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## Heroic or hubristic? A componential approach to the relationship between perceived transformational leadership and leader–member exchanges

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Using an interpersonal approach to self-perceptions, we broke down leaders' self-perceptions of their transformational leadership behaviour into three components: a target effect (i.e., how leaders are perceived by followers), a perceiver effect (i.e., how leaders perceive followers), and a self-enhancement effect (i.e., idiosyncratic positivity bias in how leaders perceive themselves), and then examined the relationships between these components and the quality of exchanges between leaders and followers (LMX). In a survey study among 60 leaders with 286 followers, we found the target effect in leaders' self-perceptions of their transformational leadership to be positively related to the quality of LMX, whereas the perceiver effect and self-enhancement effects were negatively associated with LMX. Follower extraversion intensified the positive role of the target effect and the negative role of the self-enhancement effect in the leader–follower exchanges.

**Keywords:** Transformational leadership; Self-enhancement; Leader–member exchange; Extraversion.

Strong relational ties between leaders and followers are generally considered a key factor in leadership effectiveness (Yukl, 2010). One of the most important factors that catalyse the build-up of such ties is transformational leadership (Wang, Law, Hackett, Wang, & Chen, 2005). By articulating a compelling vision, acting as a role model, and exerting intellectual stimulation and individualized consideration, a transformational leader is usually thought to promote the creation of high-quality exchange relationships with individual followers. Subsequently, followers are expected to reciprocate in the social exchange process by exerting greater efforts and strengthening and encouraging the leader (Deluga, 1992). Consistent with this view, a number of empirical studies have reported positive relationships between leaders' transformational behaviour and the quality of leader–member exchanges (LMX) (Basu & Green, 1997; Deluga, 1992; Howell & Hall-Merenda, 1999; Li & Hung, 2009; Piccolo & Colquitt, 2006; Wang et al., 2005).

While subscribing to the relational nature of leadership, most of the studies examining the relationship between transformational leadership and LMX have one-sidedly focused on follower perceptions and ignored the role of leaders' self-perceptions of their leadership

behaviours. This is somewhat surprising given the current dominant view of leadership as a reciprocal process in which both leader and follower exist in a dyadic mutual relationship (Livi, Kenny, Albright, & Pierro, 2008). From such a perspective, one may expect the leadership perceptions of both “parties” in the relationship to influence the quality of the LMX. Further, the social perception literature strongly suggests that interpersonal perceptions are influenced by both the perceiver and the target in a relationship (Kenny, 1994). Taken together, these views suggest that a better understanding of the relationship between transformational leadership and LMX requires an interpersonal perspective on leadership, one in which both leader and follower perceptions of the leader's transformational leadership behaviour are taken into account.

In this study, we propose that leader and follower perceptions form inherent components of a leader's self-perception of his or her transformational leadership. Specifically, using an adaptation of Kenny's (1994) Social Relations Model (SRM) (Kwan, John, Kenny, Bond, & Robins, 2004), we suggest that a leader's self-perception of his or her transformational behaviour can be broken down into three components: (1) how a leader is generally perceived by followers (i.e., the so-called target effect), (2) how a leader generally perceives

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followers (i.e., the so-called perceiver effect), and (3) an idiosyncratic bias in a leader's self-perception (i.e., the so-called self-enhancement effect). Adopting this componential framework (cf., Kwan et al., 2004), and drawing on the existing research discussed earlier, we first argue that both the target effect and perceiver effect in a leader's self-perception of transformational leadership behaviour will be positively related to LMX. In addition, based on self-enhancement theory (e.g., Alicke & Sedikides, 2009; Colvin, Block, & Funder, 1995; Sedikides & Gregg, 2008), we argue that leaders tend to form overly positive self-perceptions of their own transformational leadership behaviour, and propose that this *self-enhancement effect* in leaders' self-perceptions will be negatively related to LMX. Furthermore, and consistent with the literature dealing with the effects of follower personality on leadership perceptions (e.g., Bono, Hooper, & Yoon, 2012; Schyns & Felfe, 2006), we propose that followers will respond differently to transformational and self-enhancing leaders depending on their level of extraversion. Specifically, we argue that follower extraversion operates as a contingency variable that intensifies both the positive influence of the target and perceiver effects and the negative influence of the self-enhancement effect in leaders' self-perceptions on the quality of LMX. The proposed conceptual model and hypotheses are summarized in Figure 1.

The contributions of this study to the transformational leadership and LMX literature are threefold. First, by using a componential approach to leadership perceptions based on the SRM, we contribute to a better and more complete understanding of the relationship between perceived transformational leadership and the quality of leader-member exchanges. Our approach enables us to identify three distinct perception effects (i.e., target, perceiver, and self-enhancement) in leaders'

self-perceptions of transformational leadership and to show how these self-perception effects are differentially related to LMX. Second, we contribute to the self-enhancement literature by generating empirically based knowledge on the consequences of self-enhancement for interpersonal effectiveness in the leadership domain. Third, by introducing follower extraversion as a personality trait that could determine the relationship between transformational leadership perceptions and LMX, we answer the call of several scholars (e.g., Howell & Shamir, 2005; Lord, Brown, & Freiberg, 1999; Zhu, Avolio, & Walumbwa, 2009) to more thoroughly address the role of follower characteristics in leadership effectiveness research.

## THEORY AND HYPOTHESES

### A componential approach to leaders' self-perceptions of transformational leadership

The main premise in our approach is that perceptions in general, and leaders' self-perceptions in particular, are inherently interpersonal in nature and that the self-perceptions of leaders "... cannot be studied without consideration of the fact that the individual is a social agent who always acts as a perceiver and is always the target of perception" (Kwan et al., 2004, p. 97). When perceiving a person, we know that this person also perceives us. This leads us to make inferences, not only about that person but also about how that person perceives us. Our self-perception both affects and is affected by these inferences in several ways (Kenny, 1994). First, self-perception usually serves as a baseline when perceiving and judging others (Kenny, 1994; Kenny & West, 2010). For instance, people tend to assume that others are rather similar to them with regard to thoughts, feelings, and behaviour (Kenny, 1994; Kenny & West, 2010; Ross, Greene, & House, 1977), and have a drive to verify that others see them as they see themselves (Swann, 1990). Second, self-perception is affected by others' behaviours and attitudes towards us, which causes us to adjust our self-image. Hence, self-perception is not created in isolation, but reciprocally influences and is influenced by *how others perceive us* and *how we perceive others*. Given the intrinsically interpersonal context of leadership, it is therefore important to consider leadership perceptions by leaders and subordinates simultaneously, rather than in isolation.

