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# Linking the Big Five-Factors of personality to charismatic and transactional leadership; perceived dynamic work environment as a moderator

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## Summary

In this multi-source study we investigated the relationships between the Big Five personality traits and both charismatic and transactional leadership behavior, and whether dynamism (the degree that the work environment is deemed dynamic) moderates these relationships. We also tested whether dynamism moderates the relationship between leadership behavior and effectiveness. Personality was measured through self ratings using the NEO-PI-R. Subordinates rated their leaders' behavior, and peers and superiors provided ratings of effectiveness. Consistent with trait activation theory, results showed that perceived dynamic work environment moderated the relationships of four of the Big Five-Factors with both charismatic and transactional leadership. Also, charismatic leadership was positively related to perceived effectiveness, but only in dynamic contexts. Copyright © 2005 John Wiley & Sons, Ltd.

## Introduction

In recent years there has been a resurgence of interest in research on personality traits of effective leaders. This is partly due to the progress that has been made in the field of charismatic or transformational leadership theory, which attributes importance to personality in predicting leader behavior and effectiveness (Bryman, 1992; Den Hartog & Koopman, 2001). In addition, this interest can be linked to the emerging consensus regarding the five-factor view of personality that provided a new framework to integrate empirical findings (e.g., Digman, 1990; Goldberg, 1990).

Recent work demonstrates that stable individual differences in leadership do exist (e.g., Judge, Bono, Ilies, & Gerhardt, 2002). However, unambiguous links between the five factors and leader

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behavior have been difficult to establish (e.g., Bono & Judge, 2004; Crant & Bateman, 2000; Judge & Bono, 2000; Ployhart, Lim, & Chan, 2001). To date there has been little attention in the leadership literature for the principle of trait activation, which holds that personality traits require trait-relevant situations for their expression. In other words, an individual will behave in trait-like ways only in those situations that are relevant to the given trait (Tett & Burnett, 2003). Drawing on trait activation theory, the relationship between personality and charismatic and transactional leadership may differ depending on the context and such relationships may only be present in situations in which these leadership styles encompass viable, trait-relevant responses.

The present study examines the extent to which the work environment is dynamic (i.e., characterized by challenge and opportunities for change) as a possible moderator of the personality-leadership style relationship. First, we examine the five factors of personality in relation to charismatic and transactional leadership and test whether the extent of dynamism in the work environment moderates these relationships. Second, we also address the relationship between leadership and effectiveness and test for the potential moderating effects of the context in this relationship.

## Charismatic and Transactional Leadership

Current research and theory on leadership strongly emphasizes charismatic or transformational models of leadership as opposed to what Burns (1978) and Bass (1985) have called transactional models of leadership. Transactional leaders aim to maintain the status quo by rewarding subordinates' efforts and commitment. Charismatic or transformational leaders, on the other hand, are believed to change the status quo by infusing work with meaning so that followers' energies are mobilized to respond quickly and effectively to demands of the environment (e.g., Bass, 1985; Burns, 1978; House, 1977; Pawar & Eastman, 1997; Waldman, Ramirez, House, & Puranam, 2001). Although transformational and charismatic leadership models differ somewhat in the way the components are conceptualized, they are often treated as equivalent (Yukl, 1999). In the present study, we will use the terms charismatic and transformational leadership interchangeably.

Aside from the articulation of an attractive vision for the organization and behaving in ways that reinforce the values inherent in that vision, some authors hold that charismatic or transformational leadership should also include empowering behaviors such as, delegation of responsibilities to followers, enhancing followers' capacity to think on their own and encourage them to come up with new and creative ideas (Yukl, 1999; cf. Dvir, Eden, Avolio, & Shamir, 2002; Kark, Shamir, & Chen, 2003). Transactional leaders influence followers through task-focused behaviors; they clarify expectations, rules and procedures, emphasizing a fair deal with subordinates (Bass, 1985; Burns, 1978; House, 1996). Charismatic leadership is believed to build on and augment the impact of transactional leadership and is expected to motivate followers perform beyond expectations (Bass, 1985; Burns, 1978; House, 1977).

Charismatic leadership theories have made considerable progress in addressing effective leadership (Yukl, 1999). Many empirical studies and a number of meta-analyses have found that charismatic or transformational leadership styles are positively related to perceptual and sometimes even financial performance measures, and that these relationships tend to be stronger than those of transactional leadership (e.g., Bycio, Hackett, & Allen, 1995; Fuller, Patterson, Hester, & Stringer, 1996; Howell & Avolio, 1993; Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996; Waldman et al., 2001).

Most researchers concerned with charismatic leadership attribute importance to personality in predicting leader behavior and effectiveness (Bryman, 1992; Den Hartog & Koopman, 2001; Jacobsen & House, 2001; Judge & Bono, 2000). Over the last decade or so, numerous theoretical models and several empirical studies have sought to identify personality traits of charismatic and transactional leaders (e.g., Bono & Judge, 2004; Church & Waclawski, 1998; Crant & Bateman, 2000; De Hoogh et al., 2005; Hetland & Sandal, 2003; House & Howell, 1992; Howell & Avolio, 1993; Howell & Higgins, 1990; Judge & Bono, 2000; Kuhnert & Lewis, 1987; Ployhart et al., 2001; Ross & Offermann, 1997; Sosik, Avolio, & Jung, 2002; Sosik & Dworakivsky, 1998). Together these conceptual models and empirical studies suggest that various personality traits are possible antecedents of charismatic and transactional leader behavior.

## Five-Factor Model of Personality and Leadership

In personality theory, evidence supporting a five-factor view of personality has been accumulating, which has led to an emerging consensus on the taxonomy (e.g., Digman, 1990; Goldberg, 1990). Current personality theory holds that the basic structure of personality may consist of five factors, often labeled: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to experience (see e.g., Costa & McCrae, 1992b). All five factors of personality are thought to encompass several correlated but distinct lower level dimensions or traits. The communality of the specific traits defines each of the five broad factors. The five factors are found consistently through different research methods across time, contexts, and cultures (e.g., Digman, 1990; Digman & Shmelyov, 1996; McCrae, Costa, del Pilar, Rolland, & Parker, 1998) and show evidence of heritage (Jang, McCrae, Angleiter, Riemann, & Livesley, 1998).

In the early days of personality and leadership research there was no taxonomic structure of personality to aid theory development and testing. As a result, numerous different personality traits were investigated, making integration of results difficult. Nowadays, the Five-Factor model provides a unified, comprehensive theoretical framework for comparing and accumulating empirical findings. Accordingly, Judge and colleagues (2002) used the five-factor model as an organizing framework in their meta-analysis on personality and leadership. The five-factor model explained 16 per cent of variance in leader effectiveness, indicating that leader effectiveness can, to some extent, be predicted from personality traits when these are organized according to the five-factor model.

To date, little is known about *how* personality affects leadership. Several studies have linked the Big Five traits to charismatic leadership and transactional leadership. However, results have differed from study to study (e.g., Crant & Bateman, 2000; Judge & Bono, 2000; Ployhart et al., 2001). For example, Judge and Bono (2000) studied a sample of participants of a community service leadership program who had jobs in a variety of industries and found that self-reports of agreeableness and to a lesser extent extraversion and openness to experience were related to charismatic leadership. Yet, Crant and Bateman (2000) studied managers of a financial service organization and reported significant effects for extraversion but not for the other dimensions of the Big Five. Recently, Bono and Judge (2004) used the five-factor model as an organizing framework in their meta-analysis on personality and transformational and transactional leadership. Considerable variability in relationships (strength and direction) was found across studies included in the meta-analysis, which resulted in generally weak mean validities for the Big Five factors.

These inconsistent findings suggest that the context in which behavior is assessed may play an important role. A growing stream of research in the personality field suggests that personality

expression in behavior varies by situation type (e.g., Chatman, Caldwell, & O'Reilly, 1999; Tett & Burnett, 2003; Tett & Guterman, 2000). However, this premise has received little attention in leadership research to date.

## Trait Activation and Charismatic and Transactional Leadership

According to trait activation theory, personality traits require trait-relevant situations for their expression. In other words, an individual behaves in trait-like ways only in those situations that are relevant to the given trait. Thus, if one wishes to assess nurturance, one must observe people in situations where nurturance is a viable response (Tett & Burnett, 2003). Similar points were raised long ago by researchers such as Murray (1938), Allport (1966), Bem and Funder (1978) and more recently by Chatman et al. (1999). The deliberate provision of cues for expressing targeted traits can also be recognized in previous research by McClelland, Atkinson, Clark, and Lowell (1958) using the Thematic Apperception Test (TAT). Trait activation theory has received direct support in a study by Tett and Guterman (2000), who showed that correlations between self-report trait measures and trait-relevant behavioral intentions are stronger in situations providing appropriate cues for trait expression. Drawing on trait activation theory, the relationship of personality with charismatic and transactional leadership may differ depending on the context in which these leadership styles can be conceived as viable, trait-relevant responses.

