FACULTY OF PSYCHOLOGY
AND EDUCATIONAL SCIENCES

Personality and leadership: Trait-perspectives on charisma, curvilinear relationships, and measurement innovations

Jasmine Vergauwe

Supervisor: Prof. Dr. Filip De Fruyt
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A dissertation submitted to Ghent University in partial fulfilment of the requirements for the degree of Doctor of Psychology

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Jasmine Vergauwe, augustus 2017

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Chapter 1

Introduction

In his influential work "On heroes, hero-worship, and the heroic in history", the Victorian era historian Thomas Carlyle stated that "*the history of the world is but the biography of great men*" (Carlyle, 1841). The idea that history can be largely explained by the impact of "great men" or forces of extraordinary leadership was highly popular in the 19th and early 20th centuries. According to the great man theory (Carlyle, 1841; Galton, 1869; Woods, 1913) leadership calls for specific qualities like extraordinary intelligence, persuasiveness, self-confidence, high degree of intuition, charm, judgment, courage, dominance and achievement orientation which are of such a nature that they cannot be taught or learnt in a formal sense. In short, according to the great man theory, great leaders are born, not made (Kirkpatrick & Locke, 1991).

In the 20th century, the great man theory evolved into the trait theory of leadership. Like the great man theory, trait theory assumes that leadership depends on specific characteristics –or *traits*– of the leader. However, trait theory does not make assumptions about whether these characteristics are inherited or acquired. It simply states that leaders' characteristics are different from those of non-leaders. According to Kirkpatrick and Locke (1991) it is unequivocally clear that "*leaders are not like other people. Leaders do not have to be great men of women by being intellectual geniuses or omniscient prophets to succeed, but they do need to have the "right stuff" and this stuff is not equally present in all people"* (p. 59).

Personality and Leadership: A Long Turbulent History

Although the trait perspective of leadership has a long and turbulent history, famous leaders such as Gandhi, Churchill, Martin Luther King, and John F. Kennedy have all been described in terms of their personality traits. The search for individual differences that drive *leader effectiveness* goes back to the earliest stages of leadership research (Zaccaro, 2007). Nearly every possible trait or characteristic has been explored in relation to leadership, including physical traits (e.g., height, weight, age, health), cognitive abilities (e.g., intelligence, scholarship), and personality traits (e.g., extraversion, dominance, ambition) (Bass & Bass, 2008; Reichard et al., 2011). However, results of such investigations have been inconsistent and often disappointing (Judge, Bono, Ilies, & Gerhardt, 2002). Although trait theories dominated the study of leadership until the late 1940s, the search for leadership traits was nearly abandoned following Stogdill's (1948) review in which he concluded that trait-based approaches were insufficient to explain leadership effectiveness, as persons who are leaders in one situation may not necessarily be leaders in other situations. After Stogdill's (1948) review, situation-specific analyses took over and dominated the field. The rejection of trait-approaches was widespread and long lasting, as it echoed in the major journals and textbooks for the next 30-40 years (Zaccaro, 2007) that there is "*little or no connection between personality traits and leader effectiveness*" (Muchinsky, 1983, p.403). Driven by greater conceptual, methodological, and statistical sophistication, traits reemerged in the lexicon of scientific leadership research at the end of the 20th century (e.g., House, 1988; Lord, De Vader, & Alliger, 1986). Ever since, a number of studies provided empirical evidence that traits do matter in the prediction of leadership (see Zaccaro, Kemp, & Bader, 2004, for a review).

At the same time, the high prevalence of managerial failure –currently averaging around 50% (e.g., Aasland et al., 2010)– increased research attention for the underlying causes of *leadership derailment* (e.g., Bentz, 1967; McCall & Lombardo, 1983). One of the pioneers in this line of research, Bentz (1967), conducted a 30-year study of failed executives at Sears. As many of the bright and socially skilled leaders –who got hired through standardized selection procedures– got fired after all, he started to catalogue the reasons for their failure and concluded that, in every case, the underlying cause of failure was an "overriding personality defect" (Bentz, 1967, 1985).

