & House, 1994; Shamir et al., 1993). Moreover, these leaders have the ability to formulate a compelling vision concerning the group's ideal future, have the ability to shift group members' focus from self-interest to collective interest, and make public demonstrations of their dedication to the cause (Conger, 1999; Lowe et al., 1996; Shamir et al., 1993). Jacobson and House (2001) stated that "such demonstrations often involve significant personal sacrifice or even danger, by which the leader projects an image of courage, dedication, and commitment to the interests of the collectivity" (p. 79). Indeed, being self-sacrificial is probably one of the most direct ways for a leader to state that he or she considers the group's welfare to be important, and it also explicitly shows his or her commitment to the collective. In sum, self-sacrifice communicates the relatively unambiguous message that the leader has a progroup orientation. It is not, therefore, surprising that several researchers have suggested self-sacrifice as a typical example of charismatic and transformational leadership behavior (Bass, 1985; Choi & Mai-Dalton, 1998; Conger & Kanungo, 1987; House & Shamir, 1993; Jacobson & House, 2001).

Accordingly, several authors have proposed that the extent to which the leader engages in self-sacrificing behavior contributes to positive follower perceptions (Bass, 1985; Choi & Mai-Dalton, 1999; Conger & Kanungo, 1987; de Cremer, 2002; Shamir et al., 1993; Yorges et al., 1999). Choi and Mai-Dalton (1998) defined leader self-sacrifice as the (total or partial) abandonment and/or (permanent/temporary) postponement of personal interests, privileges, or welfare in the division of labor, the distribution of rewards, and/or the exercise of power. There are several well-known anecdotes pertaining to the self-sacrificial behavior of organizational leaders. For example, the CEO of a Dutch airline company decided on a substantial cutback in his own salary when faced with the airline company crisis after the attacks on September 11, 2001. Only then did he ask his employees to accept pay restraint and a reduction of working hours. Other well known, but more common, self-sacrificing behaviors include, for instance, a supervisor's willingness to take on a bigger part of the workload, to forgo the right to a stylish and spacious office, or to give up a day off in favor of a subordinate. The engagement in self-sacrificing behavior is often seen as extraordinary and unconventional behavior. As a consequence, leader self-sacrifice adds to followers' attribution of charisma to the leader.

Self-sacrifice seems to play an important part in group development (Prapavessis & Carron, 1992) as well. As we argued above, by making personal sacrifices, the leader clearly shows his or her focus on the group's welfare. Self-sacrifice thus not only has short-term, direct positive consequences for the group's functioning (i.e., the immediate benefits resulting from the self-sacrifice) but also has a more long-term effect in the sense that it creates the conviction among followers that the leader can be relied on to behave in a group-oriented manner in future decisions as well (van Lange et al., 1997). In this way, self-sacrifice may help build a basis for leadership effectiveness that is more stable and enduring and that goes beyond the situation in which the self-sacrifice was made.

Moreover, and perhaps more important in light of a group's chances of survival when faced with competition or crisis, leader self-sacrifice is also likely to lead to higher follower performance. The reciprocity norm prescribes that people are under the pressure to help those who have helped them. This norm may operate as a behavioral rule that is present in ongoing relationships and that helps in keeping them stable (Gouldner, 1960; Greenberg & Folger, 1983). It may also operate as an intrinsic motive that provides satisfaction by itself and that leads people to reciprocate even when it is in conflict with immediate self-interest or when the focal persons are not expecting to have an ongoing relationship with each other (de Cremer & van Lange, 2001; Fehr & Schmidt, 2001; Gallucci & Perugini, 2003; Kahneman, 2003). A leader's self-sacrificing behavior will create the pressure on followers to do as is done to them: forgo self-interest and commit oneself to the collective. A self-sacrificing leader thus clearly prescribes what kind of behavior is expected and appreciated in light of the group's common cause—or, as Mason Cooley once stated, "self-sacrifice usually contains an unspoken demand for payment" (as cited in Andrews, Biggs, & Seidel, 1996).

Although there is ample research on the relationship between charisma on the one hand and subordinate perceptions of the leader and leadership effectiveness on the other hand, most studies are correlational in nature and do not explicitly focus on self-sacrifice (Bass, 1990; Lowe et al., 1996; Shamir et al., 1993). The number of experimental tests of the effects of charismatic and transformational leadership in general is much more limited (Barling, Weber, & Kelloway, 1996; Dvir, Eden, Avolio, & Shamir, 2002; Howell & Frost, 1989; Hunt, Boal, & Dodge, 1999; Kirkpatrick & Locke, 1996; Shea & Howell, 1999), especially the ones that focus directly on effects of leader self-sacrifice (Choi & Mai-Dalton, 1999; de Cremer, 2002; de Cremer & van Knippenberg, 2002; Yorges et al., 1999). These studies revealed that a self-sacrificing leader is indeed perceived to be more charismatic than a self-benefiting leader (Yorges et al., 1999) and that leader self-sacrifice elicits stronger intentions to reciprocate the leader's behavior (Choi & Mai-Dalton, 1999), stronger feelings of group belongingness (de Cremer & van Knippenberg, 2002), stronger intentions to contribute more money to a charity fund (Yorges et al., 1999), and more cooperative behavior in a public-good dilemma (de Cremer, 2002; de Cremer & van Knippenberg, 2002).

In short, the existing theoretical considerations suggest, and the empirical evidence shows, that leader sacrifice renders followers cooperative and motivated to reciprocate. In short, leader self-sacrifice is associated with factors that determine leader effectiveness. However, ultimately, when one wants to get down to the very root of leadership effectiveness, one wants to know the effects of leaders' self-sacrifice on follower task performance. Yet, as far as we know, there are no studies that focus on the question of whether self-sacrificing leadership may indeed lead to higher follower performance. Also given the importance of insight into performance-enhancing factors for organizational practice, in the present study, we aimed to test the hypothesis that self-sacrificing leaders will be able to push subordinates to a higher performance level than nonsacrificing leaders.

When exactly is self-sacrificial leadership successful and likely to have the most impact? A partial answer to this question is rooted in the analysis of self-sacrifice as communicating the leader's dedication to the group. If self-sacrifice reveals a group-membership motive of the leader, its display would be especially important under conditions that leave followers uncertain as to whether or not the leader is committed to the group. Indeed, if leader self-sacrifice is in part effective because it communicates to

followers that the leader can be relied on to behave in a group-oriented manner, its effects should be contingent on other factors that may communicate leader group-orientedness (or, conversely, that might raise doubts about leaders' commitment to the group). The social-identity analysis of leadership suggests that the extent to which a leader is group prototypical, that is, representative of the group's identity (Hogg, 2001), is a core determinant of the extent to which the leader is trusted to be group-oriented (Hogg & van Knippenberg, 2003; van Knippenberg & Hogg, 2003). Accordingly, as we outline in the following sections, leader prototypicality may be an important moderator of the effectiveness of leader self-sacrifice.

Leader Prototypicality and Leadership Effectiveness

Leader group prototypicality is seen as an important determinant of leadership effectiveness in the social-identity analysis of leadership (Hogg, 2001; Hogg & van Knippenberg, 2003; van Knippenberg & Hogg, 2003). This analysis has its origins in theories of social identity and self-categorization (Ashforth & Mael, 1989; Hogg & Abrams, 1988; Hogg & Terry, 2000; Tajfel & Turner, 1986; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). This theoretical perspective describes how part of people's self-definition derives from their group memberships and is tied to cognitive representations of these groups in the form of prototypes (Rosch, 1978; Turner et al., 1987). These prototypes are context-specific sets that define and prescribe beliefs, attitudes, norms, values, and behavior (Hogg, 2001). The ingroup prototype is an abstract cognitive representation of "us" that draws on intergroup differences and ingroup similarity but also on group memory and on past group history (van Knippenberg & Hogg, 2003). As a function of the match between personal characteristics and group-prototypical characteristics, some group members are more prototypical than others, just like some traits, attitudes, or behavioral dispositions are more prototypical of the group than others. The more prototypical the group member, the more he or she represents the group's standards, values, and norms. Prototypical group members exemplify group normative behavior and reflect what members of the ingroup have in common and what sets them apart from relevant outgroups (Turner et al., 1987).