Several authors have argued that charismatic leadership is more likely to emerge in environments characterized by a high degree of challenge and great opportunities for change, i.e., dynamic environments (e.g., Bass, 1985; Conger, 1993; Shamir & Howell, 1999). Shamir and Howell (1999, p. 264), for example state: 'Charismatic leaders are more likely to emerge (. . .) in environments characterized by a high degree of change and by great opportunities for change than in stable environments that offer few inducements for change or opportunities for change.' Likewise, Bass, and Avolio (1993), suggest that transformational leaders are more likely to come up in organizations facing rapidly changing technologies and markets than in organizations operating under routine and stable conditions. Shamir and Howell (1999, p. 264) note with respect to charismatic leaders that: 'While perceptions of the environment as calling for change and the identification of opportunities for change are not fully determined by environmental conditions, and potentially exist in all circumstances, they are more likely to emerge in dynamic environments.' Such dynamic environments offer challenge and opportunities for change, require new interpretations, novel responses, and different levels of effort and investment. In dynamic environments subordinates' self-concepts, values and identities can more readily appeal to and engaged, because of strong orientation needs (Shamir & Howell, 1999). In contrast, in stable environments, leaders have less room to take dramatic and 'charismatic' actions, as these environments offer fewer inducements for change or opportunities for change. Thus, charismatic leadership may be more likely to emerge in a dynamic than in a stable work environment.

There is some empirical evidence providing indirect support for the importance of a dynamic work environment to the emergence of charismatic leadership. Previous research has found evidence of a link between charismatic leadership and crisis (House, Spangler, & Woycke, 1991) as well as innovation (Howell & Higgins, 1990). Furthermore, Pillai and Meindl (1998) showed that having an organic structure was positively associated with the emergence of charismatic leadership in work units of a large organization. Such organic structures tend to be flexible and innovative and face turbulent environments. Thus, environments characterized by a high degree of challenge and great opportunities for change (i.e., dynamic work environments) may facilitate the emergence of charismatic leadership

more than environments that are more structured, stable, and orderly. Therefore, the extent to which an environment is perceived to be dynamic may be especially important for studying the antecedents of charismatic leadership.

Alternatively, a more stable environment may be more important for studying the antecedents of transactional leadership. According to Bass (1985) transactional leadership is most likely to appear in more routine, stable environments where goals and structures are clear and/or where members work under formal contracts. Such leadership aims to keep the organization running smoothly and efficiently by focusing on control by compliance to rules and maintaining stability within the organization rather than promoting change (Fry, 2003). Transactional leaders may be less likely to emerge in dynamic circumstances because they tend to be less engaging, choosing to monitor exchange relationships with employees and maintaining the status quo rather than focusing on change (Ployhart et al., 2001). Therefore, the degree to which an environment is perceived to be stable may especially be important for studying the antecedents of transactional leadership.

The results of a study done by Ployhart and colleagues (2001) among participants of a military training support the idea that the strength of the link between personality and leader behavior may depend on the context. They found that the effect sizes of the five factor constructs in their relation to charismatic leadership were stronger for ratings during a two-day assessment exercise than for ratings done at the end of a three months basic training. The two-day assessment exercise was designed to challenge candidates' leadership skills through placing them in dynamic and uncertain situations. Ratings were collected to evaluate leadership skills over a series of challenging military tasks. Compared to the three-month basic training, which formed a somewhat more stable, formalized situation that was more predictable to candidates, the circumstances during the two-day assessment were much more dynamic; offering recruits a great extent of challenge. Ployhart and colleagues concluded from their results that the link between personality and charismatic leadership might be strongest under conditions that call for charismatic leadership, namely more challenging, dynamic conditions. This proposition has not yet been tested outside the military context. The present study builds on and extends the research by Ployhart and colleagues (2001). We examine the relationship between self-ratings of the Big Five-Factors of personality and subordinate ratings of both charismatic and transactional leadership and we assess dynamic work environment as a potential moderator of these relationships. Below we present our hypotheses for each of the Big Five traits.

### *Big Five traits, dynamic work environment and leadership: hypotheses*

*Extraversion.* Extraverts are social, assertive, active, bold, energetic, and adventurous. Individuals high on extraversion are dominant in their behavior and expressive when interacting with others (McCrae & Costa, 1987). Such characteristics play an important role in influencing, persuading and mobilizing others and are argued to be important for charismatic leaders (Bass, 1985; House, 1977). In line with these suggestions, in their meta-analysis, Bono and Judge (2004) found extraversion to be the strongest and most consistent personality correlate of charismatic leadership.

In a dynamic work environment, extraversion may be especially important for charismatic leadership, since in times of turbulence people tend to long for someone communicating clear sense of direction (Shamir & Howell, 1999). Turbulence may also provide opportunities for leaders to take forceful actions, which would be far harder or even unacceptable under steady state circumstances (House et al., 1991). In line with this, Ployhart and colleagues (2001) found that the effect size for extraversion in explaining charismatic leadership was stronger under conditions of challenge than in a more stable

environment. Thus, we hypothesize that extraversion will be positively related to charismatic leadership, especially so in a dynamic work environment.

*Hypothesis 1:* Extraversion will be positively related to charismatic leadership and this relationship will be stronger in dynamic than in stable work environments.

*Openness to experience.* Individuals scoring high on openness to experience are characterized by traits such as imagination, unconventionality, autonomy, creativity, and divergent thinking (McCrae & Costa, 1987). Their prowess in esoteric thinking and fantasy as well as deliberation of social values (McCrae, 1996) may play a role in the articulation of an attractive vision, a key behavior for charismatic leaders. Also, they are creative and divergent thinkers, open to change and new experiences (McCrae & Costa, 1987) and display independence of judgment and autonomy (Woodman, Sawyer, & Griffin, 1993). This may make them more likely to find new opportunities and to use unconventional methods to reach organizational goals, behavior that is often seen as relevant to charismatic leaders (e.g., Conger & Kanungo, 1994; Conger, Kanungo, Menon, & Mathur, 1997). Empirical evidence indeed links openness to experience to charismatic leadership (Bono & Judge, 2004; Judge & Bono, 2000).

In a dynamic work environment, openness may especially be important for charismatic leadership, since these environments offer a high degree of challenge, opportunities for change and they require new interpretations and novel responses. Accordingly, Ployhart and colleagues (2001) found that openness to experience explained variance in charismatic leadership, but only in more challenging conditions. Therefore, we hypothesize that openness to experience will be positively related to charismatic leadership, especially so in a dynamic work environment.

*Hypothesis 2:* Openness to experience will be positively related to charismatic leadership and this relationship will be stronger in dynamic than in stable work environments.

*Agreeableness.* Agreeable individuals are altruistic, warm, generous, trusting, and cooperative (McCrae & Costa, 1987; Costa & McCrae, 1992a). The pro-social aspect of agreeableness may be an asset to charismatic leaders as agreeable individuals are friendly and sympathetic and arouse liking in other people (Costa & McCrae, 1988). Also, agreeable people are concerned with others' interests. This may be a prerequisite to be able to understand subordinates' perspective and infuse their work with meaning, a central characteristic of charismatic leadership (Bass, 1985; Burns, 1978; House, 1977). Being concerned with others may also help charismatic leaders to attend to individual needs of followers. This willingness and ability to attend to the individual needs of followers is the core of individualized consideration, a leader behavior which many authors see as an important part of transformational or charismatic leadership (e.g., Bass, 1985; Conger & Kanungo, 1994; Shamir, Zakay, Breinin, & Popper, 1998). In line with this, Judge and Bono (2000) found a positive relationship between agreeableness and charismatic leadership. The measure of charismatic leadership used in the present study combines the articulation of an attractive vision, providing meaning to follower's work, and role modeling of desired behavior with empowering leader behaviors. These include aspects of individualized consideration, intellectual stimulation and participation in decision-making. Research has found agreeableness to be positively related to a preference for participative styles of management (Stevens & Ash, 2001). To be able to delegate and share sensitive information one needs to be trusting and straightforward, which both are facets of agreeableness. Taking these results together with the positive relationship found by Judge and Bono (2000), this suggests a positive relationship between agreeableness and our measure charismatic leadership might be found.