In sum, throughout history, researchers have been investigating traits that predict *leadership effectiveness* or success (e.g., Judge et al., 2002), and traits that lead to *leadership derailment* or failure (e.g., Gentry & Chappelow, 2009; McCall & Lombardo, 1983). But what if the exact same traits could lead to both leadership effectiveness *and* derailment, with success or failure depending on the specific trait level the leader has? This is one of the main research questions that drove the current doctoral dissertation. As we will see throughout this dissertation, the relationship between leader characteristics –both personality traits and leader behaviors– and leadership is a complex one, and the form of the relationship may strongly depend on the rater source (i.e., self-reports versus observer ratings), the criterion (e.g., upward mobility or leadership effectiveness), and the specific way in which constructs are measured (e.g., Likert scales or alternative rating formats). Despite this complexity, advanced knowledge on this topic is indispensable nowadays, as assessments of leader traits are almost standardly included in selection procedures and development centers, either to select the best leaders, or to train them towards the highest effectiveness levels.

Personality and Leadership: Trait-based Perspectives on Charisma, Curvilinear Relationships, and Measurement Innovations

The present dissertation is to be situated in the broad literature on two key areas of Organizational Behavior: Personality and Leadership. Three overarching research objectives reoccur throughout the different chapters, although they are not equally addressed in each of the studies: (1) promoting trait-based perspectives on charisma, (2) investigating curvilinear relationships, and (3) introducing different kinds of measurement innovations into the field of applied psychology.

First, leader *charisma* has received a central role in current work. Although most of us can easily imagine a charismatic person, and are able to tell whether someone is charismatic or not, to date, charisma is still a fuzzy construct in the scientific literature. At the core of the debate lies the question: Does charisma represent a *personal characteristic* of the leader (e.g., Judge, Piccolo, & Kosalka, 2009; Riggio, 2009) or is it an *attribution* based on relational processes (e.g., Conger, Kanungo, & Menon, 2000; Howell & Shamir, 2005)? Although traditional models of charismatic leadership, such as Conger and Kanungo's (1987) model, conceptualize charisma as an attribution based on follower perceptions of their leader's behavior, the current dissertation promotes a trait-based perspective on charisma. Within this perspective, charisma is conceptualized as a constellation of personal characteristics that allows an individual to influence other people by affecting their feelings, opinions, and behaviors (Riggio, 2009). But which *specific configurations of traits* are relevant to capture something like a "charismatic personality"? A first important aim of this dissertation entails the development and validation of trait-based measures of charisma that can be assessed independently from the observer's perspective. Specifically, the FFM (Five-Factor Model)

charisma compound will be introduced in Chapter 2 and the HDS (Hogan Development Survey) charismatic cluster will be introduced in Chapter 3. By introducing new personality-based measures of the construct, we aimed to shed light on the conceptualization of charisma, and breathe new life into trait theory of leadership.

Moreover, the relationship between charismatic personality and leadership will be addressed, the latter covering a diverse set of criteria, including overall leadership effectiveness (Chapter 3), adaptive performance, and upward mobility indicators such as income, managerial level, and number of subordinates (Chapter 2). Driven by recent advances in management theory (e.g., Busse, Mahlendorf, & Bode, 2016; Grant & Schwartz, 2011; Pierce & Aguinis, 2013) special attention will be given to the investigation of *curvilinear effects*, both between charismatic personality and leader effectiveness (Chapter 3), as well as between specific leader behaviors (i.e., forceful, enabling, strategic, operational) and leader performance (Chapter 4). In terms of desirable features such as charisma, enabling leadership, and strategic leadership, existing leadership theories and research all tend to assume a rather simplistic "more is better" principle (e.g., Bass, 1985; Bass & Avolio, 1994; Lowe, Kroeck, & Sivasubramaniam, 1996). With evidence increasing in favor of an alternative "too much of a good thing" perspective in the fields of applied personality, organizational behavior, and management science, a second aim of this dissertation is to investigate curvilinear effects between leader characteristics and leaders' effectiveness levels. Finding such curvilinear effects would specifically mean that midrange-levels of leader characteristics –even the very positive ones– are perceived as more effective compared to low or high levels.

Finally, the current dissertation also makes a strong *methodological contribution* to the assessment domain within personality and leadership research. Related to the second general aim of this work, Chapter 4 describes the "too little/too much" (TLTM) scale as an innovation in rating scale methodology that may facilitate research on the too-much-of-a-good-thing (TMGT) effect (Pierce & Aguinis, 2013). Although empirical evidence supporting the TMGT effect continues to grow, demonstrating curvilinear effects still remains a challenge. The TLTM rating format may be one valuable way to advance theory building in management, by facilitating the detection of curvilinear effects between predictors (e.g., leader behaviors, personality) and criteria (e.g., leadership effectiveness). Moreover, inspired by innovative approaches in the clinical literature on personality disorders (Lynam & Widiger, 2001; Miller, Bagby, Pilkonis, Reynolds, & Lynam, 2005), the development of the FFM charisma compound, as described in Chapter 2, can be considered as a promising way to operationalize organizationally relevant profiles from a trait-perspective.