Many leadership studies have focused on how leaders' self-perceptions relate to those of others (for an overview see Fleenor, Smither, Atwater, Braddy, & Sturm, 2010). Methodologically, these studies have adopted the so-called self-other rating agreement approach, comparing self-perceptions of leadership behaviour to *how others* (e.g., subordinates or peers) *perceive the leader*. Although these studies have

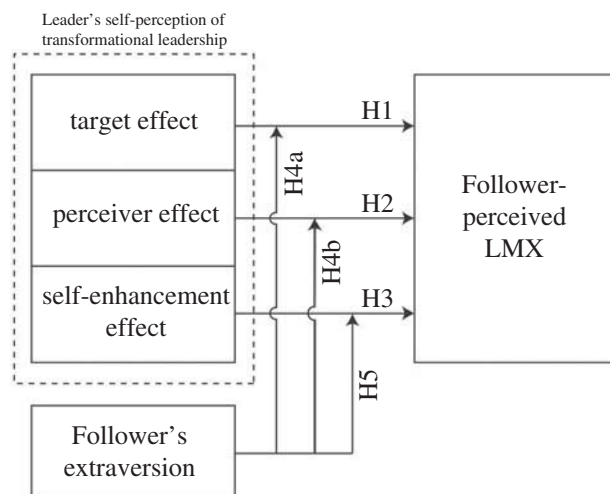


Figure 1. Conceptual model.

generated a valuable insight into the consequences of self-other disagreement, they have overlooked the component in a leader's self-perception that represents *how he or she perceives others*. Kwan and colleagues (2004) argued and showed that ignoring this perceiver effect can be problematic and lead to confounds. A simple example might illustrate their argument. Suppose that Steve rates his own leadership abilities as 7 on a 10-point scale, whereas others rate his leadership abilities as 10 on the same scale. The negative discrepancy (−3) between self- and others' perceptions would indicate that Steve is self-effacing. However, if we knew that Steve's ratings of others' leadership abilities would average 4 on this scale, we would conclude that Steve sees himself in a more positive light than he sees others (i.e., he self-enhances).

Accordingly, Kwan et al. (2004) argue that when investigating self-perceptions, both how a person is seen by others and how that person sees others should be taken into account. They propose an analytical framework based on the SRM (Kenny, 1994; Kenny & LaVoie, 1984) to decompose a person's self-perception into three components. The first component is labelled the *target effect* and reflects how positively or negatively a person is perceived by the consensus of others. The rationale for including this target effect in self-perceptions is that the perceptions people form about themselves are substantially affected by others' evaluations and behaviours towards them. If subordinates perceive a leader as a good transformational leader, that supervisor will incorporate "I am a transformational leader" into his or her self-perception.

The second component in a person's self-perception reflects how positively or negatively that person generally perceives and evaluates others, and is therefore labelled the *perceiver effect*. The reason to include this perceiver effect in self-perceptions is that a person may have a general tendency to evaluate people, including him- or herself, in positive or negative ways. A leader may be quite positive about the transformational behaviours of people in general, and this positive perceiver effect will be reflected in the self-perception of this leader's own transformational leadership behaviour.

The third component reflects an idiosyncratic bias that a person has towards perceiving him- or herself. This unique component is "left over" after considering the target and perceiver effects. As people tend to be overly positive about their favourable attributes, abilities, and performance (e.g., Sedikides, Gaertner, & Toguchi, 2003; Sedikides & Gregg, 2008; Taylor & Brown, 1988, 1994), Kwan and colleagues (2004) and Kwan, John, Robins, and Kuang (2008) labelled this "leftover" component the *self-enhancement effect*. This self-enhancement bias in self-perceptions is "due to the unique relationship individuals have with

themselves and captures their own idiosyncratic view of themselves" (Kwan et al., 2008, p. 1063).

Adopting this componential approach to self-perceptions (Kwan et al., 2004), we decompose leaders' self-perceptions of their transformational leadership behaviour into three components: a target effect, a perceiver effect, and a self-enhancement effect. In the following sections, we will develop hypotheses predicting that the target and perceiver effects in leaders' self-perceptions of transformational leadership are positively related to LMX, whereas the self-enhancement effect plays a negative role in the exchanges between leaders and followers.

### LMX and how the leader is perceived by followers (the target effect)

A basic premise in LMX theory is that reciprocity of invested effort by the dyad partners, in the role-making and social exchange process, is crucial for the development of the leader-follower relationship (Maslyn & Uhl-Bien, 2001). Over a series of exchanges, a leader and a follower "test one another to determine whether they can build the relational components of trust, respect, and obligation necessary for high-quality exchanges to develop" (Maslyn & Uhl-Bien, 2001, p. 698). If a leader and a follower continue to invest high and balanced amounts of matched effort, a higher quality and more mature exchange relationship can be developed and sustained, resulting in mutual influence and satisfaction. However, if either party in the relationship experiences the other's efforts to be insufficient or unbalanced, a lower quality exchange relationship develops which is characterized by a hierarchically based downward influence process in which exchanges occur on a formal, contractual basis with distance between leader and follower. A leader's target effect for transformational leadership represents the extent to which that person is seen as a transformational leader by followers and is thus a proxy for the leader's social investment in the exchange relationship. Accordingly, Wang and colleagues (2005, p. 249) argued that transformational behaviour can be seen as the leader's "social currency, nourishing high-quality LMX". A recent meta-analysis of antecedents and consequences of LMX indeed found a significantly positive relationship between transformational leadership and LMX (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012). As highlighted by Dulebohn et al. (2012), transformational leadership seems to "create an environment that is conducive for the development of high-quality LMX relationships" (p. 1722). Leaders who inspire and motivate followers elicit a desire on the part of followers to invest effort in forming high-quality relationships with their leaders. Those followers are more likely to trust and respect their leader and subsequently reciprocate with increased task effort, ultimately resulting in higher LMX quality.

However, previous studies have only examined the relationship between transformational leadership and leader–member exchange at the individual level of analysis, relating individual followers' ratings of their leader's transformational leadership to their individual perceptions of LMX quality. We extend these findings to the team level of analysis by focusing on followers' *aggregated perceptions* of their leader's transformational leadership behaviour. Specifically, we argue that how leaders' transformational behaviour is perceived by their followers represents the target effect in leaders' self-perceptions of their transformational leadership. We expect that this target effect will be positively related to LMX quality. When leaders are seen as transformational by most of their followers, they are more likely to establish and maintain high-quality exchange relationships with them, whereas a lower target effect would go hand in hand with lower quality exchange relationships between leaders and followers. Thus, our first hypothesis reads as follows:

*Hypothesis 1:* The target effect in leaders' self-perceptions of their transformational leadership behaviour is positively related to followers' perceptions of LMX.

### LMX and how the leader perceives others (the perceiver effect)

The way leaders see themselves is also partly the result of a perceiver effect (Kenny, 1994). With regard to the transformational leadership, a leader's perceiver effect represents a general positivity bias or response set in the leader's perceptions of transformational leadership. The higher the leaders' perceiver effect for transformational leadership, the more they see themselves and others through rose-coloured glasses. Such positive perceptions of others are likely to be expressed in positive behaviours towards these others, which facilitates the quality of the relationship. Consistent with reasoning, research has shown that individuals with a positivity bias are often liked by others (Wood, Harms, & Vazire, 2010) and generally experience higher quality relationships (Livi et al., 2008). Moreover, research indicates that individuals who judge others as more cooperative, sociable, and reliable develop more appealing and rewarding dyadic interactions (Jackson, Dimmock, Gucciardi, & Grove, 2010). Although extant research on the perceiver effect has mainly examined the effects of positivity biases with regard to individual differences like the Big Five personality traits, there are no reasons to expect that the outcomes of the perceiver effect with regard to transformational leadership will be different. Therefore, we propose that positivity bias in leaders' judgements of transformational leadership qualities will lead to a higher quality leader–follower exchange relationship:

*Hypothesis 2:* The perceiver effect in leaders' self-perceptions of transformational leadership behaviour is positively related to followers' perceptions of LMX.