However, we feel that agreeableness may also be a hindrance to charismatic leaders, because highly agreeable individuals tend to be submissive and conforming (see e.g., Graziano & Eisenberg, 1997). In

line with this and in contrast with the results reported by Judge and Bono (2000), Lim and Ployhart (2004) found a negative relationship between agreeableness and charismatic leadership in their study. Judge and Bono (2000) studied a sample of participants of a community service leadership program who had jobs in a variety of industries, whereas Lim and Ployhart conducted their study among military personnel. Lim and Ployhart suggested that in critical, risky situations (such as the ones military personnel are often confronted with) agreeableness may not contribute to perceptions of charismatic leadership, since in times of turbulence people long for a strong leader, communicating a clear sense of direction (Shamir & Howell, 1999). Highly agreeable individuals may tend to be overly compliant and try to accommodate everyone, even when they have differing viewpoints or interests (see e.g., Graziano & Eisenberg, 1997). This may make them seem less decisive and less confident of their own vision, especially in times of turbulence when such differences are likely to be more salient. Agreeable people may therefore be viewed as less charismatic under these circumstances. Whereas, in a more stable context, agreeableness may be an asset to charismatic leaders, as it may help increase the quality of their interaction with followers. Thus, we hypothesize that agreeableness will be negatively related to charismatic leadership in dynamic work environments, and positively in stable environments.

*Hypothesis 3:* Agreeableness will be negatively related to charismatic leadership in dynamic work environments and positively in stable work environments.

Transactional leaders engage in a relationship of mutual dependence with their followers, in which the contributions of both sides are acknowledged and rewarded. As such, transactional leaders must meet and respond to the reactions and changing expectations of their followers (Kuhnert & Lewis, 1987). As cooperation and empathy are both hallmarks of agreeableness (Costa & McCrae, 1992a), agreeableness may be an asset for transactional leaders. Agreeable individuals also tend to be trusting and straightforward which may help in the process of offering a fair deal to subordinates, behavior relevant to transactional leadership (Bass, 1985; Burns, 1978; De Hoogh, Den Hartog, & Koopman, 2004; House, 1996). In line with this, the meta-analysis by Bono and Judge (2004) reported a positive relationship between agreeableness and transactional leadership. However, there was considerable variability in the size of correlations across the studies included in the meta-analysis, including some studies reporting negative relationships. Thus, there is sufficient room to test for potential moderators.

Stable work environments provide a high degree of structure with little ambiguity in pursuing the objectives of the job and such lack of ambiguity may help ensuring fair and equal treatment and setting clear and stable guidelines. Agreeableness may be especially important for transactional leadership in such an environment. In contrast, under more dynamic conditions, leaders who seem more compliant and less decisive may be viewed as too passive and rated as less transactional. Therefore, we hypothesize that agreeableness will be positively related to transactional leadership in stable work environments and negatively in dynamic work environments.

*Hypothesis 4:* Agreeableness will be negatively related to transactional leadership in dynamic work environments and positively in stable work environments.

*Conscientiousness.* Conscientiousness encompasses dependability, responsibility, dutifulness, deliberation, achievement orientation, and a concern for following established rules (McCrae & Costa, 1987). Conscientiousness could be seen as part of charismatic leadership, as highly conscientious leaders may inspire followers to perform beyond expectation through setting high standards and acting dutifully themselves (e.g., Bass, 1985). However, as indicated, conscientiousness also reflects the tendency to be cautious, thoughtful and a strict adherence to standards of conduct (Costa, McCrae, & Dye,

1991). Moreover, Diener, Larsen, and Emmons (1984) found that need for order was negatively related to choice of novel situations. Therefore, although conscientiousness may be an asset to charismatic leaders, helping them to set challenging goals, conscientiousness may also be a liability, especially in a dynamic work environment, as highly conscientious leaders may stick to agreed upon regulations rather than grasp opportunities at hand. Thus, in a dynamic work environment, conscientiousness may be negatively related to charismatic leadership. Bono and Judge (2004) found a positive relationship between conscientiousness and charismatic leadership in their meta-analysis, but again the variability across studies included in their analysis was considerable, including some studies reporting negative relationships. Thus, there is sufficient room to test for potential moderators. Considering the above, we hypothesize that conscientiousness will be negatively related to charismatic leadership in dynamic and positively in stable work environments.

*Hypothesis 5:* Conscientiousness will be negatively related to charismatic leadership in dynamic work environments and positively in stable work environments.

Transactional leaders are characterized by task-focused behaviors; they clarify expectancies, rules and procedures, emphasizing a fair deal with subordinates (Bass, 1985; Burns, 1978; De Hoogh, Den Hartog, & Koopman, 2004a; House, 1996). Since individuals high on conscientiousness are precise and systematic and make detailed and thoughtful plans (Costa & McCrae, 1992a; McCrae & Costa, 1987), conscientiousness is likely to be positively related to transactional leadership. Furthermore, to monitor successfully, one needs to strictly adhere to standards of conduct, also an element of conscientiousness. Bono and Judge (2004) however do not find this hypothesized positive relationship between conscientiousness and transactional leadership. The context may play a role here. We expect that conscientiousness is especially important for transactional leadership in a stable work environment, as this environment offers more prescribed, formalized and defined goals and structures. Under more dynamic conditions, leaders who tend to stick strictly to the preset exchange relationships with employees and stress maintaining the status quo even when conditions have changed and the former rules and procedures may no longer apply or be fair, may be viewed as too passive or rigid and thus rated as less transactional. Thus, we hypothesize that conscientiousness will be positively related to transactional leadership in stable and negatively in dynamic work environments.

*Hypothesis 6:* Conscientiousness will be negatively related to transactional leadership in dynamic work environments and positively in stable work environments.

*Neuroticism.* Neuroticism reflects the tendency to be anxious, defensive, insecure, and emotional (McCrae & Costa, 1987). It is associated with a lack of self-confidence (McCrae & Costa, 1991). In contrast, self-confidence is argued to be a central characteristic of charismatic leaders (Bass, 1990; House, 1977). Thus, neuroticism is likely to hinder charismatic leaders, since neurotic leaders may be unable to picture a competence and trustworthy leader. Indeed, Lim, and Ployhart (2004) found a negative relationship between neuroticism and charismatic leadership in their military sample. Judge and Bono (2000) as well as Crant and Bateman (2000), however, failed to find the hypothesized negative relationship between neuroticism and charismatic leadership. Lim and Ployhart (2004) suggested that the existence of moderators on the relationship between neuroticism and transformational leadership may explain these contradictive results. Compared with business leaders of the Judge and Bono (2000) and Crant and Bateman (2000) sample, military personnel often have to work under hazardous and life-threatening situations, hence the ability to remain calm, secure and non-anxious is critical. Thus, in risky, tumultuous situations neuroticism may especially be a hindrance to charismatic leaders, since in times of turbulence people long for a strong command structure and leadership. This may also extend to dynamic situations. Therefore, we hypothesize:

*Hypothesis 7:* Neuroticism will be negatively related to charismatic leadership, and this relationship will be stronger in dynamic than in stable work environments.

### *Charismatic leadership, transactional leadership and effectiveness*

The first aim of the present study was to address the relationship between personality and charismatic and transactional leadership, and to test the potential moderating role of a perceived dynamic work environment. The second aim was to address the effectiveness of these two styles and assess whether context also moderates this relationship. Several authors have argued that whereas transactional leaders motivate subordinates to perform as expected, the transformational or charismatic leader inspires followers to go beyond expectations (e.g., Bass, 1985; Burns, 1978; House, 1977). Transactional leaders offer their subordinates a fair deal. Subordinates of such leaders know that their effort will result in goal attainment and that they will be justly rewarded by their leader for doing what is expected from them (e.g., House, 1996). Charismatic leaders are believed to infuse followers' work with values by articulating an attractive vision, and to behave in ways that reinforce the values inherent in that vision, so that followers become highly committed to the goal of the collective and achieve more than they are expected to do (e.g., Shamir, House, & Arthur, 1993). Research shows that transformational leadership tends to be more effective than transactional leadership (e.g., Fuller et al., 1996; Judge & Piccolo, 2004; Lowe et al., 1996). Thus, we hypothesize that charismatic will be strongly related to perceived leader effectiveness, and transactional behaviors less so.

*Hypothesis 8:* Charismatic leader behavior is positively related to perceived effectiveness and more strongly so than transactional leadership.