Method

Participants and Procedures

Throughout this dissertation, data were collected from 9566 participants. Table 1 gives an overview of the sample characteristics across the studies, the respective study designs, and the informant(s) of the measures. As illustrated in Table 1, this dissertation includes three empirical chapters, each including at least two studies, and several studies are addressed using multiple samples. In total, nine samples were used, among which four business leader samples (one in Chapter 2 and three in Chapter 3), two subordinate samples (Chapter 4), two more heterogeneous longitudinal samples (the 1994 Ghent alumni sample in Chapter 2, and the

Eugene-Springfield community sample in Chapter 3), and one sample of experts in the field of leadership and personality research (Chapter 2). Only one sample partially overlaps with another sample, as the informants of Sample 2 in Chapter 3 are the main study subjects of Sample 1 in Chapter 4. For reasons of simplicity, we reported them as separate samples in Table 1. Across these nine samples, 1715 study subjects and 8028 informants (e.g., subordinates, peers, supervisors) contributed to this doctoral dissertation. The average age of the study subjects is 42.36 years. Both sexes are represented in each sample with a slight overrepresentation of men in the samples of business leaders (67.25% on average). This dissertation includes three international samples, four Belgian samples, and two samples from the United States.

Among the four leader samples, the two international samples were gathered in collaboration with the consultancy company Hogan Assessments (Sample 3 and 4 in Chapter 3). In these samples, data on the leaders' personality were obtained, as well as 360-degree assessments of different leadership criteria. One of the Belgian samples of leaders were collected by third-year psychology undergraduate students in the context of a course assignment (Sample 2 in Chapter 3/ Sample 1 in Chapter 4). Each student was asked to recruit one target leader, and each target leader was asked to report one subordinate who was able to evaluate them. Students were only responsible for recruiting the target and for delivering the informed consent. The fourth leader sample exists out of a heterogeneous set of leader-subordinate dyads, that were recruited by a final year undergraduate student in the context of a master's thesis research under my supervision.

The two longitudinal data sets were archival data (Sample 3 in Chapter 2 and Sample 1 in Chapter 3). The 1994 Ghent alumni sample

originates from an elaborate longitudinal program lead by one of my promotors, Filip De Fruyt, and later on also by Bart Wille. As its name says, in 1994, final year college students from Ghent were encouraged to participate in a study focusing on labor market entrance of students with a higher education background. Follow-ups were done in 1995, and in 2009, which enabled us to investigate career development over a 15-year time span. Moreover, the Eugene-Springfield community sample (Goldberg, 2008) was used for validation purposes in Chapter 3.

To be included in the expert panel in Chapter 2, significant expertise with charismatic leadership and personality profiling was required. Therefore, we invited both researchers (through electronic searches on the Web of Science) as well as practitioners active in the field of leadership consultancy to participate. Finally, Amazon's Mechanical Turk (MTurk) was used to collect data from subordinates' perceptions of their leaders' work behavior for Study 2 in Chapter 4.

Except for the first waves of the longitudinal data, all data were collected via online surveys. The Ethical Committee of the Faculty of Psychology and Educational Sciences of Ghent University has confirmed that the research in the current doctoral study (protocol number 2017/31) was conducted according to the ethical rules presented in its General Ethical Protocol.

Measures

Personality.

Charismatic Personality. In the current dissertation, two new measures of charismatic personality are introduced: the FFM charisma compound (Chapter 2) and the HDS charismatic cluster (Chapter 3). Briefly, NEO PI-R facets (Costa & McCrae, 1995) that were rated as

being prototypically high or low by the experts were summed together to calculate the FFM charisma score. To obtain a charismatic personality score in Chapter 3, four personality tendencies constituting the "charismatic cluster" of the Hogan Development Survey (HDS; Hogan & Hogan, 2009; Kaiser, LeBreton, & Hogan, 2015)—i.e., Bold, Mischievous, Colorful, and Imaginative— were averaged. Initial validity evidence for the FFM charisma compound (96 items) and HDS charisma (56 items) is provided in Chapter 2 and 3 respectively.