### LMX and the idiosyncratic bias in leaders' self-perceptions (the self-enhancement effect)

Self-enhancement has been defined as the desire to maintain, protect, and boost a positive self-concept (Leary, 2007) and is considered one of the most fundamental motives that drive human behaviour (Alicke & Sedikides, 2009). Indeed, although cultural differences exist, self-enhancement is considered to be a universal human tendency (Gaertner, Sedikides, & Chang, 2008; Sedikides et al., 2003). Abundant research has shown that people tend to hold inflated perceptions of their favourable attributes, abilities, and behaviour and that this tendency can explain a wide variety of psychological and behavioural phenomena (for overviews see Dunning, Heath, & Suls, 2004; Leary, 2007; Sedikides & Gregg, 2008).

Although the tendency to self-enhance is well established, the question of whether self-enhancement is beneficial or detrimental to an individual's functioning continues to be debated. On the one hand, self-enhancement is thought to promote individual well-being because it boosts self-esteem, self-confidence, and self-efficacy (Taylor & Brown, 1988, 1994; Taylor, Lerner, Sherman, Sage, & McDowell, 2003a). Taylor and Brown (1988) argued that these "positive illusions" produce positive outlooks on the future, provide a sense of control in uncertain and stressful environments, and thus serve to defend us against stress (e.g., Bonanno, Rennieke, & Dekel, 2005; Taylor, Lerner, Sherman, Sage, & McDowell, 2003b). On the other hand, self-enhancement is associated with deception and self-serving attributions that may offend or alienate others (e.g., Anderson, Ames, & Gosling, 2008; Anderson, Srivastava, Beer, Spataro, & Chatman, 2006; Asendorpf & Ostendorf, 1998; Campbell, Bush, Brunell, & Shelton, 2005; Colvin et al., 1995; Robins & Beer, 2001). From this perspective, self-enhancement is detrimental to a person's relationship with others, because it hinders effective social functioning. Thus, although self-enhancement seems to have some beneficial *intrapersonal* effects, it also has detrimental *interpersonal* effects, leading several scholars to conclude that self-enhancement is, at best, a "mixed blessing" (e.g., Kwan et al., 2004; Paulhus, 1998; Robins & Beer, 2001).

The present study investigates self-enhancement in leadership contexts. Because leadership is inherently an interpersonal influence process, self-enhancement in leaders' behaviour may be negatively related to leadership



processes in which leaders and subordinates need to reach mutual understanding and agreement about “what needs to be done and how to do it” (Yukl, 2010, p. 26). This might be especially true for self-enhancement of transformational leadership behaviour, because close and harmonious relationships are considered essential to the leadership-influencing process within the transformational leadership paradigm (Avolio, 2011; Bass, 1985; Bass & Riggio, 2006).

Despite the potentially harmful consequences of self-enhancement in the leadership context, leaders may hold self-enhanced perceptions of their transformational behaviour for several reasons. To begin with, transformational leadership is nowadays seen as a key factor for individual, work unit, and organizational outcomes (for an overview, see Judge & Piccolo, 2004), and therefore, the display of such behaviour is important for leaders. Since people are particularly prone to self-enhancement in those domains that matter to them most (Sedikides et al., 2003), it is likely that leaders will tend to be overly positive about their own transformational leadership behaviours.

Also, leaders may feel “pressured” to meet the organization’s and their followers’ expectations regarding their transformational behaviour. Research on Implicit Leadership Theory has shown that leaders are more likely to be effective if their behaviour matches their followers’ images of prototypical leader behaviour (Kenney, Schwartz-Kenney, & Blascovich, 1996; Nye, 2005). The importance attached to transformational leadership in today’s society will be reflected in followers’ schemas of prototypical leader behaviour, thus providing leaders with an incentive to portray themselves as “good” transformational leaders. Moreover, according to the Romance of Leadership theory (Meindl, Ehrlich, & Dukerich, 1985), followers are likely to expect too much of their leaders. Leaders may feel that these high expectations of them have to be met, thereby creating a need for leaders to engage in the boasting of their transformational leadership behaviour (Jung & Sosik, 2006).

Finally, research on self-enhancement has shown that people are more prone to enhancement in regard to ambiguous than unambiguous dimensions (e.g., Anderson et al., 2006; Dunning, Meyerowitz, & Holzberg, 1989; Janssen & Van der Vegt, 2011). Transformational leadership behaviours such as “exerting vision”, “idealized influence”, “providing interpersonal support”, and “intellectual stimulation” are rather ambiguous in that they are hard to assess objectively, thus leaving “room” for self-enhancement.

Although there may be a general trend towards self-enhancement in transformational leadership behaviour, some leaders are more likely to self-enhance than others for various reasons, such as a greater importance attached to leadership display or awareness of follower pressure. How will such different levels of self-

enhancement in transformational leadership behaviour affect LMX quality? From a social exchange perspective, one would argue that leaders who have overly positive perceptions of their transformational leadership behaviour are unlikely to be investing as much as they think they are. Consequently, the followers’ perceptions of the leader’s invested effort will not match the leader’s own perception. Specifically, followers are likely to perceive less invested effort by their leader and will reciprocate with lower effort on their part, and subsequently, this will lead to lower quality LMX relationships. Analogous to the “currency” metaphor of invested effort (Wang et al., 2005), leaders’ inflated self-perceptions resemble monetary inflation in that the worth of the claimed transformational behaviour is devalued, thereby “buying” less follower trust, respect, and obligation. Consequently, followers are likely to report lower quality LMX in response to leaders who self-enhance in terms of their transformational leadership.

A related reason why self-enhancement in transformational leadership behaviour might be negatively associated with LMX is that leaders’ overly positive claims about their displayed transformational leadership may offend and alienate followers. Research on the social consequences of self-enhancement does indeed suggest that although self-enhancers are viewed relatively positively by others after initial brief interactions, the tide turns against them when others begin to detect their self-promotion in the longer term (e.g., Anderson et al., 2006, 2008; Colvin et al., 1995; John & Robins, 1994; Miller, Cooke, Tsang, & Morgan, 1992; Paulhus, 1998). Similarly, whereas self-enhancing leaders may initially seem self-confident, inspirational, and attractive to followers, this initial favourable impression is likely to decline after repeated interactions where followers begin to experience the discrepancy between the claims of a self-enhancing leader and their actual behaviour. Eventually, followers are likely to feel misled by leaders who overinflate the transformational leadership behaviour they pretend to invest in the exchange relationship. Hence, self-enhancing leaders may soon lose their credibility and offend their followers, causing the latter to perceive their exchange relationships with their leaders to be of lower quality.