Above, we propose that the extent to which a work environment is perceived as dynamic may affect the emergence or antecedents of charismatic and transactional leadership styles. There is also some research that suggests that charismatic leaders are more effective in changeable, dynamic environments than in more certain or stable ones. For example, Waldman et al. (2001) found that the relationship between CEO charismatic leadership and firm financial performance was positive, but this only held when environmental conditions were uncertain and changeable. Also, De Hoogh et al. (2004b) found that the relationship between charismatic leadership and subordinates' positive work attitude to be stronger in such uncertain, unpredictable environments. As stated, we see a dynamic environment as a relatively uncertain situation, characterized by a high degree of challenge and great opportunities for change. In such an environment, charismatic leaders can more easily generate appeal for their vision (Waldman et al., 2001; Trice & Beyer, 1986). Charismatic leaders can direct follower's attention to the existence of opportunities for change, increase their optimism regarding that change, and mobilize their energies to devote themselves to the attainment of the vision. Such commitment and effort on the part of the members is expected to enable organizations to respond more quickly and effectively to environmental shifts and changes (Howell & Avolio, 1993; Shamir & Howell, 1999). As a result, charismatic leaders are likely perceived as more effective in dynamic work environments than in more stable ones. Therefore, we hypothesize:

*Hypothesis 9:* The relationship between charismatic leader behavior and perceived effectiveness will be stronger in dynamic work environments than in more stable work environments.

Thus the present study has two aims. First, we examine the relationship between self-ratings of the Big Five-Factors of personality and subordinate ratings of charismatic and transactional leadership and assess the role of a dynamic work environment as a potential moderator of these relationships. Second we look at the relationship between leadership and effectiveness and again test the role of dynamism as

a potential moderator. Most previous studies use a cross-sectional design to investigate links between personality and leadership. Here, we use a longitudinal design. Since the results of studies linking personality to leadership may have potential benefits for the selection and development of leaders, the Big Five-Factors were assessed during an evaluation of managerial potential (time 1 measurement, see also method). At time 2, subordinates rated their focal manager's leader behavior and peers and/or superiors provided ratings of effectiveness. The focal managers themselves provided a measure of perceived dynamic work environment (time 2). Managers' own perceptions of the environment are most relevant for explaining trait relevant behavior as compared to for example perceptions of subordinates or peers, which is the primary aim of our study. Moreover, in this way, each of the variables measured in this study was assessed by different raters or at different time points, minimizing common source and rater bias. The method is outlined in more detail below.

## Organizational Context

The data for this article were collected in 2002/2003. At the time of the study the economy in the Netherlands was in a period of a mild recession. Data collection was done in collaboration with consultancy firm LTP, one of the leading management consulting firms in the Netherlands, especially in the area of assessment. Besides assessment LTP operates in the areas of organization diagnostics, organization development, culture change programs, management development, coaching and HR-internet tools. The company was founded in 1927 as an offspring of the Free University of Amsterdam and works with many different Dutch and international client companies as KLM, ING, Ernst & Young, ABN AMRO, Solvay, Nissan, as well as several state departments and the judiciary (for example, all candidates for the position of judge in the Netherlands are assessed by LTP). LTP still values its scientific background and regularly initiates and participates in research projects.

The sample in this study consists of 83 managers from many different backgrounds who underwent an assessment for evaluating their managerial potential either for selection (35 per cent) or developmental purposes (65 per cent) at LTP, and nine months later participated in our multi-source feedback study. As an incentive, the managers were offered the opportunity to receive a multi-source feedback report on their leadership styles following participation in the follow-up study. Most managers who had taken part in the management assessment for personnel selection purposes and participated in the follow up study were given a positive advice regarding the job for which they had applied (89.66 per cent). The managers were employed in a diverse cross-section of areas (e.g., production, sales, engineering, finance, human resource management), and organizational levels (28 per cent higher-level managers, 57 per cent middle-level managers, 13 per cent lower-level managers). One third of the managers were women.

## Method

### *Procedure*

Participants of a 1-day assessment for evaluating managerial potential at a psychological consulting firm ( $n = 341$ ) completed a personality inventory during this assessment (time 1). At the end of the

assessment day, all participants received a letter with an invitation to take part in a 360-degree feedback survey administration to be conducted nine months later. As an incentive, they were offered the opportunity to receive a multi-source feedback report on their leadership styles following participation in the follow-up study. In total, 73.04 per cent indicated to be willing to participate by filling out the relevant form. The final sample size consists of 83 managers who completed a personality inventory during an assessment (time 1) and nine months later (time 2) participated in a multi-source feedback study.

Nine months after they had participated in the assessment, survey packets were sent to the homes of these candidates (time 2). Survey packets contained a questionnaire to be completed by the participant him- or herself, and six other questionnaires to be completed by the subordinates, superiors, and peers of the participant. A letter from the researchers assuring confidentiality was sent with each questionnaire. The questionnaires filled out by others were completed anonymously and returned directly to the researchers in pre-addressed envelopes. Code numbers were included on surveys so that respondents could be correctly matched for subsequent data analyses.

For 84 candidates we received subordinates surveys containing ratings of leadership style (24.63 per cent response rate). For 61 of these participants, superiors and/or peers provided ratings of perceived leader effectiveness. Thus, we used self ratings to measure personality and dynamism, subordinate ratings to measure leadership styles and peer and/or superior ratings to measure perceived leader effectiveness, ensuring separate data sources.

Twenty-nine of the participants at time 2 had taken part in the management assessment at time 1 for personnel selection purposes and 89.66 per cent of them were given a positive advice regarding the job for which they had applied. The other 55 participants underwent the assessment for developmental purposes. The average age of the participants was approximately 40 years. Twenty-eight of these participants were female.

In the self-report questionnaire at time 2 ( $n = 82$ ), 83 per cent of the participants indicated that they had been in their current jobs for 6 months or more (99 per cent at least 3 months). Most participants (82 per cent) had 6 or more subordinates reporting to them directly and 10 or more subordinates reporting to them indirectly. The participants had jobs in a wide range of areas, including production, sales, engineering, finance, human resource management, and so on. One third of these participants worked in small to medium sized organizations, the other two thirds worked for organizations with more than 500 employees. Twenty-three participants indicated that they were higher-level managers, 47 were middle-level managers and 11 considerate themselves lower-level managers. One respondent indicated he currently did not have a management position; therefore his data was left out of further analyses.

Summarizing, the sample in this study consists of 83 managers who completed a personality inventory during an assessment for evaluating managerial potential (time 1) and nine months later (time 2) participated in a multi-source feedback study. At time 2, subordinates ( $n = 256$ ,  $mean = 3$  per manager, for 75 managers more than one subordinate survey available) rated these managers' leadership style. In addition, superiors ( $n = 39$ ) and/or peers ( $n = 69$ ) provided ratings of perceived leader effectiveness ( $n = 61$  managers,  $mean = 1.77$  peer and/or superior rating per manager). At time 2, the focal managers also filled out a questionnaire in which they indicated the degree to which they perceived their work environment to be dynamic ( $n = 80$ ). Figure 1 depicts the research design.

To check for selective non-response, the managers who participated in the multi-source feedback study at time 2 were compared with those who did not. A multivariate analysis of variance including gender, age and the Big Five-Factors suggested no significant differences,  $F(28, 87365) = 0.94$ ,  $p > 0.05$ . Furthermore, we compared the managers in our study for which ratings of perceived leader effectiveness were available with the group for which none were available. A multivariate analysis of variance including gender, age, and leadership styles again suggested no significant differences,  $F(10, 8248) = 0.92$ ,  $p > 0.05$ .