Big Five Personality Traits. Leaders completed the 60-item NEO Five-Factor Inventory (NEO FFI; Hoekstra, Ormel, & De Fruyt, 2007) to measure their standing on the Big Five traits: Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. For validation purposes, the 44 Big Five Inventory (BFI; John & Srivastava, 1999) descriptions were analyzed at the item-level.

Adjustment. To measure a leader's level of adjustment, or his or her general ability to cope with stressful events, leaders completed the 37-item adjustment scale of the Hogan Personality Inventory (HPI; Hogan & Hogan, 2007), which corresponds to the FFM Emotional Stability dimension and can be described as the degree to which a person appears calm and self-accepting or, conversely, self-critical and tense.

Criteria.

Charismatic Leadership. The 20-item Conger-Kanungo Scale (CKS; Conger et al., 1997) was used to measure charismatic leadership in the current dissertation. The CKS contains five subscales of charismatic behavior: strategic vision and articulation (7 items), personal risk (3 items), sensitivity to the environment (4 items), sensitivity to members' needs (3 items), and unconventional behavior (3 items).

Extrinsic Career Success. To obtain extrinsic career success markers, we asked participants to provide information on their monthly salary before taxes (i.e., income), their managerial level of their current job, and their number of subordinates.

Career Roles. The 30-item Career Roles Questionnaire (CRQ; Hoekstra, 2011) was used to measure career roles. Six career roles are described in the CRQ. The *Maker* and *Expert* role are both focused on individual performance. However, while the Maker role is focused on producing tangible results, the *Expert* role is focused on problem solving rather than on realizing a preset goal. Further, the *Presenter* and *Guide* role can be defined in the realm of interaction with others. In the Presenter role, the focus is on convincing and influencing others, while the focus is on helping others to move toward their goals in the Guide role. Finally, the *Director* and *Inspirator* roles fit into the domain of collective developments of groups and organizations. While the Director role focuses on attaining long term goals and collective success, the Inspirator role focuses on strategic change processes by exploring ideals, values and principles shared by the collective.

Job Performance. We included three subtypes of job performance: task-, contextual-, and adaptive performance. Task performance refers to quality of work regarding one's job responsibilities (see Renn & Fedor, 2001). Contextual performance taps into the interpersonal facilitation dimension by Van Scotter and Motowidlo (1996), including cooperative acts that assist coworkers' performance. Finally, adaptive performance refers to dealing appropriately with uncertain, unpredictable, or crisis situations at work (see Pulakos et al., 2000). In Chapter 4 we used the 45-item version, while we used a short 11-item version in Chapter 2.

Leader Behaviors. The current dissertation utilizes the four dimensions of the versatile leadership model, each measured by 12 items of the Leadership Versatility Index (LVI; Kaiser et al., 2010): forceful, enabling, strategic, and operational leadership. *Forceful leadership* is defined as assuming authority and using personal and position power to push for performance. *Enabling leadership* is defined as creating conditions for others to contribute through empowerment, participation, and support. *Strategic leadership* is defined as positioning the team for the future by setting direction, making bold changes, and supporting innovation. And *operational leadership* is defined as guiding the team to execute near-term goals by specifying the details of implementation, focusing resources, and monitoring performance.

Leader Effectiveness. A single-item of the Leadership Versatility Index (LVI; Kaiser et al., 2010) was used to measure overall leader effectiveness. The item reads: "*Please rate this individual's overall effectiveness as a leader on a ten-point scale where 5 is adequate and 10 is outstanding.*" Based on a composite of the ratings from superiors, peers, and subordinates, an aggregated observer rating was computed for overall leader effectiveness.

Overview of Chapters

In the following, a short outline of the chapters will be presented, with Figure 1 providing a schematic overview illustrating how each of the studies is situated against the abovementioned research objectives. The different chapters can be read as independent papers that are published or in press, each contributing to two key areas of Organizational Behavior: Personality and Leadership.