A final reason why self-enhancement in transformational leadership behaviour may be detrimental to LMX quality is that self-enhancing leaders may set themselves up for failure. That is, because they overestimate their own abilities, they are likely to take on tasks and responsibilities they cannot realize. Especially in an organizational context, where there are long-term relationships between leaders and followers, such failure on the part of the leader will be detected by followers and is likely to reduce the followers’ willingness to build the relational components of trust, respect, and obligation that are necessary for high-quality exchanges to develop and be sustained (Gray & Densten, 2007). Taken together, this

reasoning suggests that a leader with an overly positive view of their transformational leadership behaviours will undermine the LMX quality as perceived by followers. As this self-enhancement effect in leaders' self-perceptions reflects an idiosyncratic bias they have towards perceiving themselves and is "left over" after considering the target and perceiver effects, it will have a unique negative relationship with LMX. Hence, we hypothesize:

*Hypothesis 3:* The self-enhancement effect in leaders' self-perceptions of their transformational leadership behaviour is negatively related to followers' perceptions of LMX.

### The moderating role of follower extraversion

Given that LMX is a reciprocal exchange process, not only will leader characteristics, such as the target, perceiver, and self-enhancement effects, influence the quality of LMX, but also follower characteristics may play a role. In particular, follower characteristics that are known to be relevant to social interaction and exchange are likely to prove important. One such follower characteristic is extraversion. Extraverted individuals tend to be assertive, dominant, and energetic, with a pronounced tendency towards goal accomplishment (Carver, Sutton, & Scheier, 2000; McCrae & Costa, 1987). Research has shown extraversion to positively associate with an individual's behavioural approach system, which is characterized by a propensity for action-taking (Smits & Boeck, 2006; see also Elliott & Thrash, 2010). Moreover, extraverts are generally outgoing, gregarious, and seek out social situations (Barrick & Mount, 1991; Goldberg, 1999). Compared with extraverts, their introverted counterparts have been described as "silent and withdrawn" (Judge, Bono, Ilies, & Gerhardt, 2002, p. 768), more passive, and less sociable (Matthews, Deary, & Whiteman, 2003; McCrae & Costa, 1987).

On this basis, we propose that follower extraversion operates as a boundary condition that moderates the influence of the target, perceiver, and self-enhancement effects in leaders' self-perceptions of their transformational leadership on the quality of LMX. This proposition is supported by the research showing that extraverts build better relationships with their leaders because they seek out more interaction (e.g., Nahrgang, Morgeson, & Ilies, 2009; Phillips & Bedeian, 1994). Specifically, not only does frequent interaction with a leader who is perceived as more transformational (i.e., target effect) fulfil extraverts' approach motive and satisfy their need for high-level interaction, it also increases the likelihood of receiving challenging tasks, and thereby a more stimulating exchange relationship with the leader. Likewise, frequent interaction facilitates leaders who perceive followers as more transformational (i.e.,

perceiver effect) to express this positivity bias in their leader behaviour towards them. As extraverted followers seek more interaction with their leader, they are more likely to respond to this positivity bias in a leader's perceptions and behaviours by establishing a higher quality relationship with him or her. Hence, extraverted followers tend to respond more favourably to a leader who is perceived by them as more transformational (i.e., target effect) or perceives them as more transformational (i.e., perceiver effect), and to become motivated to invest effort in establishing high-quality relationships with such a leader. Less extraverted members, in contrast, are less likely to seek and utilize contacts with their leaders and, thus, may find it harder to develop high-quality LMX relationships with them. Overall, this suggests that extraverted followers are more likely to benefit from leaders high on target and perceiver effects in their self-perception of transformational leadership than less extraverted followers. Hence, we hypothesize:

*Hypothesis 4:* Extraversion moderates the relationship between the target (H4a) and perceiver effects (H4b) in leaders' self-perceptions of their transformational leadership behaviour and LMX in such a way that these relationships are more positive for the more extravert followers.

At the same time, however, their desire to engage in high-quality relationships may also lead extraverted followers to negatively respond to a leader's self-enhancement. Because extraverts seek high-quality relationships, they tend to invest significant effort in building relationships. According to LMX theory, such high follower investment needs to be reciprocated by the leader for the development of high-quality LMX (Maslyn & Uhl-Bien, 2001). As self-enhancing leaders actually invest less than they believe, think or pretend, more extraverted followers are likely to feel that their investments are not reciprocated and, because of this, will feel less positive about the quality of their relationship with their leader. Furthermore, because extraverted followers engage more frequently in interactions with their leader than introverts, they are more often "exposed" to the leader's self-enhancement. Combined with their greater social skills, this frequent exposure may lead the more extraverted followers to more quickly and better "detect" their leader's self-enhancement. Taken together, these arguments suggest that highly extraverted followers will be affected more negatively by leader self-enhancement than less extraverted followers. Hence, we hypothesize:

*Hypothesis 5:* Extraversion moderates the relationship between the self-enhancement effect in leaders' self-perceptions of their transformational leadership behaviour and LMX quality in such a way that the relationship is more negative for the more extravert followers.

## METHOD

### Sample and procedure

Data were collected from work teams within two organizations in the Netherlands, a University of Applied Science and a mental health care institution. We obtained data from 60 of the 72 team leaders (83.3%) and 286 of the 418 team members (68.4%) who were asked to participate: 259 participants, including 45 team leaders, from the University of Applied Science, and 87 participants, including 15 team leaders, from the mental health care institution. Teams consisted of at least four participants, including the team leader, with the numbers of participants per team ranging from four to nine ( $M = 6.19$ ,  $SD = 1.44$ ). Fifty-five per cent of the participants were female (53% female among the team leaders) and the average age was 44 years ( $SD = 9.70$ ). The mean team tenure was 42.4 months ( $SD = 55.45$ ), and the dyadic tenure between leader and follower was 24.30 months ( $SD = 37.77$ ). The University of Applied Science had a higher proportion of female participants (59.8 %) than the mental health care institution (41.7%). Team tenure, and consequently dyadic tenure, between team leader and team member was lower at the mental health care institution (the average difference in team tenure was 22.55 months, and 18.89 months for dyadic tenure).

We approached participants in collaboration with the personnel departments of both organizations, who provided us with information about the available teams and their composition. Based on the information given, we approached team leaders and asked them whether they would participate in the research project. When team leaders agreed, we informed the team members about the research project and asked for their voluntary participation. The questionnaire was administered online, through the research project's dedicated website. Participants received personal credentials with which they could log in to the project's website and complete the questionnaires available. The questionnaires had personal identifiers to match employees with their leaders. However, confidentiality was guaranteed and data were anonymized once the leader-subordinate dyads had been matched. The questionnaires were administered digitally for the convenience of both the researchers (allowing close monitoring of the process of data collection) and the participants (allowing them to complete the questionnaire at a convenient place and time). The quality of data acquired with such web-based surveys has been shown to be on a par with that of data acquired with more traditional "paper-and-pencil" methods (Gosling, Vazire, Srivastava, & John, 2004).

### Measures

The scales used in the survey were translated from English into Dutch. Four academic staff members who were proficient in English independently translated the

items of the scales. If translations were not a one-on-one match, the translators discussed the differences until they had reached agreement on the translation.