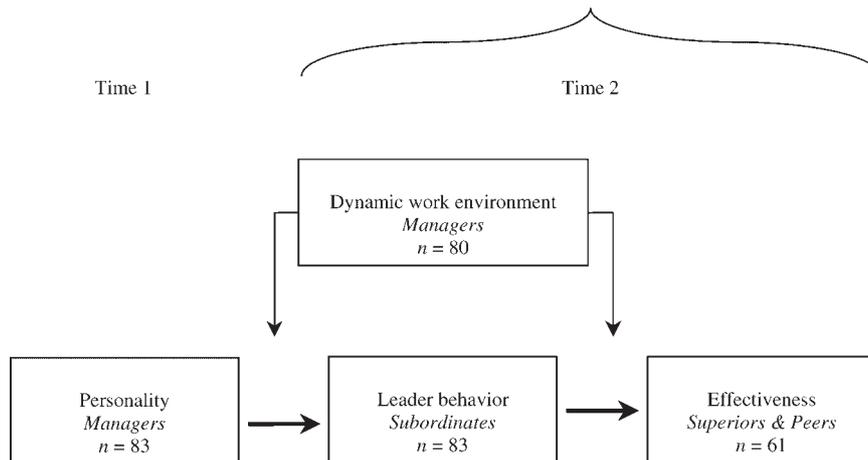


Figure 1. Research design

## Measures

### Big Five personality traits

The Big Five personality traits were measured with the 240-item revised NEO personality inventory (Costa & McCrae, 1992b; Authorized Dutch translation by Hoekstra, Ormel, & De Fruyt, 1996; time 1), probably the most extensively validated self-report measure of the Five Factor model (Judge & Bono, 2000). In the NEO-PI-R the broad five-factor constructs each represent six more specific traits, called facets. Neuroticism is composed of the facets anxiety, angry hostility, depression, self-consciousness, impulsiveness, and vulnerability. Extraversion consists of the facets warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions. Openness to experience encompasses fantasy, aesthetics, feelings, actions, ideas, and values. Agreeableness includes trust, straightforwardness, altruism, compliance, modesty, and tender-mindedness. Finally, conscientiousness is composed of competence, order, dutifulness, achievement striving, self-discipline, and deliberation. Each facet is measured with eight items, and thus each construct is measured with 48 items (see for sample items Costa & McCrae, 1992b; Hoekstra et al., 1996). Sample reliabilities for the five factors were 0.86 for neuroticism, 0.79 for extraversion, 0.64 for openness to experience, 0.69 for agreeableness and, finally, 0.82 for conscientiousness. The reliabilities of two of these five factors are somewhat low; however, they are in line with past research (Costa & McCrae, 1992b; see also Hoekstra et al., 1996), where the average is 0.77 across traits. We decided to retain the official scales to ensure comparability of the results to other studies using this measure. The items have a 5-point response scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

### Leadership styles

Charismatic and transactional leader behaviors were rated by subordinates (at time 2) using two scales from the Charismatic Leadership in Organizations questionnaire (CLIO; De Hoogh et al., 2004a). The charismatic leadership scale contains 11 items, which reflect the articulation of an attractive vision, providing meaning to follower's work, role modeling of desired behavior, power sharing, intellectual stimulation, and consideration. Examples of items measuring charismatic leadership are, 'Has a vision and imagination of the future,' 'Encourages subordinates to develop their potential,' and 'Displays conviction in his/her ideals, beliefs, and values.' The items have a seven-point response scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). This scale had an alpha coefficient of 0.88 ( $n = 256$ ).

The transactional leadership scale contains 6 items emphasizing fairness of the deal leaders make with their subordinates. Examples of items are, 'Ensures that agreements are being kept,' 'Can be relied on to meet obligations,' and 'Does not criticize subordinates without good reason.' The items have a 7-point response scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The transactional scale had an alpha coefficient of 0.81 ( $n = 256$ ).

### **Perceived effectiveness**

Superiors and/or peers provided a measure of perceived leader effectiveness based on three items (time 2): 'To what extent is the overall functioning of the person you evaluate satisfactory?' 'How capable is the person you are evaluating as a leader?' and 'How effective is the person you are evaluating as a leader?' Responses were given on a 7-point response scale, ranging from 1 (*not at all*) to 7 (*very much so*). The perceived effectiveness measures had an alpha coefficient of 0.86 ( $n = 108$ ).

### **Dynamic work environment**

The focal managers provided a measure of perceived dynamic work environment based on three items (time 2): 'What is the extent of challenge in your work environment?' 'To which degree is your work environment dynamic?' And: 'To what extent does your work environment offer great opportunities for change?' The items were rated on a 7-point response scale, ranging from 1 (*not at all*) to 7 (*very much so*). The dynamic work environment scale had an alpha coefficient of 0.68 ( $n = 80$ ).

## **Results**

### *Rater agreement*

To examine the justification for aggregating individual responses to characterize the leadership style of focal managers we performed one way-analyses of variance with focal managers as the independent variable and the mean scores of subordinate raters for both leadership styles as the dependent variables. Results showed that, for all variables, the between-group variance was significantly different from zero. Next, two kinds of intra-class correlation coefficients were calculated ICC(1) and ICC(2) (see Shrout & Fleiss, 1979). The ICC(1) coefficient is an estimate of the degree to which subordinates of the same focal manager respond similarly. The ICC(1)'s for subordinate ratings of charismatic and transactional leadership were 0.15 and 0.16, respectively. These values are in line with the median value of ICC(1) reported in the organizational literature, which equals 0.12 (James, 1982). The ICC(2) coefficient is an indicator of inter-rater reliability. It marks the degree to which the group means can be reliably differentiated from each other. The ICC(2)'s for subordinate ratings of charismatic and transactional leadership were 0.55 and 0.57, respectively. These values of ICC(2) are marginal, though can be considered acceptable given that a mean of only three subordinates rated their managers and the ICC(2) index is dependent on the number of raters per group (Bliese, 2000). Taken together, these results provide support for combining subordinates' responses to provide averaged, aggregated scores for charismatic and transactional leadership. The leadership dimensions seem sufficiently valid at the group level to be aggregated and reported at the group level.

### *Personality and leadership*

Table 1 shows the means, standard deviations and correlations for each of the variables. As it can be seen, the inter-correlations among the five factors of personality are rather high. Neuroticism correlates

Table 1. Means, standard deviations, and correlations among variables

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Extraversion	3.66	0.30								
2. Openness to experience	3.52	0.30	0.40**							
3. Conscientiousness	3.82	0.31	0.52**	0.03						
4. Agreeableness	3.57	0.27	0.21	-0.03	0.31**					
5. Neuroticism	2.14	0.35	-0.45**	-0.08	-0.66**	-0.28*				
6. Charismatic	5.31	0.54	-0.05	-0.08	-0.03	0.07	0.18			
7. Transactional	5.41	0.58	-0.06	-0.13	0.04	0.07	0.00	0.49**		
8. Effectiveness	5.64	0.62	-0.05	0.06	-0.05	-0.24	0.11	-0.07	0.14	
9. Dynamic	5.76	0.79	0.09	0.18	0.04	0.25*	-0.18	0.14	0.04	-0.19 <sup>a</sup>

Note:  $n = 83$ , except for dynamic work environment  $n = 80$  and for effectiveness  $n = 61$ .

<sup>a</sup> $n = 60$ .

\* $p < 0.05$ ; \*\* $p < 0.01$ .

significantly negative with the other factors (ranging from  $-0.28$  to  $-0.66$ ), except for agreeableness ( $-0.08$ ). Furthermore, extraversion correlates significantly positive with openness to experience ( $0.40$ ) and conscientiousness ( $0.52$ ). Conscientiousness correlates significantly positive with agreeableness ( $0.31$ ). These correlations are similar to correlations found in previous research when this version of the NEO-PI-R was administered to job applicants (see Hoekstra et al., 1996).

The correlations between the five factors of personality and the other variables used in this study are low, except for the correlation between agreeableness and perceived dynamic work environment ( $0.25$ ). Thus, no significant correlations were found between the Big Five-Factors of personality and charismatic or transactional leadership.

Besides correlation coefficients, we also report standardized regression coefficients for these relationships in which the effect of one trait is adjusted for the influence of the other traits (see also Judge & Bono, 2000). For this we regressed charismatic and transactional leadership on the Big Five-Factors in two separate analyses, as reported in Table 2. Neuroticism had a positive relationship with charismatic leadership when the effects of the other Big Five traits were controlled for, suggesting that it explains a unique portion of variance that is not captured by any of the others variables,  $\beta = 0.30$ ,  $p = 0.05$ . However, this model did not reach significance,  $R^2 = 0.06$ ,  $F = 1.01$ ,  $p = 0.42$ . As can be seen from Table 2, charismatic and transactional leadership were not significantly explained by the Big Five personality traits. A separate regression analysis also showed that the five factors were not related to perceived effectiveness (also reported in Table 2).

To examine the effect of perceived dynamic work environment on the relationship between the Big Five constructs and charismatic leadership, we conducted separate moderated multiple regression analyses. Although ideally one would include all interaction effects in a single analysis, our relatively

Table 2. Results of hierarchical regression analyses for five factor variables explaining charismatic and transformational leadership, and perceived effectiveness

Variable	Charismatic	Transactional	Effectiveness
1. Extraversion	0.02	-0.07	0.01
2. Openness to experience	-0.06	-0.10	0.07
3. Conscientiousness	0.13	0.09	0.12
4. Agreeableness	0.11	0.07	-0.24
5. Neuroticism	0.30*	0.04	0.13
$R^2$	0.06	0.03	0.07

Note:  $n = 83$ , except for effectiveness  $n = 61$ . Standardized regression coefficients are shown.