The social-identity analysis of leadership emphasizes that leaders not only lead groups of people but also are members of these groups: All organizational leaders are also a member of the organization, and of groups within the organization, and therefore share one or more group memberships with the people they lead. Leadership processes are thus enacted in the context of shared group membership, and leaders' characteristics as a group member may therefore play an important role in leadership effectiveness. This analysis suggests that a leader's prototypicality of the group in particular should be tied to leadership effectiveness because individuals that are more representative of the group are more influential and attractive (Hogg, 1992; van Knippenberg, Lossie, & Wilke, 1994).[1]

The proposition that leader prototypicality is a determinant of leadership effectiveness is supported by an increasing number of studies showing, for instance, that prototypical group members are more likely to emerge as leaders (Fielding & Hogg, 1997; van Knippenberg, van Knippenberg, & van Dijk, 2000) and that group-prototypical leaders are more influential and effective (Hains, Hogg, & Duck, 1997; Hogg, Hains, & Mason, 1998; Platow & van Knippenberg, 2001; Platow, van Knippenberg, Haslam, van Knippenberg, & Spears, 2002; van Knippenberg & van Knippenberg, 2003). Evidence for the importance of leader prototypicality for leader effectiveness and emergence was found in studies using different paradigms, different operationalizations of prototypicality, and different measures of leadership effectiveness. This support largely derives from experimental studies (Hains et al., 1997; Hogg et al., 1998; Platow & van Knippenberg, 2001; Platow et al., 2002) but also from a few studies in field settings (Fielding & Hogg, 1997; van Knippenberg & van Knippenberg, 2003).

The notion that group prototypicality is a basis for leadership effectiveness does by no means imply that prototypical leaders can only behave like "the average group member." The ingroup prototype describes and prescribes group-membership appropriate attributes in a specific context, with some attributes more central to the group's identity than others. The prototypical group member is thus, in fact, closer to a representation of the ideal group member than to the typical or average group member. It is therefore also possible that the prototypical leader is, for instance, rather average in some respects and exceptional or unconventional in others. Prototypicality provides leaders with more leeway in their behavior and thus positions them to effectively engage in behavior that may lead the group or organization in new directions. Being representative of the group's identity as a basis of leadership effectiveness is thus not at odds with engaging in special, unusual, or distinctive behavior; indeed, it sets the stage for effectively engaging in such behavior. In sum, displaying unusual and unconventional behavior, which is sometimes seen as a basis for leadership effectiveness (Conger & Kanungo, 1987), is perfectly consistent with maintaining (or even actively enhancing) prototypicality.

Especially relevant to the present discussion is the fact that prototypical group members are more likely to identify with the group (i.e., the high degree of representativeness is likely to reflect on an individual's self-definition) and therefore should be more likely to take the group's interest to heart. As a result, leader prototypicality and leader group-oriented behavior often go together and—especially important to the present analysis—will also be expected to go together by subordinates. Whereas nonprototypical leaders may not be considered to have the group's best interest at heart without concrete demonstrations to that end (i.e., the display of group-oriented behavior), prototypical leaders have more leeway in their behavior because their prototypicality leads their followers to have faith in the leader's disposition to be

[1] It is important to note, in order to avoid confusion, that the prototypicality concept also plays an important role in leadership-categorization theory (e.g., Lord, Foti, & DeVader, 1984; Lord & Maher, 1991). Both leadership-categorization theory and the social-identity approach base their use of the term on the work of Rosch (1978), and, in that sense, the term has identical meaning for both approaches. The important difference, however, is that in leadership-categorization theory, leader prototypicality refers to the leader's representativeness of a leader category (i.e., matching the stereotype of a leader), whereas in the social-identity analysis, leader prototypicality reflects representativeness of the work group, team, or organization that the leader is leading. Given that both uses of the concept reflect a 20-year tradition (e.g., Lord et al., 1984; Turner, 1985), it seems best to leave it at this double use of terminology.

group-oriented (cf. van Knippenberg et al., 2000). Because the group belongingness of less prototypical leaders is not so obvious, nonprototypical leaders may actually need to engage in more group-oriented behavior than prototypical leaders to be endorsed as leaders (Platow & van Knippenberg, 2001). As a result, leadership effectiveness should be more contingent on the extent to which the leader engages in group-oriented behavior for less prototypical leaders.

This analysis is congruent with classic research that shows that legitimate and respected leaders are allowed a great deal of normative leeway in groups (e.g., Sherif & Sherif, 1964) and that leaders who have earned credits in the eyes of their followers, for instance by adherence to group norms, are allowed to behave idiosyncratically and are allowed more freedom in performing nonconformative actions (e.g., Hollander, 1958, 1992). The loyalty of leaders who have not earned this credit is less evident; they should therefore be more careful in displaying nonconformative behavior and make certain to show their group-orientedness in order to be endorsed and effective as leaders.

Present Study: Leader Self-Sacrifice and Leader Prototypicality

As outlined in the above section, theories of charismatic and transformational leadership suggest that leader self-sacrifice has strong positive effects on leadership effectiveness in part because it communicates that the leader is dedicated to the collective and its goals and mission. The social-identity analysis shows that because prototypical group leaders are, in a way, the embodiment of the group, they are trusted to further the group's interest without having to display their group-orientedness (or at least to a lesser extent than nonprototypical leaders). The situation is different for less prototypical group leaders: Their group-orientedness is not expected as a consequence of their representativeness, and by making personal sacrifices for the group, they may enhance their effectiveness substantially. On the basis, then, of the integration of these notions from theories of charismatic and transformational leadership and from the social-identity analysis of leadership, we predict that leader prototypicality moderates the effects of leader self-sacrifice on leadership effectiveness, such that the effects of leader self-sacrifice are stronger for less prototypical leaders than for more prototypical leaders. Accordingly, the following hypotheses were tested in the present study:

> *Hypothesis 1:* Self-sacrificing leaders are perceived as more charismatic, more group-oriented, and more effective and motivate higher follower performance then non-self-sacrificing leaders.
>
> *Hypothesis 2:* The effects of leader self-sacrifice are stronger for less prototypical leaders than for more prototypical leaders.

These hypotheses were tested first in a laboratory experiment (Study 1). The advantage of this controlled experimental set-up is that it yields results with high internal validity that make conclusions concerning causality possible. Bringing the test of our hypotheses closer to leadership in actual organizations, but maintaining the experimental nature of this test, we also conducted a scenario experiment that allowed us to test our hypotheses experimentally with more mundane realism (Study 2). To determine whether the predicted relationships may also be observed in organizational settings, we also conducted two cross-sectional surveys (Study 3 of business students working in a wide range of organizations; Study 4 of employees of primary schools). In this way, the strengths of the one method may compensate for the weaknesses of the other (Dipboye, 1990).

Study 1

For Study 1, we adapted an experimental paradigm that has established itself in over 30 years of research as the paradigm for the experimental study of social categorization and social identity (Brewer, 1979; Brewer & Brown, 1998; Tajfel, 1982), including the role of leader prototypicality (Hains et al., 1997; Hogg et al., 1998; Platow & van Knippenberg, 2001; van Knippenberg et al., 2000) to study the effects of leader self-sacrifice and prototypicality on follower performance and perceptions of leadership effectiveness. In this paradigm, participants are allegedly assigned to a group on the basis of a criterion that is either trivial or ambiguous to ensure that groups do not exist before participating in the experiment, and participants' point of reference is formed by the experimentally controlled information they receive about the group and its members and not by prior experience with the group, connotations of the categorization criterion, and so forth.

Participants in the present study were led by a (simulated) leader who was either presented as prototypical or nonprototypical on the basis of bogus feedback about test scores of the leader and the rest of the group on a test unknown to participants (a test for brain-hemispheric dominance; cf. Platow & van Knippenberg, 2001; van Knippenberg & van Knippenberg, 2003; van Knippenberg et al., 2000). To manipulate leader self-sacrifice, we suggested that the leader did versus did not invest time and effort in the group task above and beyond other duties assigned to the leader (cf. Choi & Mai-Dalton, 1998). Participants were allegedly assigned to a group to work on an idea-generation task in which the explicit production goal was for each group member to produce as many ideas as possible as contribution to the overall group production. Accordingly, the number of ideas produced by the participant was our measure of individual performance (cf. Diehl & Stroebe, 1987, 1991).[2] In addition, we assessed perceived leadership effectiveness, leader group-orientedness, and leader charisma.

Method

Participants and Design

One-hundred seventy-four Dutch university students participated voluntarily in the study. Participants were randomly assigned to the conditions of a 2 (self-sacrificing: yes vs. no) × 2 (leader prototypicality: high vs. low) between-subjects factorial design. Mean age was 20.71 years ($SD = 3.06$), 28.2% of the participants were male, and 71.8% of the participants were female.

[2] Even though the explicit performance goal was quantity of ideas generated, one may wonder about the quality of ideas generated. Previous research using highly similar idea-generation tasks has shown that idea quality and quantity are highly correlated (in the $r = .90$ range; e.g., Diehl & Stroebe, 1991). Therefore, we opted not to analyze the quality of ideas.