*Transformational leadership behaviour.* Kwan and colleagues' (2004) method for calculating the target effect, perceiver effect, and self-enhancement effect in leaders' self-perceptions of transformational leadership requires round robin data. Therefore, we asked both team leaders and their team members to rate themselves and the other members on transformational leadership behaviours in a full round robin design (Kenny & Livi, 2009). Having leaders rate team members and team members rate each other on leadership behaviours is a method that is used in many research occasions, most notably in research focused on shared leadership (Wang, Waldman, & Zhang, 2014) or on disentangling various sources of variance in leadership perceptions (Livi et al., 2008). Transformational behaviour can be found in subordinates as it does not require a formal power base or control over resources, as does for instance transactional leadership. Moreover, transformational leaders are assumed to enable "followers to develop their own leadership potential" (Bass & Riggio, 2006, p. 4). Thus, effective transformational leadership should lead to transformational behaviour amongst subordinates.

To reduce the workload for the participants, we used a six-item scale adapted from the 23-item scale for transformational leadership developed by Podsakoff, MacKenzie, Moorman, and Fetter (1990). Only the highest loading item from each of the six dimensions in the original scale was used. The selected items were: "Inspires others with his/her plans for the future", "Develops a team attitude and spirit among employees", "Leads by example", "Will not settle for second best", "Shows respect for my personal feelings", and "Has stimulated me to rethink the way I do things". Items were translated into Dutch and reworked to refer to either self-perceptions (e.g., "I develop a team attitude and spirit among employees") or perceptions of others (e.g., "X develops a team attitude and spirit among employees"). Respondents rated both themselves and their peers on a seven-point scale ranging from 1 ("Totally disagree") to 7 ("Fully agree"). In line with much of the research on transformational leadership, the six items were combined to create a single higher order indicator of transformational leadership (Judge & Piccolo, 2004). The internal consistency was good for the self-ratings (Cronbach's  $\alpha = 0.82$ ) as well as for the ratings of others (Cronbach's  $\alpha = 0.89$ ). Leaders' mean self-rating was 5.54 ( $SD = 0.71$ ). The mean followers' rating of their leader's transformational behaviour was 5.05 ( $SD = 0.73$ ). Followers in the mental health care institution rated their leaders marginally significantly higher ( $p < .10$ ) on transformational behaviour ( $M = 5.16$ ) than did followers in the University of Applied Science ( $M = 4.98$ ). To examine the validity of



our shortened measure for transformational leadership behaviour, we also asked team members to complete the full 23-item scale for their perceptions of their leader's transformational behaviour. The Pearson correlation between our six-item scale and the full scale was 0.84, supporting the content validity of our shortened transformational leadership scale.

*Leader-member exchange.* To assess leader-member exchange quality, the team members were asked to complete the LMX-12 scale developed by Liden and Maslyn (1998). In contrast to the widely used LMX-7 scale (Scandura & Graen, 1984), these scholars recognized the complex reciprocal nature of the LMX construct and developed a 12-item scale that assessed the LMX aspects of loyalty, affect, contribution, and professional respect. Items included: "I like my supervisor very much as a person" (affect), "My supervisor defends my work actions to a superior even without complete knowledge of the issue in question" (loyalty), "I do work for my supervisor that goes beyond what is specified in my job description" (contribution), and "I respect my supervisor's knowledge and competence on the job" (professional respect). Items were measured on a seven-point scale (1 = "totally disagree", 7 = "totally agree").

We had no theoretical rationale for suggesting that the leader's target, perceiver, and self-enhancement effects in transformational leadership behaviour would be differentially related to the various aspects of LMX. Therefore, we conducted a second-order confirmatory factor analysis of a model in which the LMX items loaded onto the four LMX aspects (affect, loyalty, contribution, and professional respect), with these four latent constructs subsequently contributing to a single LMX factor. Results showed that the second-order factor model had a satisfactory fit ( $\chi^2 = 147.47$ ; NFI = .96, NNFI = .96, CFI = .97, SRMR = .05). On this basis, we created a single leader-member exchange quality score by averaging the 12 LMX items. The LMX scores ranged from 1.92 to 7.00, and Cronbach's alpha for the scale was 0.90. Consistent with previous research (e.g., Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010), an ICC1 of 0.30 indicated that there was substantial between-group variation in LMX scores.

*Extraversion.* Following Bakker, Van Oudenhoven, and Van Der Zee (2004), follower extraversion was measured using the six highest loading items for extraversion from the hundred-item five-factor personality inventory by Hendriks, Hofstee, and De Raad (1999). The items were: "Are you someone who loves to chat", "Are you someone that laughs aloud?", "Are you someone that slaps people on the back?", "Are you someone that keeps apart from others?" (reversed), "Are you someone that avoids contact with others?" (reversed), and "Are you someone that avoids company?" (reversed). Items were measured on a five-point scale

(1 = "does not reflect me at all", 5 = "totally reflects me"). Extraversion scores ranged from 1.84 to 5.00, and Cronbach's alpha for the scale was 0.68. Followers within the mental health care institution rated themselves significantly ( $p < .05$ ) more extraverted ( $M = 3.80$ ) than did followers in the University of Applied Science ( $M = 3.58$ ).

*Control variables.* Following recommendations by Becker (2005) on the use of control variables, we included only the leader's gender as a control variable in the analyses on the basis that this socio-demographic was significantly correlated with our dependent variable ( $r = .18$ ;  $p < .01$ ). Other potential LMX correlates, such as the organization (dummy-coded), team size, age, gender difference between leader and follower, leader tenure with the team, leader-follower dyadic tenure (Green, Anderson, & Shivers, 1996), and manager extraversion (to rule out potential effects of similarity), were not included in the analyses because their zero-order correlations with LMX were not significant (cf. Becker, 2005).

## Decomposition of leaders' self-perceptions

Following Kwan and colleagues' (2004) procedure for decomposing self-perceptions, we used both the other-ratings and the leaders' self-ratings to calculate a measure of the target effect, the perceiver effect, and the self-enhancement effect in leaders' self-perceptions of their transformational leadership behaviour. This procedure involved two general steps. First, the round robin transformational leadership other-ratings and self-ratings are analysed using the SOREMO statistical package (Kenny, 1994, 1995; Kenny & LaVoie, 1984). For each participant, this analysis yielded a *target effect*, which represents how transformational the participant is typically perceived by others in the group; additionally, the analysis yielded a *perceiver effect*, which represents how transformational that person generally perceives others in the group. The second step involves calculating the actual *self-enhancement index*. Consistent with earlier research (e.g., Anderson et al., 2006; Kwan et al., 2004; Lönnqvist, Leikas, Verkasalo, & Paunonen, 2008), we calculated the leaders' self-enhancement (i.e., the unique part of a leader's self-perception that cannot be explained by the target and perceiver effects) regarding transformational leadership as:

$$SE_{ifl} = Self_{ifl} - T_{ifl} - P_{ifl} - G$$

where  $SE_{ifl}$  represents self-enhancement regarding transformational leadership behaviour,  $Self_{ifl}$  represents a leader's self-perceptions of transformational behaviour,  $T_{ifl}$  represents the target score for transformational behaviour,  $P_{ifl}$  represents the perceiver score for transformational leadership, and  $G$  represents the group mean (for a

detailed description of the procedure, see Kenny, 1994; Kwan et al., 2004).