Chapter 2

The second chapter (Vergauwe, Wille, Hofmans, & De Fruyt, 2017) introduces a Five-Factor Model (FFM) charisma compound as one of the two personality-based measures of charisma that will be discussed in this dissertation, and investigates its relationships with a variety of career outcomes. This chapter contains two studies. Study 1 proposes a FFM charisma compound, which is developed by using an expert consensus approach (Lynam & Widiger, 2001), and the FFM count technique (Miller et al., 2005). Once an "expert generated FFM prototype" is obtained for the charismatic leader, the FFM count technique—a simple sum of the most characteristic FFM facets—, can be used to create participants' FFM charisma scores. In Study 2, convergent validity, test-retest reliability, and predictive validity evidence in terms of career-relevant outcomes is provided for the proposed FFM charisma compound. Specifically, associations between FFM charisma and (a) extrinsic career success; (b) career roles; and (c) job performance are investigated over a 15-year time period.

Chapter 3

The third chapter (Vergauwe, Wille, Hofmans, Kaiser, & De Fruyt, in press) contains three studies, with the first study introducing HDS charisma (Hogan Development Survey; Hogan & Hogan, 2009) as a second trait-based measure of charisma. Although previous research has generally shown that charisma is positively related to leadership effectiveness (e.g., Amirul & Daud, 2012; Lowe et al., 1996), Study 2 questioned whether this positive association is appropriately represented by a linear relationship. In line with the TMGT effect (Pierce & Aguinis, 2013), the alternative to this linear model is a perspective in which

ordinarily beneficial antecedents are no longer advantageous when taken too far. Against the increasing influence of the TMGT effect, Study 2 addressed the key question: "Can a leader be too charismatic?", meaning that from a certain point more charisma may no longer be advantageous or may even become a hindrance with respect to his or her effectiveness. As such, our work extended the available literature in this domain by investigating curvilinear relationships between charismatic personality and leader effectiveness. Finally, Study 3 delved deeper into this association by examining adjustment as a potential moderator and by testing a process model in which the effects of charismatic personality on effectiveness can be explained through specific leader behaviors.

Chapter 4

Chapter 4 (Vergauwe, Wille, Hofmans, Kaiser, & De Fruyt, 2017) has a strong methodological focus, as it attempted to answer the question "Does the rating format affect the nature of the relationship between leader behaviors and leader performance?". To address this question, leaders' performance was rated by subordinates, and they were rated twice on a set of leader behaviors: once using a traditional Likert scale ranging from *totally disagree* to *totally agree*, and once using the *too little/too much* (TLTM) rating scale, ranging between *much too little*, *the right amount*, and *much too much*. Then, both linear as well as quadratic relationships were tested between leader behaviors, as measured on both rating formats, and performance. In a time where the investigation of curvilinear relationships has become increasingly important and prevalent, the current work may help to overcome some of the methodological obstacles that have hindered research on TMGT effects in organizations and beyond.

Chapter 5

Finally, Chapter 5 integrates and discusses the key findings stemming from the different studies. Further, we discuss the most valuable theoretical and practical implications that originated from this work. At the end of this chapter, limitations of this dissertation are discussed, as well as several promising directions for future research.

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Table 1

Sample Characteristics Across Chapters

	Chapter 2			Chapter 3				Chapter 4	
	Study 1	Study 2		Study 1		Study 2	Study 3	Study 1	Study 2
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	Sample 4	Sample 1	Sample 2
Participants									
Subjects	Experts	Leaders	Ghent alumni	Community sample	Leaders	Leaders	Leaders	Subordinates	Subordinates
N	38	41	262	156	204	306	287	177	244
% men	84	66	52	44	57	65	81	38	43
Mean age	42.47	38.63	37.22	47.67	45.96	47.64	45.37	39.87	36.39
Nationality	International	Belgian	Belgian	US	Belgian	International	International	Belgian	US
Informants		Subordinates		Peers	Subordinates	360°	360°		
N		41		386	204	4345	3052		
Design	Expert consensus approach	Cross-sectional	Longitudinal	Longitudinal	Cross-sectional	Cross-sectional	Cross-sectional	Cross-sectional	Cross-sectional

Table 1 *(continued)*

	Chapter 2			Chapter 3				Chapter 4	
	Study 1	Study 2		Study 1		Study 2	Study 3	Study 1	Study 2
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3	Sample 4	Sample 1	Sample 2
Informant of measures									
FFM charisma	experts	leader	self						
HDS charisma				self	leader	leader	leader		
NEO FFI					leader				
BFI				self / peers					
HPI adjustment							leader		
CKS		leader / subordinate			subordinate				
Extrinsic career success			self						
Career roles			self						
Job performance		subordinate	self					subordinates	subordinates
LVI leader behaviors							subordinates peers superiors	subordinates	subordinates
LVI effectiveness						leader subordinates peers superiors	leader subordinates peers superiors		

Note. NEO PI-R = NEO Personality Inventory Revised, NEO FFI = NEO Five Factor Inventory, BFI= Big Five Inventory, HDS = Hogan Development Survey, HPI = Hogan Personality Inventory, CKS = Conger-Kanungo Scale, LVI = Leadership Versatility Index.