Procedure

Participants were invited in small groups to take part in a study on "group decision making and leader behavior." Upon arrival in the laboratory, participants were seated in individual cubicles, each containing a computer that was used to present all of the instructions, stimuli, and questions and to register the dependent measures. Participants could not see each other and believed that their reactions were anonymous. Strengthening the suggestion of interconnectedness and upcoming group decision-making, we ensured that participants were asked to await the starting signal so that all could enter the computer-mediated experiment simultaneously.

To manipulate leader prototypicality, we first asked participants to individually complete a brain-hemisphere dominance test (adapted from the Brain Works Test from Synergistic Learning Incorporated, 1997) and then provided them with bogus feedback concerning their own and other group members' score on the hemispheric-dominance test. To make sure that possible effects would not be caused by people believing left or right hemispheric dominance is more positive (or more leader-like), we controlled for possible effects of brain dominance feedback by counterbalancing over conditions whether participants learned that their group was predominantly left- or right-hemisphere dominant. Bogus feedback about group members' test scores was given by representing each group member by a letter from A–E and presenting the position of the five group members on a scale ranging from left- to right-hemisphere dominant (participants were always assigned the letter B and received a rather group-typical score). A short clarification of the results was given, and some positive characteristics of left or right brain hemisphere dominance were provided. We then commenced with announcing the assignment of a group leader who would be asked to supervise the upcoming group task.

Participants in the *high-prototypical leader condition* were told that we opted to assign as leader the person who was most representative of the group as a whole. We stressed the fact that the leader would be the person who differed the least from the rest of the group members and who had most in common with them. We then assigned Group Member E as the group's leader, whom feedback showed to be the most prototypical group member. Participants in the *low-prototypical leader condition* were told that we opted to assign as leader the person who was least representative of the group as a whole. We now stressed the fact that the leader would be the person who differed the most from and had least in common with the other group members. We then assigned Group Member D as the group's leader, whom feedback showed to be the least prototypical group member and the only one with deviating hemispheric dominance. In reality, Group Members D and E did not exist, and the alleged leaders' communications consisted of preprogrammed messages.

As a second assignment, participants were asked to imagine that they were part of a team that had to develop a campaign for the government. The campaign was to heighten the awareness of possible individual contributions to environmental protection activities. Within the framework of the campaign, participants were to partake in an idea-generation task. In 10 min of time, participants had to produce as many ideas as possible about what they could do themselves to preserve the environment. Hence, the required task was to generate as many ideas as possible. We told participants that the leader would get the opportunity to formulate specific instructions, and a few moments later participants received the leader's message (note that this message was preprogrammed and that the leader did not exist in reality).

In the *self-sacrificing condition*, participants read the following:

> We have to come up with as many ideas as possible about what people can do themselves for a better environment. We have ten minutes time for this. I want to ask each of you to think of at least 30 ideas in those 10 minutes. I, as the leader, have gotten some other tasks as well. But I find it important to participate in this task and set a good example. I will therefore try to contribute at least 40 ideas to the group.

In the *non-self-sacrificing conditions*, participants received the following message:

> You have to come up with as many ideas as possible about what people can do themselves for a better environment. You have ten minutes time for this. I want to ask you to think of at least 30 ideas in those 10 minutes. I, as the leader, have gotten some other tasks as well. That's why I find that I don't have to perform this production task. I will therefore not generate any ideas myself.

The participants then proceeded with the idea-generation task. The *number of ideas* that each participant generated was the performance measure that served as one of our measures of leadership effectiveness (M = 21.73, SD = 8.04). After completing the group task, participants were informed about our interest in their impressions so far and their opinion about the leader specifically. Participants then filled out a questionnaire containing manipulation checks and additional measures. As a check on our prototypicality manipulation, we asked participants to indicate to what extent they considered their supervisor to be representative of the group (1 = *absolutely not representative*, 7 = *absolutely very representative*) and to what extent they thought their supervisor resembled the other group members (1 = *very little*, 7 = *very much*). The correlation between these two items (for similar measurements see Platow & van Knippenberg, 2001) was high and significant (r = .93, $p < .001$). As a check on our manipulation of self-sacrifice, we asked participants whether or not their supervisor participated in the idea-generation task (1 = *yes*, 2 = *no*). To measure perceived leadership effectiveness, we asked participants to indicate to what extent they agreed with four items, including "I put my trust in this supervisor" and "My supervisor is an excellent supervisor" (1 = *very much disagree*, 7 = *very much agree*). Cronbach's alpha revealed good internal consistency for this scale (α = .93, M = 4.00, SD = 1.51). To measure perceived charisma of the leader, we formulated questions inspired by Bass (1985) and Platow et al. (2002). This resulted in a three-item scale (α = .92, M = 3.54, SD = 1.76), with items such as "This supervisor is enthusing," and "This supervisor awakens my feelings of commitment for the group" (1 = *very much disagree*, 7 = *very much agree*). The extent to which the leader was considered to be group oriented was measured by participants' reaction to three statements (α = .95, M = 4.13, SD = 2.00), with items like "This leader exerts him/herself for the benefit of the group" (1 = *not much at all,* 7 = *very much so*).

Results

In all analyses of variance (ANOVAs), self-sacrificing (yes/no), leader prototypicality (high/low), and brain-hemispheric dominance (left/right) were factors in the design.

Manipulation Checks

An ANOVA on participants' perceptions of leader prototypicality revealed a significant main effect for leader prototypicality, $F(1, 166) = 252.39$, $p < .0001$, $\eta^2 = .60$, with the confidence interval (CI) for the difference in observed unweighted means, or CI(diff) = between −3.17 and −2.47, indicating that those in the high-prototypical leader condition perceived that the supervisor was more prototypical than those in the low-prototypical leader condition (Ms = 5.15 vs. 2.33, respectively; SDs = 1.05 vs. 1.26). No other significant effects were found.

As a testament to the success of our self-sacrificing manipulation, 95.4% of the participants picked the answer that corresponded with the condition to which they were assigned (λ = .91, $p < .0001$).

Dependent Measures

Our main dependent variables were actual performance (i.e., the number of ideas generated) and the perceptions of leadership effectiveness as measures of leadership effectiveness. In addition, we assessed perceived charisma and leader group-orientedness. We first performed a principal-components analysis with OBLIMIN rotation of the items comprising the charisma, leader group-orientedness, and perceived leadership effectiveness measures. This analysis yielded a three-factor solution, accounting for 88.6% of the variance, with all items loading above |.55| on the intended component and all items loading at least |.20| lower on the other components.

Leadership Effectiveness

Performance. An ANOVA on the number of ideas that were generated revealed a main effect of self-sacrificing, $F(1, 166) = 11.80$, $p < .001$, $\eta^2 = .07$, CI(diff) = between −6.35 and −1.71. Participants who were led by a self-sacrificing leader generated more ideas than participants who were led by a non-self-sacrificing leader (Ms = 23.76 vs. 19.65, SDs = 8.11 vs. 7.45). As expected, this effect was qualified by a Self-Sacrificing × Leader Prototypicality interaction, $F(1, 166) = 4.92$, $p < .05$, $\eta^2 = .03$, CI(diff) = between −4.92 and −.28. Planned comparisons (Rosenthal & Rosnow, 1985) showed that, in the low-prototypical leader condition, participants generated significantly more ideas when they had a self-sacrificing leader than when they had a leader who was non-self-sacrificing ($M_{\text{non-self-sacrificing}} = 18.61$ vs. $M_{\text{self-sacrificing}} = 25.27$, SDs = 7.06 vs. 8.03), $F(1, 172) = 16.65$, $p < .0001$, $\eta^2 = .09$, CI(diff) = between −9.96 and −3.42, whereas no such difference was found for participants in the high-prototypical group leader condition ($M_{\text{non-self-sacrificing}} = 20.74$ vs. $M_{\text{self-sacrificing}} = 22.19$, SDs = 7.78 vs. 7.98), $F(1, 172) = .68$, *ns*, $\eta^2 = .00$, CI(diff) = between −4.88 and −2.00.

Perceived leadership effectiveness. A main effect in the ANOVA showed that the self-sacrificing leader was perceived to perform better than the non-self-sacrificing leader ($M_{\text{non-self-sacrificing}} = 3.00$ vs. $M_{\text{self-sacrificing}} = 4.97$, SDs = 1.21 vs. 1.08), $F(1, 166) = 128.16$, $p < .0001$, $\eta^2 = .58$, CI(diff) = between −2.30 and −1.60. More important, we again found an interaction between self-sacrificing and leader prototypicality, $F(1, 166) = 5.16$, $p < .05$, $\eta^2 = .04$, CI(diff) = between −.70 and −.05, and the pattern of results resembled the pattern of results for number of ideas generated. When leaders were low prototypical, the participants regarded the self-sacrificing leader to perform better than the non-self-sacrificing leader ($M_{\text{non-self-sacrificing}} = 2.74$ vs. $M_{\text{self-sacrificing}} = 5.10$, SDs = 1.20 vs. 1.06), $F(1, 172) = 77.91$, $p < .0001$, $\eta^2 = .31$, CI(diff) = between −2.88 and −1.83. However, when the leader was high prototypical, performance evaluations varied less with leader self-sacrifice ($M_{\text{non-self-sacrificing}} = 3.27$ vs. $M_{\text{self-sacrificing}} = 4.84$, SDs = 1.18 vs. 1.10), $F(1, 172) = 26.28$, $p < .0001$, $\eta^2 = .13$, CI(diff) = between −2.17 and −0.97.