## Statistical analyses

Given the nested structure of the data, with followers nested in work teams/leaders, we tested our hypotheses using hierarchical linear models in MLwiN (Rasbash, Charlton, Browne, Healy, & Cameron, 2009). Following the guidelines of Aiken, West, and Reno (1991), we standardized all the independent variables prior to analysis. Interaction effects were computed as the product term of the respective standardized variables.

We analysed the data in three steps. First, we tested a model containing only our control variable (Model 1). Second, we tested a model including the control variable, the main effects of the target effect, perceiver effect, and self-enhancement effect in leaders' self-perceptions of transformational leadership, and follower extraversion (Model 2). Finally, we tested each of the cross-level interactions, between follower extraversion and the leader's target effect, perceiver effect, and self-enhancement effect for transformational leadership (Models 3, 4, and 5, respectively).

## RESULTS

### Descriptive statistics

Table 1 presents means, standard deviations, and Pearson zero-order correlations for the variables considered in this study. As can be seen from Table 1, female leaders were generally perceived as more transformational than men ( $r = .30, p < .01$ ), which is consistent with the previous research findings (Eagly, Johannesen-Schmidt,

& Van Engen, 2003), and were less prone to self-enhancement when it came to transformational leadership ( $r = -.32, p < .01$ ). Moreover, followers reported higher quality leader-member exchange relationships with female leaders than with male leaders ( $r = .18; p < .01$ ). Leaders who were perceived as more transformational (a higher leader's target effect for transformational leadership) had higher quality leader-member exchange relationships with their followers ( $r = .35, p < .01$ ). Self-enhancing leaders had lower quality relationships with their followers ( $r = -.31, p < .01$ ). These findings provide some support for Hypotheses 1 and 2.

Furthermore, the leader's target effect and perceiver effect for transformational leadership were positively correlated ( $r = .34, p < .01$ ), which is in line with the reciprocity hypothesis (Kenny, 1994) which argues that leaders whose perceptions of their followers are more positively biased are seen as more transformational by their followers. Leader self-enhancement was negatively correlated with both the target effect ( $r = -.68, p < .01$ ) and the perceiver effect ( $r = -.45, p < .01$ ), indicating that self-enhancing leaders are seen as less transformational by their followers and are less positively biased in their perceptions of followers. These negative intercorrelations are similar to the findings from earlier research that examined the relationships among the target effect, the perceiver effect, and the self-enhancement effect in self-perceptions (Kenny & Livi, 2009; Kwan et al., 2008; Livi et al., 2008).

### Hypothesis testing

Hypotheses 1 and 2 predict that the leader's target effect (H1) and perceiver effect (H2) for transformational leadership behaviour are positively related to LMX quality.

TABLE 1  
Descriptive statistics and Pearson zero-order correlations among the study variables

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Leader's gender ( <i>T</i> )	0.54	0.50								
2. Follower's team tenure ( <i>I</i> )	42.41	55.45	0.06							
3. Leader's team tenure ( <i>T</i> )	42.30	65.96	0.16**	0.38***						
4. Dyadic tenure ( <i>I</i> )	24.30	37.77	0.11	0.70***	0.67***					
5. Leader's target effect for transformational leadership <sup>a</sup> ( <i>T</i> )	0.33	0.60	0.30**	0.00	0.14*	0.04				
6. Leader's perceiver effect for transformational leadership ( <i>T</i> )	0.50	0.60	0.15*	0.11	0.13*	0.02	0.34**			
7. Leader's self-enhancement for transformational leadership ( <i>T</i> )	-0.10	1.04	-0.32**	0.02	-0.14*	-0.01	-0.68**	-0.45**		
8. Follower's extraversion ( <i>I</i> )	3.64	0.66	-0.11	-0.03	-0.03	-0.07	-0.08	-0.11	0.07	
9. Leader-member exchange ( <i>I</i> )	4.92	0.97	0.18**	-0.06	0.07	0.02	0.35**	-0.07	-0.31**	0.05

*T* = team-level variable; *I* = individual-level variable.

*N* varies between 267 and 286 for individual-level variables; team-level variables (*N* = 60 teams) were disaggregated to the individual level to calculate their correlations with individual-level variables.

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

<sup>a</sup>Perceived transformational leadership was measured using a seven-point response scale (see "Method" section). Based on these continuous scale ratings, the leader's target, perceiver, and self-enhancement effects were calculated using an index in the 0–1 range that represents team-mean deviated scores.

TABLE 2  
Results of multilevel regression analysis for quality of leader–member exchange

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Leader's gender ( <i>T</i> )	0.35* (0.17)	0.15 (0.14)	0.14 (0.14)	0.14 (0.14)	0.14 (0.14)
Target effect ( <i>T</i> )		0.27** (0.08)	0.25** (0.09)	0.27** (0.09)	0.24** (0.09)
Perceiver effect ( <i>T</i> )		−0.26** (0.07)	−0.25** (0.07)	−0.26*** (0.07)	−0.25** (0.07)
Self-enhancement effect ( <i>T</i> )		−0.22* (0.09)	−0.22* (0.09)	−0.23* (0.09)	−0.24** (0.09)
Follower's extraversion ( <i>I</i> )		0.08 (0.06)	0.08 (0.06)	0.07 (0.06)	0.08 (0.06)
Target effect × follower's extraversion ( <i>I</i> )			0.09* (0.05)		
Perceiver effect × follower's extraversion ( <i>I</i> )				0.06 (0.05)	
Self-enhancement effect × follower's extraversion ( <i>I</i> )					−0.13** (0.06)
Individual-level residual variance	0.79	0.79	0.78	0.79	0.77
Team-level residual variance	0.23	0.06	0.06	0.06	0.06
$\chi^2$	759.57	724.03	720.07	723.61	718.20
$\Delta\chi^2$	4.81*	35.54***	3.96*	0.42	5.83*

*N* = 60 teams, *n* = 286 team members. *T* = team-level effect; *I* = individual-level effect.

Table 2 reports the parameter estimates and the standard errors in parentheses directly following the estimate.

\**p* < .05; \*\**p* < .01; \*\*\**p* < .001.

As can be seen from Table 2 (Model 2), Hypothesis 1 is supported by our data. The more that followers perceive their leader to display transformational behaviour, the higher the reported quality of the leader–member exchanges ( $B = 0.27$ ,  $p < .01$ ). However, we found leaders' positivity bias in their perceptions of followers' transformational leadership (i.e., perceiver effect) to be negatively related to LMX quality ( $B = -0.26$ ,  $p < .01$ ). This result therefore does not support Hypothesis 2.

Hypothesis 3 predicts that the leader's self-enhancement effect for transformational leadership is negatively related to LMX quality. The results of the analyses presented in Table 2 (Model 2) also provide support for this hypothesis. Followers of self-enhancing leaders report lower levels of LMX quality ( $B = -0.23$ ,  $p < .05$ ). Overall, adding the main effects in Model 2 resulted in a significantly better fit compared with Model 1, in which only the leader's gender was included as a control variable ( $\Delta\chi^2 = 35.54$ ,  $df = 4$ ,  $p < .001$ ).