Figure

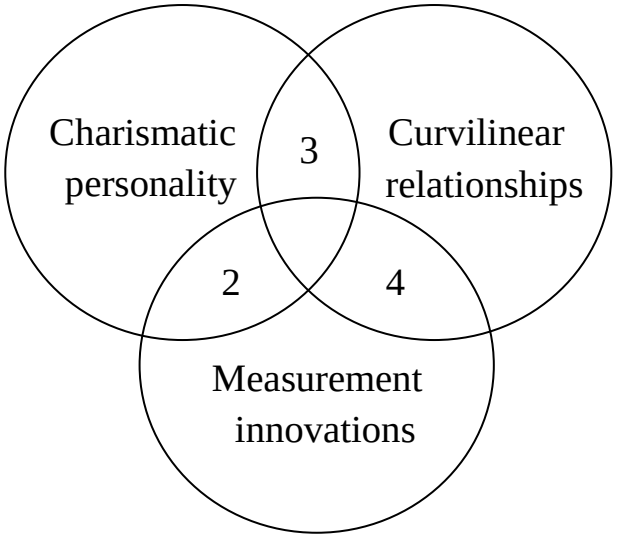

Figure 1. Situation of the Chapters 2-4 in a Schematic Overview.

Chapter 2

Development of a Five-Factor Model charisma compound and its relations to career outcomes[1]

Abstract

Under the increasing influence of trait-perspectives on leadership, the current study introduces a personality-based measure of charisma. In order to obtain a Five-Factor Model (FFM) prototype for the charismatic leader, experts in the field of leadership and personality research were invited to participate in an expert panel. For each of the 30 NEO PI-R facets, experts (N = 38) rated the prototypic case of a successful charismatic leader on a scale ranging between 1 (*extremely low*) and 9 (*extremely high*). Based on the FFM count technique (Miller et al., 2005), an easy-to-use count was developed in which facets that were rated as being prototypically high (≥ 7) or low (≤ 3) were summed together to calculate the FFM charisma score. To investigate the predictive validity of the FFM charisma count in terms of work-related outcomes, the 1994 Ghent alumni sample was used in which college alumni (N = 262) were administered the NEO PI-R before entering the labor market and 15 years later when their professional careers had unfolded. The results demonstrate that FFM charisma was positively related to extrinsic career outcomes 15 years later, including income, number of subordinates, and managerial level. Moreover, FFM charisma was positively associated with adaptive performance, and with career roles that directly relate to charismatic leadership. It is concluded that the FFM charisma compound provides opportunities to map charismatic tendencies in a career-relevant way.

[1] Vergauwe, J., Wille, B., Hofmans, J., & De Fruyt, F. (2017). Development of a Five-Factor Model charisma compound and its relations to career outcomes. *Journal of Vocational Behavior, 99*, 24-39. DOI: 10.1016/j.jvb.2016.12.005

Introduction

In the leadership literature, there is disagreement among scholars about whether charisma is *an attribution* based on relational processes (e.g., Conger, Kanungo, & Menon, 2000; Howell & Shamir, 2005; Waldman & Javidan, 2009), or rather *a personal characteristic* of the leader (e.g., Judge, Piccolo, & Kosalka, 2009; Riggio, 2009; Zaccaro, 2012). An important part of the leadership literature adopts the attributional perspective on charisma, in which charisma lies in the eye of the beholder, and leaders are not charismatic unless followers perceive them as such (e.g., Bass, 1985; Conger & Kanungo, 1987). However, even Weber, who is often cited as arguing in favor of this attributional approach, recognized the role of personality traits by noting that charisma applies to "*a certain quality of an individual personality, by virtue of which he is set apart from ordinary men and treated as endowed with supernatural powers or qualities*" (Weber, 1947, p. 358). This conceptualization of charisma illustrates that even the 'attributionists' acknowledge that there must be something about these leaders that provokes such charismatic attributions. In line with this idea, increased attention is being devoted to trait-perspectives on leadership (e.g., Judge et al., 2009; Zaccaro, 2012), while also contemporary definitions of charisma refer to a constellation of personal characteristics that allow an individual to influence other people by affecting their feelings, opinions, and behaviors (Riggio, 2009).