Perceived Leader Charisma

Participants who were assigned to the self-sacrificing leader condition indeed considered their supervisor to be more charismatic than participants who were assigned to the non-self-sacrificing leader condition ($M_{\text{non-self-sacrificing}} = 2.16$ vs. $M_{\text{self-sacrificing}} = 4.72$, SDs = 0.98 vs. 1.40), $F(1, 166) = 191.50$, $p < .0001$, $\eta^2 = .54$, CI(diff) = between −2.90 and −2.18. Moreover, the expected interaction between self-sacrificing and leader prototypicality emerged, $F(1, 166) = 4.09$, $p < .05$, $\eta^2 = .03$, CI(diff) = between −.73 and −.01: Self-sacrificing leaders were considered to be more charismatic than non-self-sacrificing leaders in case of leader low prototypicality ($M_{\text{non-self-sacrificing}} = 2.07$ vs. $M_{\text{self-sacrificing}} = 4.99$, SDs = 0.97 vs. 1.37), $F(1, 172) = 94.28$, $p < .0001$, $\eta^2 = .35$, CI(diff) = between −3.51 and −2.33, whereas this effect was smaller in the leader high prototypicality condition ($M_{\text{non-self-sacrificing}} = 2.26$ vs. $M_{\text{self-sacrificing}} = 4.43$, SDs = 0.99 vs. 1.39), $F(1, 172) = 39.53$, $p < .0001$, $\eta^2 = .18$, CI(diff) = between −2.86 and −1.48.

Perceived Group-Orientedness

Participants who were assigned to the self-sacrificing leader condition perceived the leader as more oriented toward group benefit than participants who were assigned to the non-self-sacrificing leader condition ($M_{\text{non-self-sacrificing}} = 2.38$ vs. $M_{\text{self-sacrificing}} = 5.85$, SDs = 1.03 vs. 0.95), $F(1, 166) = 548.63$, $p < .0001$, $\eta^2 = .77$, CI(diff) = between −3.76 and −3.18. We also found an interaction between self-sacrificing and leader prototypicality, $F(1, 166) = 8.54$, $p < .005$, $\eta^2 = .05$, CI(diff) = between −.73 and −.14, revealing that low-prototypical leaders were considered to be more group oriented when they were self-sacrificing than when they were not self-sacrificing ($M_{\text{non-self-sacrificing}} = 2.10$ vs. $M_{\text{self-sacrificing}} = 6.00$, SDs = 0.92 vs. 0.75), $F(1, 172) = 163.77$, $p < .0001$, $\eta^2 = .49$, CI(diff) = between −4.50 and −3.30, whereas this effect was less pronounced in the high-prototypical leader condition ($M_{\text{non-self-sacrificing}} = 2.67$ vs. $M_{\text{self-sacrificing}} = 5.70$, SDs = 1.03 vs. 1.10), $F(1, 172) = 67.43$, $p < .001$, $\eta^2 = .28$, CI(diff) = between −3.76 and −2.30.

Studies 2, 3, and 4

Study 1 showed that leader self-sacrifice had a positive effect on performance—the first empirical demonstration of this effect—and on perceptions of leadership effectiveness. It also showed that leader self-sacrifice was related to perceptions of charisma and group-orientedness. As expected, these effects were moderated by leader prototypicality. The effects of self-sacrifice were stronger for less prototypical leaders than for more prototypical leaders. This supports our analysis of the effectiveness of leader self-sacrifice and provides a first step in the integration of theories of charismatic and transformational leadership with the social identity analysis of leadership.

Study 2, the scenario experiment, was designed to investigate whether the effects of self-sacrifice and prototypicality on leadership effectiveness may also be observed in an experimental setting with more mundane realism. Studies 3 and 4, the correlational surveys, allowed us to study people that actually participate in organizations and to find out whether the hypothesized relationships not only can occur but also do occur in reality (e.g., Bryman, 2000; Dipboye, 1990). Owing to important time constraints in the administration of Studies 2 and 3, which were conducted in a classroom context, we could only assess our main dependent variable, (perceived) leadership effectiveness, in these studies.

Study 3 had the advantage of sampling respondents from a wide range of organizations but at the cost of control over the selection of respondents (i.e., they self-selected by attending the lecture) and having to rely on a student sample. Study 4, in contrast, drew its sample from only one organization type but could rely on nonstudent employees.

In Study 4, we were again able to assess leader charisma and leader group-orientedness in addition to leadership effectiveness. In addition, for another, less direct, measure of leader effectiveness, we assessed employee's willingness to participate in organizational-change programs. The ability to engender change and commit people to change is often seen as a key aspect of effective leadership (Yukl, 2001).

Study 2

Method

Participants and Design

Four-hundred seventy-nine Dutch business students (67% male; mean age = 20.31 years, $SD = 1.25$) participated voluntarily in the study as part of a classroom demonstration. The design was a 2 (self-sacrificing: yes vs. no) × 2 (leader prototypicality: high vs. low) between-subjects factorial design. Participants were randomly assigned to conditions (sample size per analysis may differ because of missing data).

Procedure

Before participants listened to a lecture on organization theory, a short business scenario was distributed. Participants were told that a situation in which leadership plays a role would be portrayed, that they were to imagine that they were in that particular situation, and that they were to answer the questions accordingly. Participants read that they were to envision that after they graduated, they went to work for an internationally oriented consulting agency with a very good reputation. Participants were told that this organization was widely seen as one of the best companies, if not the best company, in its field and that there was a good match between them and the company. They were to visualize that they worked in a team in close collaboration with fellow team members: The coworkers were described as people like themselves and as having the same attitude toward life and work as the participants had.

In the *low-prototypical leader condition*, participants were informed that the team leader was somewhat of an "outsider" in the team, that he was very different from other team members and that he or she had a different background, different interests, and a different attitude toward life and work than the other team members. In the *high-prototypical leader condition*, participants were informed that the team leader was very representative of the kind of persons in the team, that he was very similar to the other team members, and that he had a similar background, similar interests, and a similar attitude toward life and work as the other team members. Hereafter, participants were informed that as with all companies in industry these days, the company where they worked was faced with the consequences of the economic setbacks being experienced worldwide. To combat the consequences of these setbacks, the company's management decided to cut salary costs. It was up to each team leader to decide how to make these cuts for their team, as long as the total salary costs for each team decreased. The following paragraph described the leader's behavior as either self-sacrificial or non-self-sacrificial. As in Choi and Mai-Dalton (1999), self-sacrificial leader behavior was manipulated by adding incidents of self-sacrificial behavior to the behavior prescribed for the non-self-sacrificial leader. In the *non-self-sacrifice condition*, participants were told: "Your team leader informs your team of the need to cut salary costs. He asks all team members to accept a salary cut of 10%." In the *self-sacrifice condition*, the following sentence was added: "To protect the salary of the team members as much as possible, he has cut his own salary by 20%."

Dependent Measures

All responses were assessed on 5-point disagree–agree scales. The leader prototypicality manipulation was checked with three items ($\alpha = .94$; $M = 2.80$, $SD = 1.51$), "This team leader is a good example of the kind of people that are members of my team," "This team leader represents what is characteristic about the team," and "This team leader has a lot in common with the members of the team" (cf. Platow & van Knippenberg, 2001; van Knippenberg & van Knippenberg, 2003).

The leader self-sacrifice manipulation was checked with two items, "This team leader makes a personal sacrifice for the team," and "This team leader sacrifices salary in the team's interest" ($\alpha = .70$; $M = 3.23$, $SD = 1.20$).

Leadership effectiveness was assessed with seven items, including "This team leader is effective as a leader" and "This team leader is a good team leader" ($\alpha = .91$; $M = 3.13$, $SD = 0.85$).

Results

Manipulation Checks

An ANOVA on the check on the prototypicality manipulation indicated that the prototypical leader was rated as more prototypical ($M = 4.19$, $SD = 0.71$) than the nonprototypical leader ($M = 1.48$, $SD = 0.64$), $F(1, 468) = 1910.25$, $p < .0001$, $\eta^2 = .80$, CI(diff) = between −2.82 and −2.58. No other effects were significant.