Hypothesis 4a predicts that the relationship between the target effect in leaders' self-perceptions of transformational leadership and LMX quality is more positive for more extraverted followers. Table 2 shows, for Model 3, a significant cross-level interaction between the target effect and follower extraversion ( $B = 0.09$ ,  $p < .05$ ). Furthermore, adding this interaction effect to the equation in Model 3 resulted in a significantly improved model fit compared with Model 2 ( $\Delta\chi^2 = 3.96$ ,  $df = 1$ ,  $p < .05$ ). To further interpret the direction of this two-way interaction effect, Figure 2A shows the simple regression lines of the relationship between a leader's target effect and LMX under conditions of high and low extraversion. In line with the guidelines from Aiken and colleagues (1991), we assessed whether the slopes of these regression lines differed significantly from zero. In the high-extraversion condition, the regression line has a significantly positive slope ( $t = 3.49$ ,  $df = 282$ ,  $p < .001$ ), whereas the slope of the regression line for followers with low extraversion is

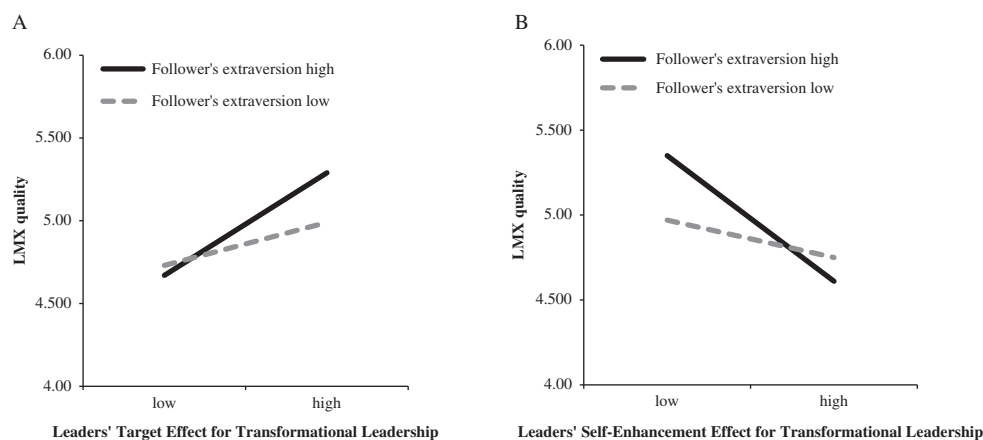


Figure 2. (A) Interaction of leaders' target effect for transformational leadership and followers' extraversion; (B) interaction of leaders' self-enhancement effect for transformational leadership and followers' extraversion.

less positive and not statistically significant ( $t = 1.31$ ,  $ns$ ). The results of these simple slope analyses support Hypothesis 4a.

We did not find empirical support for Hypothesis 4b predicting that follower extraversion would intensify the positive relationship between the perceiver effect in leaders' self-perceptions of transformational leadership and LMX quality. As the results for Model 4 in Table 2 show, the cross-level interaction between the perceiver effect and follower extraversion was not significant ( $B = 0.06$ ,  $p = ns$ ). Accordingly, including this interaction effect in the equation in Model 4 did not result in a significantly improved model fit compared with Model 2 ( $\Delta\chi^2(1) = 0.42$ ,  $p = ns$ ).

Hypothesis 5 predicts that the leader's self-enhancement effect for transformational leadership behaviour is more negatively related to LMX quality for more extraverted followers. Table 2 shows, for Model 5, a significant cross-level interaction between leader self-enhancement and follower extraversion ( $B = -0.13$ ;  $p < .05$ ). Again, adding this interaction effect to the equation resulted in a model with a significantly better fit compared with Model 2 ( $\Delta\chi^2 = 5.83$ ,  $df = 1$ ,  $p < .05$ ). The interaction between leader self-enhancement and follower extraversion is plotted in Figure 2B. Simple slope analyses revealed that the slope of the regression line for highly extraverted followers is significantly different from zero ( $t = -3.46$ ,  $df = 282$ ,  $p < .001$ ), whereas the slope for followers with low extraversion is not ( $t = -1.09$ ,  $df = 282$ ,  $ns$ ). These findings support Hypothesis 5.

## DISCUSSION

Researchers have consistently argued for, and found, a positive relationship between perceptions of transformational leadership and the quality of leader-member exchanges (e.g., Basu & Green, 1997; Dulebohn et al., 2012; Gerstner & Day, 1997; Howell & Hall-Merenda, 1999; Wang et al., 2005). However, such research has one-sidedly focused on followers' perceptions of transformational leadership behaviour, thereby ignoring the role of leaders' self-perceptions of their transformational behaviour. Given the reciprocal nature of the influence between leaders and followers, we have addressed this shortcoming by testing the notion that not only followers' perceptions but also leaders' self-perceptions of transformational leadership play a critical role in determining the quality of LMX. Specifically, by adopting an interpersonal approach to self-perceptions (Kwan et al., 2004), we broke down leaders' self-perception of their transformational behaviour into three components: a target effect, a perceiver effect, and a self-enhancement effect, and then examined the relationships between these components and LMX.

Consistent with previous research, the present results show that leaders who are perceived by their followers as being highly transformational (i.e., have a

high target effect) develop higher quality LMX relationships with their followers than leaders who are not viewed so highly in these terms. In contrast, leaders' enhanced self-perceptions of transformational leadership behaviour were *negatively* related to LMX quality. These findings empirically underpin the claimed relevance of including both a leader's self-perceptions and followers' perceptions by showing that leadership perceptions from both sides of the leadership process can be related to LMX in different ways. Moreover, both the positive influence of the target effect (follower perceptions) and the negative influence of the self-enhancement effect (leader's self-perception) in relation to LMX were more pronounced with extravert followers.

We also included the perceiver effect for transformational leadership in our analysis. The perceiver effect reflects a leader's potential tendency to perceive followers' behaviours as relatively positive. We expected that being positive about a person's behaviour would enhance the quality of the relationship (Livi et al., 2008). Interestingly, our results indicate that, although the bivariate correlation between the perceiver effect and LMX was not significant, the relationship between these variables became negative in the multilevel analyses. A tentative explanation for this finding is that followers expect their leaders to assess follower behaviours in accurate ways and that biases in their assessments are seen as an indication of poor leadership, which compromises the development of high-quality exchanges. However, given the inconsistency between the correlational and multilevel analyses, more research is needed to examine the robustness of this finding and to examine potential underlying mechanisms that may explain the negative influence of leaders' perceiver effect on the quality of the leader-member exchange relationship.

Another unexpected and interesting finding was that followers of female leaders not only reported exchange relationships of higher quality, they also indicated that their leader was more transformational than the average evaluation of male leaders. These findings are in line with the earlier research showing that female leaders more often than men adopt a transformational style of leadership and more often reward followers for appropriate behaviour (Eagly et al., 2003). Moreover, our results showed that female leaders were less prone to self-enhancement of their transformational behaviour than their male colleagues. This latter finding could stem from the "think manager think male stereotype" that is prevalent in society (e.g., Eagly, 2007; Eagly & Karau, 1991). Whether this stereotype is true or not, this general belief may put more pressure on male leaders than on female leaders to exhibit stereotypically effective leadership behaviour. Combined with the finding that men are less "equipped" to demonstrate transformational



behaviour (e.g., Eagly et al., 2003), this pressure may lead to greater self-enhancement of transformational behaviour by male than by female leaders.