In this context, there have been several attempts to identify personality traits related to charismatic leadership (e.g., Bono & Judge, 2004; De Hoogh, Den Hartog, & Koopman, 2005; De Vries, 2012; House & Howell, 1992; Judge & Bono, 2000). Throughout this search, the hierarchical Five-Factor Model (FFM) of personality (Digman, 1990) has

played a central role. Briefly, the FFM suggests that the comprehensive construct of personality can be represented by five broad personality domains, generally referred to as Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness (Goldberg, 1993). This five-factor structure of individual differences in personality has been shown to be universal (McCrae, Costa, del Pilar, Rolland, & Parker, 1998; McCrae et al., 2005), and the hierarchical aspect of the FFM lies in the differentiation of each of the five domains in six specific traits or facets (Costa & McCrae, 1995).

A meta-analysis by Bono and Judge (2004) examined relationships between charisma and Big Five personality traits, in which charisma was conceptualized as part of transformational leadership, including the 'idealized influence' and 'inspirational motivation' dimensions of Bass' scales (1998). Using the FFM as a guiding framework, only Extraversion (ρ = .22) and Neuroticism (ρ = -.17) were found to be significantly and consistently related to ratings of charisma, indicating that highly charismatic leaders tend to be more extraverted, and less neurotic. As for Openness and Agreeableness, results were inconsistent, indicating that these traits were sometimes positively associated, and at other times negatively associated with charisma. Finally, Conscientiousness did not relate significantly to charisma (Bono & Judge, 2004). As a set, the Big Five personality traits accounted for 12% of the variance in charisma. Although these findings thus provided some support for the dispositional basis of charisma, the proportion of variance explained was relatively small. Therefore, the authors suggested that the Big Five *domains* might be too broad to fruitfully capture the dispositional basis of charismatic leadership. As a solution, exploring the relationships between Big Five *facets* and charismatic leadership might prove worthwhile (Bono & Judge,

2004; Hough, 1992). Moreover, as the individual is a complex system, the study of single isolated personality traits is unlikely to fully capture its complex psychological reality (Furr, 2008). By focusing on the unique associations between traits and outcomes, one fails to consider that it is the *specific configuration of traits* that is most relevant for understanding and predicting work-related and career outcomes (Shoss & Witt, 2013). In the current study, a FFM charisma compound will be introduced that holds the advantage of representing a meaningful configuration of traits, with relevance to understand behavior at work.

Apart from contributing to our understanding of the specific personality features that underlie individual differences in charisma, understanding the underlying personality core associated with charismatic leadership has important implications for practice, such as selection, training, and development of leaders. For instance, given that Big Five traits are relatively stable (e.g., Cobb-Clark & Schurer, 2012), and knowing that leader charisma has beneficial effects on followers, such as higher levels of performance, commitment, trust and satisfaction (e.g., Shamir, House, & Arthur, 1993), charismatic tendencies could be taken into account when making employment decisions. Once a FFM charisma compound is developed through an expert consensus approach (Study 1), its construct validity will be investigated, as well as its predictive value for career outcomes 15 years later (Study 2).

An expert consensus approach and the FFM count technique

A personality-based measure of charisma will be obtained by using: a) an expert consensus approach (Lynam & Widiger, 2001); and b) the FFM count technique (Miller, Bagby, Pilkonis, Reynolds, & Lynam, 2005). First, an expert consensus approach will be used to obtain a