An ANOVA on the check on the self-sacrifice manipulation showed that the self-sacrificing leader was seen as more self-sacrificing ($M = 4.06$, $SD = 0.82$) than the nonsacrificing leader ($M = 2.39$, $SD = 0.89$), $F(1, 468) = 448.90$, $p < .0001$, $\eta^2 = .49$, CI(diff) = between −1.82 and −1.52. No other effects emerged. We may thus conclude that our manipulations were successful.

Perceived Leadership Effectiveness

An ANOVA on the perceived leadership effectiveness scale yielded both significant main effects of leader self-sacrifice, $F(1, 474) = 5.35$, $p < .025$, $\eta^2 = .01$, CI(diff) = between −.33, and −.03, and leader prototypicality, $F(1, 474) = 8.53$, $p < .005$, $\eta^2 = .02$, CI(diff) = between −.38 and −.07, and a significant Sacrifice × Prototypicality interaction, $F(1, 474) = 4.35$, $p < .05$, $\eta^2 = .01$, CI(diff) = between −.31 and −.01. Self-sacrificing leaders were seen as more effective ($M = 3.22$, $SD = 0.88$) than nonsacrificing leaders ($M = 3.04$, $SD = 0.82$), and prototypical leaders were seen as more effective ($M = 3.25$, $SD = 0.85$) than nonprototypical leaders ($M = 3.02$, $SD = 0.84$). Of primary importance, the effect of self-sacrifice was only significant in the nonprototypical leader condition ($M = 3.19$ vs. $M = 2.85$, SDs = 0.84 vs. 0.82), $F(1, 474) = 9.97$, $p < .005$, $\eta^2 = .02$, CI(diff) = between −.55 and −.13, and not in the prototypical leader condition ($M = 3.25$ vs. $M = 3.24$, SDs = 0.92 vs. 0.77), $F < 1$.

Study 3

Method

Sample

Respondents were 193 business students in a course on organizational behavior, who participated voluntarily as part of a classroom demonstration. At the beginning of the course, a questionnaire assessing the study variables was administered. As a consequence of the nature of the sample, respondents were from a wide range of organizations. Sixty-seven percent of the respondents were male, mean age was 22 (SD = 2.16), and average tenure on the job was 1.6 years (SD = 1.74). All participants were employed and reported about their direct supervisor in this job.

Independent Measures

All responses were assessed on 5-point scales (1 = *disagree*, 5 = *agree*).

Leader self-sacrifice. Perceived leader self-sacrifice was assessed with five items inspired by the work of Conger and Kanungo (1998) and Choi and Mai-Dalton (1998). Items included "My supervisor is willing to stand up for the team's interest, even at the expense of his/her own interest" and "My supervisor is always among the first to sacrifice free time, privileges, or comfort if that is important for the team's mission."

Leader prototypicality. Prototypicality was assessed with five items based on the works of Platow and van Knippenberg (2001) and van Knippenberg and van Knippenberg (2003). The scale included the three items that were used in Study 2 and had two additional items.

Dependent Measure

Perceived leadership effectiveness. Effectiveness perceptions were assessed with three items similar to those used in the other studies. An example of one of the items is "My supervisor is a good supervisor."

Results

We first performed a principal-components analysis with OBLIMIN rotation of the items comprising our independent variables (i.e., self-sacrifice and prototypicality). This analysis yielded a two-factor solution, accounting for 70% of the variance, with all items loading |.70| or higher on the intended scale and all cross-loadings below |.30|. Means, standard deviations, and intercorrelations for the study variables are displayed in Table 1.

To test our hypotheses, we conducted a hierarchical regression analysis. Following Aiken and West (1991), self-sacrifice and prototypicality were centered (i.e., by subtracting the mean from each score), and the interaction term as well as the main effects were based on these centered scores. In the first step, we entered leader self-sacrifice and prototypicality, as well as tenure, which was added as a nuisance variable. In Step 2, the interaction term was entered. Table 2 shows the regression results. After Step 2, the main effects of self-sacrifice and prototypicality and the interaction were significant. As expected, both leader self-sacrifice and leader prototypicality were positively related to leadership effectiveness. To further analyze the interaction, we conducted simple slopes analysis (Aiken & West, 1991). Although self-sacrifice was significantly related to leadership effectiveness both when leader prototypicality was high (1 SD above the mean), $\beta = .40$, $p < .001$, and when leader prototypicality was low (1 SD below the mean), $\beta = .57$, $p < .001$, the relationship was more pronounced when the leader was relatively low in prototypicality.

Table 1
Means, Standard Deviations, and Intercorrelations for Study 3

Variable	M	SD	1	2	3	4
1. Self-sacrifice	3.14	0.89	(.85)			
2. Prototypicality	3.03	0.99	.51***	(.92)		
3. Tenure	1.60	1.75	.13	−.03		
4. Leadership effectiveness	3.23	1.02	.70***	.64***	.02	(.83)

Note. Coefficients alpha are displayed on the diagonal. N = 185 (listwise).
*** $p < .001$.

Study 4

Method

Sample

Respondents were 161 employees of primary schools belonging to the IJmond-North primary school district of the Netherlands. Questionnaires were sent to 512 potential respondents (response rate = 31.3%), with the instruction to either mail the completed questionnaire to the handling researcher or to leave the questionnaire at the administration desk. Sixteen percent of the respondents were male, and the mean age was 41 (SD = 10.47).

Independent Measures

All responses were assessed on 5-point scales (1 = *disagree*, 5 = *agree*).

Leader self-sacrifice. Perceived leader self-sacrifice was assessed with the same items that were used in Study 3.

Leader prototypicality. Prototypicality was assessed with six items. The items that were used in Study 3 were supplemented with an extra item in order to explicitly include the aspect that the prototypical leader exemplifies group normative behavior in the prototypicality scale. The extra added item was "This supervisor is an embodiment of our group norms."

Dependent Measures

Perceived leadership effectiveness. Effectiveness perceptions were assessed with four items, similar to the items used in the previous studies.

Willingness to engage in organizational change. For a less direct measure of leadership effectiveness, we assessed employees' willingness to participate in organizational-change programs that were to be implemented within the school district. The items were "I support plans that aim to develop this organization" and "I am willing to cooperate completely in order to implement change plans."

Perceived leader charisma. Perceived leader charisma was assessed with the same items that were used in Study 1, plus an extra added item. This item was "This supervisor is inspiring."

Perceived group-orientedness. Leader group-orientedness was assessed with four items, similar to the items used in our laboratory study. An example of an item is "My supervisor focuses first and foremost on the team's interest."

Results

We first performed a principal-components analysis with OBLIMIN rotation of the items of the predictor variables (i.e., self-sacrifice and prototypicality measures). This analysis yielded a two-factor solution, accounting for 71% of the variance, with all

Table 2
Results of Hierarchical Regression Analysis for Study 3

Predictor	b	$SE\ b$	CI Lower	CI Upper	β	ΔR^2	t
Self-sacrifice	.56	.06	.43	.68	.49	.30	8.84**
Prototypicality	.39	.06	.28	.50	.38	.11	7.06**
Tenure	.01	.02	−.05	.04	−.02	.00	−0.31
Self-Sacrifice × Prototypicality	−.10	.05	−.19	−.00	−.10	.03	−2.02*

Note. $N = 185$ (listwise). Entries are statistics for Step 2. CI lower and CI upper represent the 95% confidence intervals for the unstandardized regression coefficients. ΔR^2 is the variance explained by each predictor after the other predictors have been entered into the equation.
* $p < .05$. ** $p < .01$.

items loading above |.73| on the intended scale and all crossloadings below |.10|. A second principal-components analysis of the items of the dependent variables (i.e., effectiveness, willingness to engage in organizational change, charisma, and group-orientedness) yielded a four-factor solution, accounting for 81% of the variance, with all items loading above |.64| on the intended scale and all crossloadings below |.35|. Means, standard deviations, and intercorrelations for the study variables are displayed in Table 3.

To test our hypotheses, we conducted hierarchical regression analyses. Following Aiken and West (1991), self-sacrifice and prototypicality were centered (i.e., by subtracting the mean from each score), and the interaction term as well as the main effects were based on these centered scores. Table 4 shows the regression results for all the dependent variables. When perceived leadership effectiveness was the dependent variable, the main effects of self-sacrifice and prototypicality, as well as the interaction, were significant. As expected, both leader self-sacrifice and leader prototypicality were positively related to leadership effectiveness. To further analyze the interaction, we conducted simple slopes analyses (Aiken & West, 1991). The relationship between self-sacrifice and leadership effectiveness was more pronounced when the leader was relatively low in prototypicality (1 *SD* below the mean), $\beta = .66$, $p < .001$, as compared with when the leader was high in prototypicality (1 *SD* above the mean), $\beta = .40$, $p < .001$.