\* $p = 0.05$ .

small sample size (and related low power) and the high correlations between some of the personality factors required us to be sparse with the specification of the variables in the interaction analyses. Thus, we follow the data analysis strategy used by Barrick and Mount (1993) and used separate analyses for each of the Big Five constructs. First, we regressed charismatic leadership on the perceived dynamic work variable and on one of the Big Five-Factors. In the second step, the interaction predictor was added to the regression. Table 3 presents the results of these analyses.

Contrary to Hypothesis 1, no significant interaction effect was found for extraversion and dynamic work environment in explaining charismatic leadership,  $\beta = 0.00$ ,  $p > 0.05$ . Although the interaction of openness to experience and dynamic work environment had a significant positive effect on charismatic leadership and explained 5 per cent of the variance,  $\beta = 0.25$ ,  $p < 0.05$ , the form of the interaction (see Figure 2) shows a positive relationship under high dynamic work conditions and a negative relationship under low dynamic conditions. Thus, the form of the interaction does not (or only partially) support Hypothesis 2, which suggested a greater effect under conditions of a more dynamic work environment. Furthermore, in support of Hypothesis 3, the interaction between agreeableness and dynamic work environment had a significant negative effect on charismatic leadership, explaining 10 per cent of variance,  $\beta = -0.34$ ,  $p < 0.01$ . Similar results were found for conscientiousness in combination with perceived dynamic work environment for explaining charismatic leadership,  $\beta = -0.35$ ,

Table 3. Results of moderated regression analyses for five factor variables explaining charismatic and transactional leadership

Variable	Charismatic			Transactional		
	$R^2$	$\Delta R^2$	$\beta$	$R^2$	$\Delta R^2$	$\beta$
Step 1	0.03					
Extraversion			-0.09			
Dynamic			0.14			
Step 2	0.03	0.00				
Extraversion $\times$ Dynamic			0.00			
Step 1	0.05					
Openness to experience			-0.17			
Dynamic			0.13			
Step 2	0.10*	0.05*				
Openness $\times$ Dynamic			0.25*			
Step 1	0.02			0.01		
Agreeableness			0.00			0.02
Dynamic			0.08			0.00
Step 2	0.13**	0.10**		0.06	0.05*	
Agreeableness $\times$ Dynamic			-0.34**			-0.25*
Step 1	0.02			0.00		
Conscientiousness			0.03			0.05
Dynamic			0.14			0.05
Step 2	0.11*	0.09**		0.07	0.07*	
Conscientiousness $\times$ Dynamic			-0.35**			-0.30*
Step 1	0.05					
Neuroticism			0.24*			
Dynamic			0.15			
Step 2	0.15**	0.10**				
Neuroticism $\times$ Dynamic			0.34**			

Note:  $n = 80$ . Standardized regression coefficients are shown based on the last step in regression procedure.

\* $p < 0.05$ ; \*\* $p < 0.01$ .

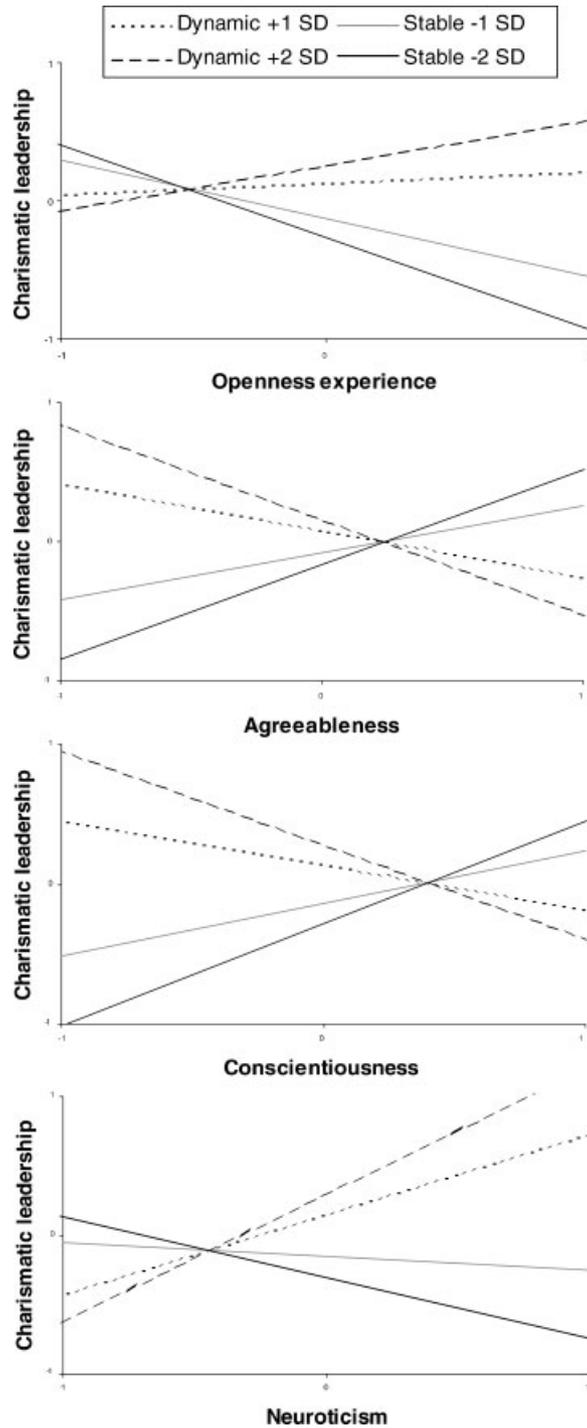


Figure 2. Regression lines for four personality variables explaining charismatic leadership for high and low levels of perceived dynamic work environment (+1, +2 and -1, -2 standard deviations from the mean)

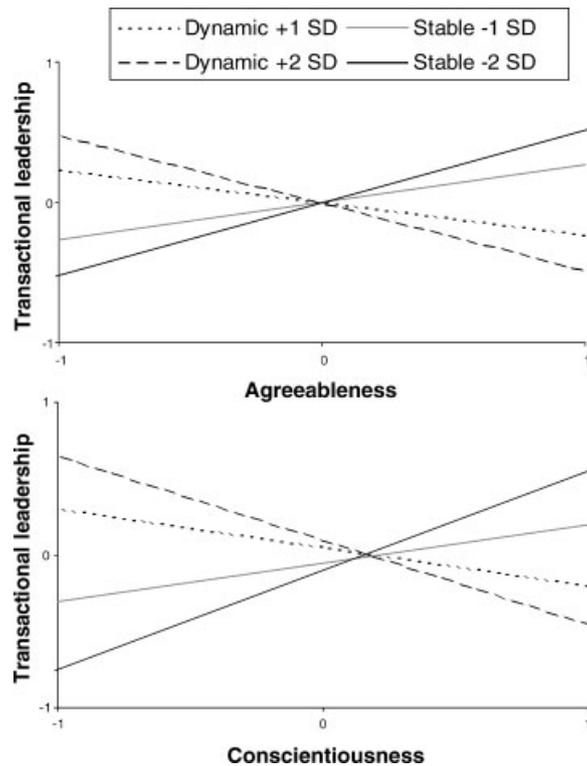


Figure 3. Regression lines for two personality variables explaining transactional leadership for high and low levels of perceived dynamic work environment (+1, +2 and -1, -2 standard deviations from the mean)

$p < 0.01$ , supporting Hypothesis 5. Contrary to Hypothesis 7, however, we found a significant *positive* interaction for neuroticism and dynamic work environment in explaining charismatic leadership, in the opposite direction to the one predicted,  $\beta = 0.34$ ,  $p < 0.01$ . The nature of these interactions for high and low perceived dynamic work environment is depicted in Figure 2.

In sum, leaders scoring high on openness to experience as well as neuroticism were rated *more* charismatic by subordinates in work situations that were perceived as dynamic and *less* charismatic in work situations that were rated more stable. The reverse was true for leaders high on agreeableness and conscientiousness. These leaders were rated *less* charismatic in dynamic work situations and *more* charismatic in stable environments.

Following the same procedures, two separate moderated multiple regression analyses were conducted to examine the effect of perceived dynamic work environment on the relationship of agreeableness and conscientiousness with transactional leadership (reported in Table 3). Consistent with Hypothesis 4 and 6, we found a significant negative beta-weight (i.e., environment is less dynamic) of the interaction term for both agreeableness and conscientiousness in combination with perceived dynamic environment,  $\beta = -0.25$ ,  $p < 0.05$ ,  $\beta = -0.30$ ,  $p < 0.05$ , explaining 5, respectively 7 per cent of variance. The nature of these interactions is depicted in Figure 3. In sum, leaders high on agreeableness as well as conscientiousness were rated more transactional in work situations that were perceived as stable and less transactional in work situations that were rated more dynamic.