### Theoretical implications

Taken together, our findings have several implications for research on both leadership and self-enhancement. First, our study provides support for the claim that self-perception is an interpersonal phenomenon that should not be investigated without considering perceptions of and by others (Kwan et al., 2004). Using the interpersonal approach to self-perception, we have shown the relevance of breaking down leadership self-perceptions into three components: a target effect, a perceiver effect, and an idiosyncratic self-enhancement effect. Differential effects on LMX quality were identified for each of these distinct components of leaders' self-perceptions of their transformational behaviour. Furthermore, although this interpersonal approach has previously been used to investigate self-perceptions of leadership in experimental research (see Livi et al., 2008), to our knowledge the present study is the first to assess leaders' self-perceptions of their transformational behaviour in a field setting.

Second, our results have implications for self-enhancement theory. Theory and research on this topic have been characterized by an ongoing debate as to whether self-enhancement is adaptive or maladaptive. Some scholars argue that self-enhancement serves to engender and preserve high levels of self-esteem and a positive self-concept (e.g., Taylor & Brown, 1988, 1994; Taylor et al., 2003a, 2003b). Research drawing on this perspective suggests that individuals who show evidence of optimism about themselves are better able to take care of others and are better liked by others (e.g., Taylor & Brown, 1988; Taylor et al., 2003a). Other scholars, however, have suggested that whereas self-enhancement may be adaptive when it comes to intrapsychic criteria such as self-esteem, it is likely to be maladaptive for establishing and maintaining interpersonal relationships (e.g., Colvin et al., 1995; Robins & Beer, 2001), and especially in the longer term (Paulhus, 1998). Studies guided by this viewpoint found that even though the self-confidence and optimism of self-enhancers may be initially attractive, they eventually offend and alienate others when more discrepancies between self-enhancers' claims and actual behaviours emerge (e.g., Anderson et al., 2008, 2006; Asendorpf & Ostendorf, 1998; Colvin et al., 1995; John & Robins, 1994; Paulhus, 1998; Robins & Beer, 2001). The participants in our sample had worked with each other over a considerable period of time, and so our results provide support for the latter perspective that, in the longer term, self-enhancement is maladaptive in the intrinsically interpersonal context of leadership.

The third and final implication of our findings relates to our results showing that follower extraversion moderates the influence on LMX quality of both the leader's target effect and the self-enhancement effect of transformational leadership. As such, this study contributes to theorizing on the role of follower characteristics in explaining leadership effectiveness (Howell & Shamir, 2005; Lord et al., 1999; Zhu et al., 2009), by identifying follower extraversion as a boundary condition that shapes not only the effect of followers' perceptions of leadership but also that of leaders' self-perceptions. Incorporating follower characteristics, such as extraversion, in research on leadership processes and outcomes does justice to the notion that leadership is a relational phenomenon in which leadership and followership both play important roles.

### Limitations and future research

The use of a round robin design, multiple data sources, and rigorous procedures to analyse the data are some of the strengths of the present study. However, there are also some limitations that we should address. First, when considering the generalizability of our findings, we recognize that our sample came from only two Dutch organizations, both operating in the "soft" sector (education and health care), and is therefore limited in terms of heterogeneity. Further research is needed to test the generalizability of our results, for instance in organizations in "harder" sectors where the need for profitability may put greater demands on leaders. Furthermore, the Dutch culture has been characterized as individualistic (Hofstede, 2001) and there is evidence that differences exist in the form and acceptability of self-enhancement between individualistic cultures and more collectivistic ones (e.g., Sedikides et al., 2003). Future research should therefore investigate the effect of self-enhancement of transformational behaviour on LMX quality in collectivistic cultures that more strongly value interpersonal harmony. Such research could also contribute to the recent debate on the universal nature of self-enhancement (Henrich, Heine, & Norenzayan, 2010).

Second, as with most empirical studies, we must acknowledge that our cross-sectional design precludes causal inferences. Whereas maintaining high self-esteem is thought to be one of the key reasons for people to self-enhance (Taylor & Brown, 1988), one could argue that a leader's poor effectiveness (as indicated by low-quality LMX) would lead them to self-enhance, thus adopting a self-protecting rather than a self-advancing perspective on self-enhancement (Sedikides & Gregg, 2008). Consequently, a plausible possibility is that self-enhancement and LMX quality reciprocally influence each other in a downward spiral. Longitudinal research could address issues related to the direction of causality. Furthermore, a longitudinal design would allow study

of the dynamics of LMX development in relation to leader self-enhancement.

Third, whereas research has shown that self-enhancement may have short-term benefits, due to impression management for example, the long-term effects of self-enhancement are likely to become detrimental (e.g., Colvin et al., 1995; Paulhus, 1998; Robins & Beer, 2001). Indeed, followers may be initially impressed by their leader's claims, perceiving major investment on the part of their leader, and reciprocate likewise (Wang et al., 2005). Over time, however, they may start to recognize their leader's inflated claims leading to a drop in LMX quality. In general, the leaders and followers in the present study had worked together for more than two years, and therefore, we would expect the LMX relationships to have become well established. In new or young teams, the results may well be different. Longitudinal research designs with multiple measurement periods, in which teams are studied from their conception onwards, are necessary to uncover the short- and longer-term effects of self-enhancement on relevant outcome variables.

### Practical implications

Overall, our findings suggest that followers' perceptions of their leader's transformational leadership behaviours are positively related to the quality of leader-member exchanges, which supports the potential usefulness of training programmes aimed at increasing leaders' transformational skills and abilities (Barling, Weber, & Kelloway, 1996). At the same time, however, our results indicate that leaders' enhanced perceptions of their transformational leadership behaviour are detrimental for leadership effectiveness. Given that self-enhancement is a general tendency, this suggests the importance of efforts aimed at reducing leaders' tendency to form an overly positive view of their transformational leadership behaviour. One way to realize this for organizations may be to use 360° feedback programmes. Using the interpersonal approach to self-enhancement, as described in this article, the information available from such programmes can be used to determine leaders' self-enhancement scores. This information can subsequently be utilized in leadership development programmes to provide leaders with knowledge about how their followers view them and to provide insights into the differences between their own perceptions of their leadership behaviour and those of their followers. This information could be used to guide discussions between leaders and followers about effective leadership behaviour. Alternatively, organizations could train leaders to more actively seek feedback from their followers about their behaviour. Although organizations should be aware that leaders may sometimes filter the feedback they receive, and only absorb elements that match their self-image or simply discard negative feedback as incorrect or unjust (Ditto & Boardman, 1995; Ditto & Lopez, 1992; Taylor

& Brown, 1988), research also suggests that actively seeking feedback increases leader effectiveness (e.g., Ashford & Tsui, 1991). Follow-up activities such as discussing the acquired feedback with followers might prove useful, especially when considering self-enhancement tendencies, as it would allow leaders to verify their interpretation of the feedback and increase their accountability for actually using the feedback (Walker & Smither, 1999). Such interventions may help to turn hubristic, self-enhancing leaders into more transformational and heroic ones, which may ultimately benefit follower, team, and organizational performance.

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