When willingness to engage in organizational change was the dependent variable, the results revealed a main effect of self-sacrifice, showing that leader self-sacrifice was positively related to leadership effectiveness. Also, we again found that the interaction was significant. Simple slopes analyses revealed that the relationship between self-sacrifice and willingness to change was significant when the leader was relatively low in prototypicality (1 *SD* below the mean), $\beta = .31$, $p < .005$, and not significant when the leader was high in prototypicality (1 *SD* above the mean), $\beta = -.18$, *ns.*

Another regression analysis was conducted with leader charisma as the dependent variable. The main effects of self-sacrifice and prototypicality, as well as the interaction, were significant. Both leader self-sacrifice and leader prototypicality were positively related to leader charisma. The simple slopes analyses revealed again that the relationship between self-sacrifice and leader charisma was stronger when the leader was relatively low in prototypicality (1 *SD* below the mean), $\beta = .53$, $p < .001$, as compared with when the leader was high in prototypicality (1 *SD* above the mean), $\beta = .21$, $p < .05$.

Last, we performed a regression analysis with perceived leader group-orientedness as the dependent variable. Again, leader self-sacrifice and leader prototypicality were positively related to leader group-orientedness, and the simple slopes analyses conducted to further analyze the interaction revealed that the relationship between self-sacrifice and leader group-orientedness was significant when the leader was relatively low in prototypicality (1 *SD* below the mean), $\beta = .45$, $p < .001$, and not significant when the leader was high in prototypicality (1 *SD* above the mean), $\beta = .14$, *ns.*

General Discussion

Leader self-sacrifice has been suggested to be a particularly effective act of leadership, at least in part because it communicates the leader's dedication to the collective. We proposed that the leader's prototypicality of the collective moderates the effects of leader self-sacrifice on leadership effectiveness because leader prototypicality raises trust in leader's group-orientedness and should therefore render leadership endorsement and effectiveness less contingent on the display of group-oriented behavior like leader self-sacrifice. These predictions, derived from the integration of analyses of charismatic and transformational leadership (Bass, 1985; Bass & Avolio, 1993; Conger & Kanungo, 1998; Shamir et al., 1993) with the social-identity analysis of leadership (Hogg & van Knippenberg, 2003; van Knippenberg & Hogg, 2003), were put to the test in a series of four studies that yielded

Table 3
Means, Standard Deviations, and Intercorrelations for Study 4

Variable	M	SD	1	2	3	4	5	6
1. Self-sacrifice	3.71	.84	(.87)					
2. Prototypicality	3.47	.89	.50***	(.93)				
3. Leader effectiveness	4.07	.80	.48***	.54***	(.91)			
4. Willingness to change	4.41	.67	.34***	.23	.43***	(.88)		
5. Leader charisma	3.82	.95	.59***	.60***	.73***	.42***	(.91)	
6. Group-orientedness	4.26	.75	.62***	.54***	.65***	.46***	.59***	(.90)

Note. Coefficients alpha are displayed on the diagonal. $N = 154$ (listwise).
*** $p < .001$.

Table 4
Results of Hierarchical Regression Analyses for Study 4

Dependent variable	Predictor	b	$SE\ b$	CI Lower	CI Upper	β	ΔR^2	t
Leader effectiveness	Self-sacrifice	.16	.07	.03	.30	.17	.04	2.35**
	Prototypicality	.48	.06	.36	.61	.53	.28	7.56**
	Self-Sacrifice × Prototypicality	−.14	.06	−.25	−.03	−.16	.04	−2.57**
Willingness to change	Self-sacrifice	.16	.06	.03	.30	.20	.04	2.33*
	Prototypicality	.04	.06	−.08	.18	.07	.00	.77
	Self-Sacrifice × Prototypicality	−.21	.06	−.33	−.10	−.30	.09	−3.80**
Leader charisma	Self-sacrifice	.38	.08	.22	.54	.33	.13	4.64**
	Prototypicality	.40	.08	.25	.56	.37	.16	5.21**
	Self-Sacrifice × Prototypicality	−.20	.07	−.33	−.07	−.19	.06	−3.05**
Leader group-orientedness	Self-sacrifice	.36	.06	.24	.49	.29	.18	5.72**
	Prototypicality	.25	.06	.13	.36	.29	.11	4.26**
	Self-Sacrifice × Prototypicality	−.15	.05	−.26	−.05	−.18	.06	−2.99**

Note. *N*s between 147 and 149. CI lower and CI upper represent the 95% confidence intervals for the unstandardized regression coefficients. ΔR^2 is the variance explained by each predictor after the other predictors have been entered into the equation.
* $p < .05$. ** $p < .01$.

consistent evidence in support of our hypotheses. The four studies showed that the effects of leader self-sacrificing behavior on leadership effectiveness were stronger for leaders who were less prototypical of the group than for leaders who were more prototypical. Confidence in our findings is bolstered not just by the replication over studies per se but especially by the fact that the studies used different methodologies (i.e., laboratory experiment, scenario experiment, cross-sectional survey), different samples (i.e., students, nonstudent employees of organizations), and different operationalizations of leadership effectiveness (i.e., follower performance, perceived effectiveness, willingness to engage in organizational change).

Further corroborating our analysis, Studies 1 and 4 showed that leader self-sacrifice and prototypicality interacted in their relationship with follower perceptions of leader group-orientedness. As predicted, leader self-sacrifice had a positive effect on perceptions of leader group-orientedness, and this effect was stronger for less prototypical leaders. An interesting implication of our theoretical analysis and these empirical findings is that other aspects of leadership that affect perceptions of leader group-orientedness may similarly moderate the effectiveness of leader self-sacrifice. The effects of self-sacrifice might, for instance, also be contingent on (a) whether or not the leader favors his or her own group over other groups in allocation decisions (Platow & van Knippenberg, 2001), (b) a leader's expressions of commitment to the group (de Cremer & van Vugt, 2002), and (c) a leader's appeals to the group's interest rather than individual self-interest (Platow et al., 2002).

In addition, Studies 1 and 4 show that leader prototypicality moderates the effect of leader self-sacrifice on perceptions of charisma. This finding adds support to the proposition that leader self-sacrifice leads to attributions of charisma (Choi & Mai-Dalton, 1998, 1999; Conger & Kanungo, 1987; Shamir et al., 1993; Yorges et al., 1999) and suggests that the integration of propositions from theories of charismatic and transformational leadership with propositions from the social-identity analysis of leadership may not just advance our understanding of leadership effectiveness per se but also our understanding of charismatic and transformational leadership (cf. van Knippenberg & Hogg, 2003).

Although the main focus of the present study was on the interactive effect of leader self-sacrifice and leader prototypicality, the evidence obtained for the main effects of self-sacrifice and prototypicality also is of interest. All four studies supported the prediction that leader self-sacrifice contributes to leadership effectiveness. Leader self-sacrifice not only resulted in the perception of leadership effectiveness and the willingness to engage in organizational change, it also positively affected follower performance (i.e., Study 1). Whereas the effects on leadership perceptions may be seen as similar to findings in earlier studies (Choi & Mai-Dalton, 1999; de Cremer, 2002; de Cremer & van Knippenberg, 2002; Yorges et al., 1999), Study 1 extends these earlier findings by yielding the first evidence for the performance-enhancing effect of leader self-sacrifice. This finding is important because perceptual measures of leadership effectiveness cannot be equated with the actual behavioral effects of leadership (Lord & Maher, 1991), and the behavioral effects of leadership are typically more of a concern to organizations than the perceptual effects. Study 1 thus yields important new evidence for the presumed effectiveness of leader self-sacrifice.

Most experimental studies of leader self-sacrifice have yielded evidence of the effectiveness of leader self-sacrifice in comparison with leader self-benefiting behavior (de Cremer, 2002; de Cremer & van Knippenberg, 2002; Yorges et al., 1999). This raises the question, however, of whether self-sacrifice has positive effects, or self-benefiting has negative effects, or both. In other words, these findings offer no basis for the conclusion that self-sacrifice per se enhances leadership effectiveness. For instance, Yorges et al. (1999) expected to find a positive effect of leader self-sacrifice on charisma ratings when contrasted with a control group, but they failed to find a significant difference between these two conditions and only found a significant negative effect of self-benefiting on charisma. They argued that they expected to find a more symmetrical effect in any replication, such that self-sacrificing behavior would lead to higher charisma ratings. The present experiments

(i.e., Studies 1 and 2) contrasted a leader self-sacrifice condition with a no-self-sacrifice rather than a self-benefiting condition and showed that, indeed, self-sacrifice can have a positive effect on leadership effectiveness and perceptions of charisma. In this sense too, the present study yields new evidence for the proposed effectiveness of leader self-sacrifice.