Table 4. Results of moderated regression analysis for charismatic leadership explaining perceived effectiveness

Variable	Effectiveness		
	$R^2$	$\Delta R^2$	$\beta$
Step 1	0.04		
Charismatic			0.06
Dynamic			-0.03
Step 2	0.10	0.07*	
Charismatic $\times$ Dynamic			0.14*

Note:  $n = 60$ . Standardized regression coefficients are shown based on the last step in regression procedure.

\* $p < 0.05$ .

### Leadership and effectiveness

Table 1 reveals that the inter-correlation between charismatic and transactional leadership (0.49) is somewhat lower than correlations typically found in studies in this area using other measures such as the MLQ (see e.g., Den Hartog, Van Muijen, & Koopman, 1997; Lowe et al., 1996). The correlations between charismatic leadership as well as transactional leadership and perceived effectiveness are low and not significant ( $-0.07$ ,  $0.14$ , respectively). Thus contrary to expectations, both charismatic and transactional leadership were found to be unrelated to perceived effectiveness. This means that hypothesis 8 is not supported.

To test the impact of perceived dynamic work environment on the relationship between charismatic leadership and perceived effectiveness, a moderated hierarchical regression analysis was conducted. First, we regressed the effectiveness variable on charismatic leadership and perceived dynamic work environment. In the second step, the interaction predictor was added to the regression. Table 4 presents the results of this analysis. Both charismatic leadership and dynamic work environment had no significant main effect on effectiveness. However, the interaction between charismatic leadership and perceived dynamic work environment contributed significantly in explaining perceived effectiveness,  $\beta = 0.14$ ,  $p < 0.05$ . The nature of this interaction is depicted in Figure 4. Thus, the form of the interaction does not (or only partially) support Hypothesis 9; the relationship between charismatic leader

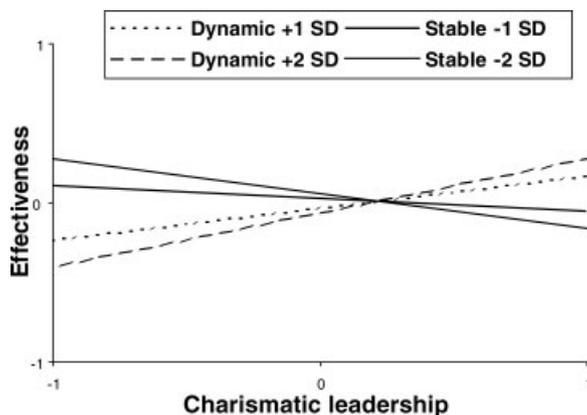


Figure 4. Regression lines for charismatic leadership explaining perceived effectiveness for high and low levels of perceived dynamic work environment (+1, +2 and -1, -2 standard deviations from the mean)

behavior and perceived effectiveness was more positive in dynamic work environments and more negative in stable work environments. A separate regression analysis (not reported) showed that transactional leadership and perceived dynamic work environment did not interact in explaining perceived effectiveness.

## Discussion

The main purpose of this study was to assess links between leadership and personality and investigate whether perceived dynamic work environment moderates the relationship between personality and charismatic as well as transactional leadership. Our secondary purpose was to address the relationship between leadership styles and effectiveness and test for the potential moderating effect of dynamism.

### *Personality and leadership*

Trait activation theory posits that personality traits require trait-relevant situations for their expression. In line with this, the results of our study indicate that the relationships between personality and charismatic and transactional leadership differ depending on the context. Specifically, we found that four of the Big Five-Factors are differently relevant to charismatic and transactional leadership depending on the degree to which the work environment is perceived as dynamic.

As expected, we found that agreeableness and conscientiousness positively were related to perceptions of both charismatic and transactional leadership styles in a stable work environment. In a more dynamic environment, leaders with these characteristics were rated *less* charismatic and *less* transactional. Thus, the personality traits that help increase the quality of interaction with followers and inspire followers to perform beyond expectation through setting high standards and acting dutifully themselves (i.e., agreeableness and conscientiousness) are found to be especially important for charismatic leadership in a stable context. In contrast, in a dynamic environment agreeableness and conscientiousness seem to impede the attribution of charisma as highly agreeable and conscientious leaders may be overly compliant and stick to agreed upon regulations rather than grasp opportunities at hand.

Furthermore, the personality traits involved in being able to meet and respond to the reactions and changing expectations of followers and monitor successfully (i.e., agreeableness and conscientiousness) are also found to be especially important for transactional leadership in a stable context. In contrast, under more dynamic conditions, such agreeable and conscientious leaders who choose to monitor exchange relationships with employees and stress maintaining the status quo seemed to be viewed as too rigid and were perceived as less transactional than in stable conditions. Previous research reports positive as well as negative and non-existent relationships between agreeableness, conscientiousness, and charismatic leadership and transactional leadership (Crant & Bateman, 2000; Judge & Bono, 2000; Ployhart et al., 2001 see also Bono & Judge, 2004). Our results suggest that distinguishing between stable and dynamic environments may be needed in developing further understanding regarding the relationships between these variables.

Contrary to our expectations, no direct relationship was found between openness to experience and charismatic leadership. We found the expected positive relationship between openness to experience and charismatic leadership *only* in a work environment perceived as dynamic. Leaders scoring high on openness to experience were rated *more* charismatic by subordinates in work situations that were perceived as dynamic and *less* charismatic in work situations that were rated more stable. In line with

trait activation theory, the personality trait required for leaders to question the status quo and to find new opportunities to reach organizational goals (i.e., openness to experience) is likely to be especially relevant in a dynamic context. Our finding that leaders scoring high on openness to experience were rated *more* charismatic by subordinates in work situations that were perceived as dynamic supports this proposition. In contrast, in more stable contexts, leaders who question the status quo and continually seek improvements in ways to perform the job may be viewed as too unsettling (e.g., Howell & Avolio, 1993). This may explain why we found leaders with high scores on openness to experience were rated *less* charismatic in these contexts. Our findings are in line with those by Ployhart and colleagues (2001), who found that openness to experience predicted charismatic leadership for participants in a military training, but that this *only* held under relatively challenging and not under more stable conditions. Our findings are also in line with meta-analytic results showing great variability in strength and direction for the relationship between openness to experience and charismatic leadership. Results of the present study and the one by Ployhart and colleagues (2001) suggest that openness to experience is more relevant to charismatic leadership in a dynamic than in a stable environment.

Contrary to expectations, we found that leaders who were relatively high on neuroticism were rated *more* charismatic by subordinates in work situations that were perceived as dynamic and *less* charismatic in work situations that were rated more stable. Perhaps the negative emotionality of individuals high on neuroticism may induce them to take an emotionally charged position in their attempts to change the status quo in a dynamic context, which subordinates may find inspiring (cf. Cable & Judge, 2003). In contrast, in a more stable context, taking an emotionally charged position may run counter to the stability and continuity of the existing structure, which may lead them to be perceived less charismatic. Previous research by Ployhart and colleagues (2001) also found a negative relationship between neuroticism and charismatic leadership in a more stable environment (i.e. three month basic training) and no relationship in a more dynamic environment (i.e., two day assessment exercise). Other previous research that did not take context into account did not find any relationships between neuroticism and charismatic leadership (Crant & Bateman, 2000; Judge & Bono, 2000) or report negative ones (Lim & Ployhart, 2004; Bono & Judge, 2004). Our findings suggest that taking differences in context (e.g. dynamic vs. stable environments) into account in future studies may gain further understanding in the relationship between neuroticism and charismatic leadership.

We also expected that the personality trait required for leaders to be able to influence, persuade and mobilize a critical mass of followers (i.e., extraversion) would be especially relevant in a dynamic context. No evidence, however, was found for a relationship between extraversion and charismatic leadership regardless whether we took differences in context (e.g., dynamic versus stable environments) into account. Our finding runs counter to previous studies that link extraversion with charismatic leadership (Crant & Bateman, 2000; Judge & Bono, 2000; Bono & Judge, 2004) and more strongly so in a challenging than in a more stable environment (Ployhart et al., 2001). Perhaps managers in our study were more likely than in previous studies done in other contexts to rate themselves as extraverts as the ratings were obtained during an evaluation of managerial potential. To them extraversion might seem consistent with the profile of an effective leader. Thus, this implicit profile might have biased managers' self-reports of extraversion. The limitations of our study, including the possibility of social desirability bias, are discussed further below. Future research is needed to further explore the moderating role of the context in the relationship between extraversion and leader behavior.