We should be careful, however, to conclude that being self-sacrificial is a sure route to leadership effectiveness and positive follower perceptions. There may be a point where an increase in leader sacrifice may have little extra positive impact on followers and the organization but at the same time may have large negative consequences for the leader him- or herself. Evidently, then, we do not mean to imply that leaders must be extremely self-sacrificial or must transcend their self-interest every day. Rather, we suggest that leaders must be able and willing to display self-sacrificing behavior from time to time (Avolio & Locke, 2002).

Three of the four studies revealed a main effect of prototypicality on leadership effectiveness ratings, and Study 4 also yielded main effects of prototypicality on charisma and group-orientedness. More prototypical leaders were perceived to be more effective, more charismatic, and more group-oriented than less prototypical leaders. These effects are in line with predictions from the social-identity analysis of leadership. Although there already was substantial evidence for the effects of leader prototypicality, most of this evidence derived from laboratory experiments or other studies with nonorganizational samples (Hogg & van Knippenberg, 2003; van Knippenberg & Hogg, 2003). The present study thus provides an important replication of these findings in organizational settings.

Group prototypes, and therefore also the relative prototypicality of members, are not fixed. What or who is prototypical is dependent on intergroup comparisons (i.e., because the prototype is in part defined by what distinguishes the group from relevant comparison groups; Rosch, 1978; Turner et al., 1987). Therefore, as the comparative context changes, for example when comparisons are made with a different outgroup, the prototype may change and, accordingly, the relative prototypicality of specific group members may change. In addition, group members may actively display or manipulate their own prototypicality, for instance, by actively seeking comparison with other outgroups or by simply stating that they represent the group's identity (Reicher & Hopkins, 2001, 2003). Because the extent to which a person is prototypical is a dynamic feature, it is also possible that, under the right circumstances, the display of self-sacrificial behavior influences leader prototypicality. For instance, in groups where self-sacrifice is the norm (e.g., the Salvation Army, religious groups like the brothers of the Franciscan order, various military units, or terrorist groups), the display of self-sacrificial or unselfish behavior may enhance the person's representativeness. However, in most groups, self-sacrifice does not belong to the core values of the group, making self-sacrifice something that not necessarily enhances prototypicality.

Of course, the present study is not without its weaknesses and limitations. Three out of four studies relied on student samples. This should not be considered problematic for experimental studies that are aimed at establishing causality in relationships with high internal validity, and there is no reason to expect students to behave differently from other populations (Brown & Lord, 1999; Dipboye, 1990; Wofford, 1999). Even so, it should be noted that Study 4, the nonstudent sample, did not include a performance measure, so we could not completely replicate Study 1. An important direction for future research would therefore be to test the interaction between leader self-sacrifice and prototypicality in a field study with actual performance measures. A study along those lines would also be able to address limitations associated with the fact that Studies 3 and 4 had a mono-source and mono-method design and relied on leadership perceptions. Such a design is associated with two problems. First, it may inflate relationships between variables. The main effects of self-sacrifice and prototypicality observed in the surveys may therefore be overestimated. Therefore, even though we also obtained experimental evidence for these main effects, it would be valuable if a future study in the field tested these relationships with a design that does not suffer from this problem. It is important to note, however, that common source or method bias cannot account for statistical interactions—indeed, because it may inflate main effects, it leads to an underestimation of the effect size of interactions and lowers the power for the test of interactions (Evans, 1985; McClelland & Judd, 1993)—and thus forms no threat to the validity of our conclusions about the Leader Self-Sacrifice × Prototypicality interaction. Second, common method bias set aside, perceptions of leadership effectiveness may be affected by other influences than objective indications of leadership effectiveness alone (Lord & Maher, 1991). For this reason too, then, replication of the performance findings of Study 1 in an organizational context would bolster our confidence in the generalizability of our findings.

It may also be noted that Study 1, although in one sense the strongest study given the experimental evidence for performance effects, is in another sense the weakest with its smallest mundane realism. At the same time, however, we may note that not only were the results of Study 1 replicated in Studies 2, 3, and 4, but also that leadership experiments using paradigms similar to that of Study 1 have consistently yielded results that generalize to scenario and field settings (de Cremer & van Knippenberg, 2002; de Cremer, van Knippenberg, van Knippenberg, Mullenders, & Stinglhamber, 2005; van Knippenberg & van Knippenberg, 2003). This thus suggests a greater mundane value than may appear at first sight.

Because leader self-sacrifice may be regarded as exemplary of the group-oriented aspects of charismatic and transformational leadership, the current findings for the effects of self-sacrifice and the role of leader prototypicality as moderator of the effectiveness of self-sacrifice may advance our understanding of charismatic leadership and leadership effectiveness. This is not to say, however, that leader prototypicality, and other factors that may affect perceived leader group-orientedness, are the only moderators or necessarily the most important moderators of the effectiveness of leader self-sacrifice (cf. de Cremer, 2002). The role of leader prototypicality set aside, there may be important boundary conditions to the effectiveness of leader self-sacrifice, and a more complete assessment of the role and importance of leader self-sacrifice would therefore require studies that focus on a broader range of leadership aspects and take a range of situational and task contingencies into account. To yield a more complete picture of the effectiveness of leader self-sacrifice and other group-oriented aspects of charismatic leadership, it would therefore seem highly worthwhile to pursue the study of these potential contingencies in future research.

References

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage.

Andrews, R., Biggs, M., & Seidel, M. (1996). *The Columbia world of quotations*. New York: Columbia University Press.

Ashforth, B. E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review, 14,* 20–39.

Avolio, B., & Locke, E. A. (2002). Contrasting different philosophies of leader motivation: Altruism versus egoism. *The Leadership Quarterly, 13,* 169–191.

Barling, J., Weber, T., & Kelloway, E. K. (1996). Effects of transformational leadership training on attitudinal and financial outcomes: A field experiment. *Journal of Applied Psychology, 81,* 827–832.

Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.

Bass, B. M. (1990). *Bass & Stogdill's handbook of leadership* (3rd ed.). New York: Free Press.

Bass, B. M., & Avolio, B. (1993). Transformational leadership: A response to critiques. In M. M. Chemers & R. Ayman (Eds.), *Leadership theories and research: Perspectives and directions* (pp. 49–80). New York: Academic Press.

Brewer, M. B. (1979). In-group bias in the minimal group situation: A cognitive-motivational analysis. *Psychological Bulletin, 86,* 307–324.

Brewer, M. B., & Brown, R. J. (1998). Intergroup relations. In D. T. Gilbert. S. T. Fiske, & G. Lindzey (Eds.), *Handbook of social psychology* (4th ed., pp. 554–594). Boston: McGraw Hill.

Brown, D. J., & Lord, R. G. (1999). The utility of experimental research in the study of transformational/charismatic leadership. *The Leadership Quarterly, 10,* 531–539.

Bryman, A. (2000). *Research methods and organization studies*. London: Routledge.

Choi, Y., & Mai-Dalton, R. R. (1998). On the leadership function of self-sacrifice. *The Leadership Quarterly, 9,* 475–501.

Choi, Y., & Mai-Dalton, R. R. (1999). The model of followers' responses to self-sacrificial leadership: An empirical test. *The Leadership Quarterly, 10,* 397–421.

Conger, J. A. (1999). Charismatic and transformational leadership in organizations: An insider's perspective on these developing streams of research. *The Leadership Quarterly, 10,* 145–179.

Conger, J. A., & Kanungo, R. N. (1987). Toward a behavioral theory of charismatic leadership in organizational settings. *Academy of Management Review, 12,* 637–647.

Conger, J. A., & Kanungo, R. N. (1998). *Charismatic leadership in organizations*. Thousand Oaks, CA: Sage.

de Cremer, D. (2002). Charismatic leadership and cooperation in social dilemmas: A matter of transforming motives? *Journal of Applied Social Psychology, 32,* 997–1016.

de Cremer, D., van Knippenberg, B., van Knippenberg, D., Mullenders, D., & Stinglhamber, F. (2005). Rewarding leadership and fair procedures as determinants of self-esteem. *Journal of Applied Psychology, 90,* 3–12.

de Cremer, D., & van Knippenberg, D. (2002). How do leaders promote cooperation? The effects of charisma and procedural fairness. *Journal of Applied Psychology, 87,* 858–866.

de Cremer, D., & van Lange, P. A. M. (2001). Why prosocials exhibit greater cooperation than proselfs: The roles of social responsibility and reciprocity. *European Journal of Social Psychology, 15,* 5–18.

de Cremer, D., & van Vugt, M. (2002). Intergroup and intragroup aspects of leadership in social dilemmas: A relational model of cooperation. *Journal of Experimental Social Psychology, 38,* 126–136.

Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology, 53,* 497–509.

Diehl, M., & Stroebe, W. (1991). Productivity loss in idea-generating groups: Tracking down the blocking effect. *Journal of Personality and Social Psychology, 61,* 392–403.