### *Leadership and effectiveness*

As a secondary aim, we also addressed the relationship between leader behavior and performance. Contrary to our expectations, no direct relationship was found between charismatic leadership and

perceived effectiveness. We did however find an interaction effect. Results show that subordinates evaluations of charismatic leader behavior were positively related to perceived effectiveness as rated by superiors and peers, but *only* under dynamic work conditions. Our findings are consistent with theories of charismatic leadership that have suggested that charismatic leadership is likely to be more effective under conditions of challenge and change (e.g., Howell & Avolio, 1993; Shamir & Howell, 1999). Moreover, our findings are in line with previous research by Waldman et al. (2001). They found that charismatic leadership of Chief Executive Officers positively affected organizational performance, but only under conditions of high environmental uncertainty. Taken together, these findings suggest that charismatic leaders need a certain amount of decision discretion and opportunity for change to have an impact on performance outcomes.

### *Limitations and future research*

Although our study yields some interesting findings, it also has several limitations that need to be considered when interpreting the results. First of all, managers' self-reports of their personality may be guided by self-presentation of an image that the respondent wishes to convey to the tester, especially when the questionnaire is used for selection purposes (Hogan, Hogan, & Roberts, 1996), which was the case here for part of the respondents. The high inter-correlations found between the Big Five-Factors in this study may be the result of this and this implies that we may have a conservative test of our hypotheses.

Second, it is possible that managers who did not participate in the present study were more likely to have been evaluated negatively regarding their managerial potential. Indicating this, only 3 of the 29 participants at time 2 that had taken part in the management assessment at time 1 for personnel selection purposes were given a negative advice regarding the job for which they had applied. Consequently, the database available for analyses may suffer from restriction of range. Our check for selective non-response suggested, however, no significant differences regarding gender, age and scores on the Big Five-Factors. Also, the majority of managers in the sample underwent the assessment for developmental rather than selection purposes. Thus, this possible bias is likely to be limited.

Third, as in most multi-source feedback systems, managers in this study selected their raters. Moreover, we were able to obtain effectiveness ratings for only part of the focal managers (61 out of 83). Therefore, one might suggest that selection of raters has resulted in a positive bias of raters toward the focal manager. We, however, checked for selective non-response regarding gender, age, and leadership styles and did not find any differences. Therefore, we expect this possible positive bias to be limited.

Due to the managers' freedom of choice of selecting their raters, only 16 of the managers were rated by peers as well as superiors. As such, correlation coefficients could only be calculated on a sample of 16 managers ( $p = 0.12$ ), and this small sample does not provide us with accurate estimates of agreement or inter-rater reliability. We decided, however, to combine and aggregate peers and superior ratings, since previous meta-analytic studies demonstrate a relatively high correlation between peer and superior ratings (e.g., Conway & Huffcutt, 1997; Harris & Schaubroeck, 1988). Moreover, in this way common source and rater bias was minimized; each of the variables measured in this study was assessed by different raters or at different time points.

Furthermore, reliability estimates for openness to experience, agreeableness and for the dynamic work environment scale could have been higher. This seems especially pressing for the two Big Five factors when one considers that these measures contain 48 items per trait. However, the reliabilities were sufficiently in line with previous studies and the Dutch norm group (see Costa & McCrae, 1992b; Hoekstra et al., 1996). Thus, we retained the original scales, which makes direct comparisons with

other research possible. Consequently, relationships may have been underestimated due to low reliability of the measurement instruments (i.e., the error in our measures obscured the true relationship). Future research on the broad Big Five factors and their reliabilities seems, however, necessary.

Attention should also be devoted to expanding and refining the measure of a dynamic work environment chosen in this study. While the three items that we used have precedents in the literature, they may provide a somewhat broad measure of environmental dynamism. The somewhat low reliability of the dynamic work environment scale (0.68) may be the result of this. Perhaps more fine-grained or focused measures could show us that under the heading of dynamic environment there are certain forms or sub-contexts that are more conducive to charismatic and transformational leadership while others may not be at all. Other researchers have investigated slightly different concepts in relation to charismatic leadership, for example environmental uncertainty (cf. De Hoogh et al., 2004b; Flynn & Staw, 2004; Waldman et al., 2001) crisis (cf. Pillai, 1996; Pillai & Meindl, 1991) and technological change (cf. De Hoogh et al., 2004b). Here we have focused on a dynamic environment. The results of this study show that a dynamic work environment is an important moderator of the relationship between personality and leadership. It may therefore, be a fruitful road of research to try and map the differences between the various concepts in their link with charismatic and transactional leadership.

The focal managers themselves provided a measure of perceived dynamic work environment. Their own perceptions of the environment are most relevant for explaining trait relevant behavior as compared to for example perceptions of subordinates or peers. But the unavailability of subordinates' or superiors'/peers' ratings represents a limitation with regard to the investigation of dynamic environment as a moderator of the relationship between charismatic leadership and effectiveness. Their perception of the environment to be dynamic must be most relevant for leaders to more easily generate appeal for the vision and be rated as more effective. Future research is needed to test this.

Furthermore, we recognize that the sample size for analyses was relatively small. Given the low statistical power of moderated regression analysis (e.g., Aguinis, 1995; Villa, Howell, Dorfman, & Daniel, 2003) more interaction effects may have been significant had the sample size been larger. At the same time, it also means that the moderator effects we *did* find need to be replicated across a larger database of firms in future research to test their robustness. Our sample size and the high inter-correlations found between some of the Big Five-Factors in this study (the highest reaching up to  $-0.66$ ) required us to be sparse with the specification of the variables in the interaction analyses. The most desirable (and more conservative) approach to the interaction analyses would have been to include all predictors and interaction terms in the same equation. In this way, the effect of one trait and the interaction is adjusted for the influence of the other traits and possible interactions. This would mean that in a statistical sense the variables are made independent of one another, even though they correlate in the real world. This allows for examination of the unique contributions of each variable. However, including highly correlated variables in the same analysis can inflate the size of the error terms and thus weaken an analysis. In regression, this implies that error terms may get so large that none of the coefficients are significant any longer even if effects do exist (Berry, 1993). For example, when  $r=0.9$  the precision of estimation of weighting coefficients is already halved (Fox, 1991). Therefore, we tested for the moderating effect of dynamic work environment on leadership styles one trait at a time. This way to analyze the data was also used in previous research as we followed the strategy used by Barrick and Mount (1993) in their study on the Big Five factors and work performance, investigating work autonomy as a moderator. In our case, due to inter-correlations and sample size, this was also the best approach. As we could not investigate all effects simultaneously, some of our findings may be confounded in the sense that effect sizes might be different after controlling for the other Big Five traits and potential interactions. Our findings need replicating in future research that is carried out in situations that allow for the investigation of these effects simultaneously. Such studies

require larger samples and would ideally also need to be done in situations where correlations among the Big Five factors are lower (for example, our data on Big Five traits was gathered in a selection context in which such correlations might be somewhat higher than in a non-selection context). Under those circumstances, such an approach will permit more powerful tests of hypotheses and control for the main effects of the Big Five traits and potential interactions.

Finally, the longitudinal design of our study may also introduce a conservative bias in our study where the results regarding leadership and personality are concerned. Most previous research uses a cross-sectional design to investigate the link between personality and leadership (e.g., Crant & Bateman, 2000; Judge & Bono, 2000). Previous research that did use a more longitudinal design had different measurement points mostly only a few weeks apart from each other (e.g., Ployhart et al., 2001). In our study the measurement of personality and leader behavior did not only involve different raters (self and subordinates), but measurements were also done nine months apart. Again this is likely to result in conservative rather than inflated estimates of relationships. Further, we should note that our outcome measures were only obtained at time 2 and not obtained at time 1, thus we could not analyze actual change as it is possible in panel designs.

Despite the aforementioned limitations and the longitudinal design of our study, it is notable that we were able to account for such a significant amount of variance with regard to our interaction hypotheses. Future research using longitudinal designs should test the robustness of our findings and can also rule out potential alternative explanations. Future work could also aim to identify and test other potential moderators.

To conclude, in line with trait activation theory our study shows the importance of perceived dynamic work environments as a moderator of the relationships between four of the Big Five-Factors and both charismatic leadership and transactional leadership. Further, our study indicates that perceived dynamic work environment acts as an important moderator of the relationship between charismatic leadership and perceived effectiveness. More generally, our research suggests that more attention for the moderating role of the context is needed in this area.

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