Dipboye, R. L. (1990). Laboratory vs. field research in industrial and organizational psychology. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 5, pp. 1–34). Chichester, United Kingdom: Wiley.

Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal, 45,* 735–744.

Evans, M. G. (1985). A Monte Carlo study of the effects of correlated method variance in moderated regression analysis. *Organizational Behavior and Human Decision Processes, 36,* 305–323.

Fehr, E., & Schmidt, K. M. (2001). *Theories of fairness and reciprocity: Evidence and economic applications*. London: Centre for Economic Policy Research.

Fielding, K. S., & Hogg, M. A. (1997). Social identity, self-categorization, and leadership: A field study of small interactive groups. *Group Dynamics: Theory, Research, and Practice, 1,* 39–51.

Gallucci, M., & Perugini, M. (2003). Information seeking and reciprocity: A transformational analysis. *European Journal of Social Psychology, 33,* 473–495.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25,* 161–178.

Greenberg, J., & Folger, R. (1983). Procedural justice, participation, and the fair process effect in groups and organizations. In P. B. Paulus (Ed.), *Basic group processes* (pp. 235–256). New York: Springer-Verlag.

Hains, S. C., Hogg, M. A., & Duck, J. M. (1997). Self-categorization and leadership: Effects of group prototypicality and leader stereotypicality. *Personality and Social Psychology Bulletin, 23,* 1087–1100.

Hogg, M. A. (1992). *The social psychology of group cohesiveness: From attraction to social identity.* London: Harvester Wheatsheaf.

Hogg, M. A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review, 5,* 184–200.

Hogg, M. A., & Abrams, D. (Eds.). (1988). *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.

Hogg, M. A., Hains, S. C., & Mason, I. (1998). Identification and leadership in small groups: Salience, frame of reference, and leader stereotypicality effects on leader evaluations. *Journal of Personality and Social Psychology, 75,* 1248–1263.

Hogg, M. A., & Terry, D. J. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review, 25,* 121–140.

Hogg, M. A., & van Knippenberg, D. (2003). Social identity and leadership processes in groups. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 35, pp. 1–52). San Diego, CA: Academic Press.

Hollander, E. P. (1958). Conformity, status, and idiosyncracy credit. *Psychological Review, 65,* 117–127.

Hollander, E. P. (1992). Leadership, followership, self, and others. *The Leadership Quarterly, 3,* 43–54.

House, R. J. (1977). A 1976 theory of charismatic leadership. In J. H. Hunt & L. L. Larson (Eds.), *Leadership: The cutting edge* (pp. 189–207). Carbondale, IL: Southern Illinois University Press.

House, R. J., & Shamir, B. (1993). Toward the integration of transformational, charismatic and visionary theories of leadership. In M. M. Chemers & R. Ayman (Eds.), *Leadership theory and research: Perspectives and directions* (pp. 81–107). New York: Academic Press.

Howell, J. M., & Frost, P. J. (1989). A laboratory study of charismatic leadership. *Organizational Behavior and Human Decision Processes, 43,* 243–269.

Hunt, J. H., Boal, K. B., & Dodge, G. E. (1999). The effects of visionary and crisis-responsive charisma on followers: An experimental examination of two kinds of charismatic leadership. *The Leadership Quarterly, 10,* 423–448.

Jacobson, C., & House, R. J. (2001). Dynamics of charismatic leadership: A process theory, simulation model, and tests. *The Leadership Quarterly, 12,* 75–112.

Kahneman, D. (2003). A psychological perspective on economics. *The American Economic Review, 93,* 162–168.

Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *Journal of Applied Psychology, 88,* 246–255.

Kirkpatrick, S. A., & Locke, E. A. (1996). Direct and indirect effects of three core charismatic leadership components on performance and attitudes. *Journal of Applied Psychology, 81,* 36–51.

Lord, R. G., Foti, R. J., & DeVader, C. L. (1984). A test of leadership categorization theory: Internal structure, information processing, and leadership perceptions. *Organizational Behavior and Human Performance, 34,* 343–378.

Lord, R. G., & Maher, K. J. (1991). *Leadership and information processing: Linking perceptions and performance*. Boston, MA: Unwin Hyman.

Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlations of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *The Leadership Quarterly, 7,* 385–425.

McClelland, G. H., & Judd, C. M. (1993). Statistical difficulties of detecting interactions and moderator effects. *Psychological Bulletin, 114,* 376–390.

Platow, M. J., & van Knippenberg, D. (2001). A social identity analysis of leadership endorsement: The effects of leader ingroup prototypicality and distributive intergroup fairness. *Personality and Social Psychology Bulletin, 27,* 1508–1519.

Platow, M. J., van Knippenberg, D., Haslam, S. A., van Knippenberg, B., & Spears, R. (2002, June). *A special gift we bestow on you for being representative of us: Considering leader charisma from a self-categorization perspective.* Paper presented at the 13th General Meeting of the European Association of Experimental Social Psychology, San Sebastian, Spain.

Prapavessis, H., & Carron, A. (1992). Sacrifice, cohesion, and conformity to norms in sport teams. *Group Dynamics: Theory, Research, and Practice, 1,* 231–240.

Reicher, S., & Hopkins, N. (2001). *Self and nation*. London: Sage.

Reicher, S., & Hopkins, N. (2003). On the science of the art of leadership. In D. van Knippenberg & M. A. Hogg (Eds.), *Leadership and power: Identity processes in groups and organizations* (pp. 197–209). London: Sage.

Rosch, E. (1978). Principles of categorization. In E. Rosch & B. B. Lloyd (Eds.), *Cognition and categorization* (pp. 27–48). Hillsdale, NJ: Erlbaum.

Rosenthal, R., & Rosnow, R. L. (1985). *Contrast analysis: Focused comparisons in the analysis of variance.* New York: Cambridge University Press.

Shamir, B., Arthur, M. B., & House, R. J. (1994). The rhetoric of charismatic leadership: A theoretical extension, a case study, and implications for research. *The Leadership Quarterly, 5,* 25–42.

Shamir, B., House, R. J., & Arthur, M. B. (1993). The motivation effects of charismatic leadership: A self-concept based theory. *Organization Science, 4,* 577–594.

Shea, C. M., & Howell, J. M. (1999). Charismatic leadership and task feedback: A laboratory study of their effects on self-efficacy and task performance. *The Leadership Quarterly, 10,* 375–396.

Sherif, M., & Sherif, C. W. (1964). *Reference groups*. New York: Harper & Row.

Synergistic Learning Incorporated. (1997). *Brain works personality software.* Retrieved July 1997 from http://www.mindmedia.com/interact/specials/brain.jsp

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology, 33,* 1–39.

Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Chicago: Nelson Hall.

Turner, J. C. (1985). Social categorization and the self-concept: A social cognitive theory of group behavior. In E. Lawler (Ed.), *Advances in group processes* (Vol. 2, pp. 77–122). Greenwich, CT: JAI Press.

Turner, J. C., Hogg, M., Oakes, P. J., Reicher, S., & Wetherell, M. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, United Kingdom: Blackwell.

van Knippenberg, B., & van Knippenberg, D. (2003). Leadership, identity and influence: Relational concerns in the use of influence tactics. In D. van Knippenberg & M. A. Hogg (Eds.), *Leadership and power: Identity processes in groups and organizations* (pp. 123–137). London: Sage.

van Knippenberg, D., & Hogg, M. A. (2003). A social identity model of leadership effectiveness in organizations. In B. M. Staw & R. M. Kramer (Eds.), *Research in Organizational Behavior, 25,* 243–295.

van Knippenberg, D., Lossie, N., & Wilke, H. (1994). In-group prototypicality and persuasion: Determinants of heuristic and systematic message processing. *British Journal of Social Psychology, 33,* 289–300.

van Knippenberg, D., van Knippenberg, B., & van Dijk, E. (2000). Who takes the lead in risky decision making? Effects of ingroup members' individual riskiness, and prototypicality. *Organizational Behavior and Human Decision Processes, 83,* 213–234.

van Lange, P. A. M., Rusbult, C. E., Drigotas, S. M., Arriaga, X. B., Witcher, B. S., & Cox, C. L. (1997). Willingness to sacrifice in close relationships. *Journal of Personality and Social Psychology, 72,* 1373–1395.

Wofford, J. (1999). Laboratory research on charismatic leadership: Fruitful or futile. *The Leadership Quarterly, 10,* 523–529.

Yorges, S. L., Weiss, H. M., & Strickland, O. J. (1999). The effect of leader outcomes on influence, attributions, and perceptions of charisma. *Journal of Applied Psychology, 84,* 428–436.

Yukl, G. (2001). *Leadership in organizations* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Received April 25, 2003
Revision received January 14, 2004
Accepted January 15, 2004 ■