prototypical *FFM profile* for the charismatic leader's personality. In this approach, experts in the field of charismatic leadership and personality are asked to rate the prototypic case of a charismatic leader in terms of personality, using all 30 facets of the Revised NEO Personality Inventory (NEO PI-R; Costa & McCrae, 1995). Aggregation across these experts allows generating a FFM prototype for the charismatic leader, based on a selection of facets that are rated as prototypically high or prototypically low by the experts. Previously, this approach has also been used by Lynam and Widiger (2001) to generate FFM personality profiles for each of the DSM-IV (American Psychiatric Association, 2013) personality disorders. For instance, the FFM prototype of the narcissistic personality disorder was represented by *low* scores on all six facets of Agreeableness, one facet of Neuroticism, Extraversion, and Openness (i.e., self-consciousness, warmth, and feelings respectively), and it was also represented by *high* scores on one facet of Neuroticism and Openness (i.e., angry hostility and actions respectively), and two facets of Extraversion (i.e., assertiveness and excitement seeking) (see Lynam & Widiger, 2001). Moreover, in the applied field, FFM profiles have been generated for organizationally relevant profiles, for instance for the entrepreneur (Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013). The latter profile development, however, was limited to FFM domains instead of a differentiated profile development by means of facet descriptions.

Once an "expert generated FFM prototype" is obtained for the charismatic leader, the FFM count technique (Miller et al., 2005) will be used to create participants' FFM charisma scores. In contrast to the complex scoring methodology of the prototype matching technique (Lynam & Widiger, 2001), in which expert generated prototypes (that use all 30 FFM facets) are matched to individuals' FFM profiles, a simple sum

of the most characteristic FFM facets will be used to obtain one's charismatic personality score. The result can be considered as a "compound trait", which is a linear combination of narrower personality facets that do not all co-vary (Shoss & Witt, 2013). The FFM count technique has proven to be a valid method to represent personality disorders in terms of convergent, discriminant, and predictive validity (e.g., De Fruyt et al., 2009; Miller et al., 2005; Miller, Reynolds, & Pilkonis, 2004; Wille, De Fruyt, & De Clercq, 2013a). For instance, Miller et al. (2005) demonstrated that the more easily calculated FFM counts perform as well as similarity scores that are generated by the prototype matching technique, in the sense that they are equally successful in predicting personality disorder symptoms. Further, the FFM count technique has proven to be a useful methodology to conceptualize and operationalize aberrant personality tendencies in the work context (e.g., De Fruyt et al., 2009; De Fruyt, Wille, & Furnham, 2013; Wille et al., 2013a).

With regard to the *FFM charisma compound*, we expect the experts to rate a prototypical charismatic leader as low on certain Neuroticism facets, and high on different Extraversion facets (Bono & Judge, 2004). As for the relations of charisma with the other Big Five traits, expectations are less clear. Because of the exploratory nature of an expert consensus approach, no a priori hypothesis are formulated.

Construct validity of the FFM charisma compound

Once a FFM charisma compound is obtained as an operationalization of what we believe to represent "charismatic personality" or "charismatic personality tendencies", we aim to provide evidence for its construct validity. With regard to this validation process, it

is important to distinguish between *formative* constructs, and *reflective* constructs (MacKenzie, Podsakoff, & Jarvis, 2005). If the indicators represent defining characteristics that collectively explain the meaning of the construct, a formative indicator measurement model applies. If, however, the indicators are manifestations of the construct in the sense that they are each determined by it, a reflective indicator model is appropriate.

In the present paper, we conceptualize charismatic personality as a unique constellation of characteristics that are combined in one and the same person (i.e., a formative construct). The reason is that, very much like transformational leadership (see MacKenzie et al., 2005), charismatic personality is formed by components that are conceptually distinct, that are likely to have different antecedents and/or consequences, and that are not interchangeable. This for example shows in the fact that it is not difficult to imagine a person who is low on neuroticism but also low on extraversion (with low neuroticism and high extraversion being two characteristics of charismatic people (see Bono & Judge, 2004)). When charismatic personality would be a reflective construct, the neuroticism and extraversion scores should be determined by it and therefore a low neuroticism - low extraversion constellation should logically not appear (instead, low neuroticism should always be accompanied by high extraversion). In sum, because the FFM charisma characteristics are conceptually distinct, are not expected to co-vary, and are not interchangeable, we modeled charismatic personality as a formative construct.

Specifying charismatic personality as a formative construct has important implications for the validation process of the construct. Although one could use a *composite*- instead of a *common* latent construct

CFA model (i.e., for reflective constructs), testing the structural validity of a compound construct is not conventional (e.g., Lynam & Widiger, 2001; Miller, Lynam, Widiger, & Leukefeld, 2001), nor particularly informative. Instead, attention must be paid to the nomological or criterion-related validity of the construct, such as its correlation with valid criteria or with a validated measure of the same construct. Regardless of whether the indicators are formative or reflective, test-retest reliability is also useful to evaluate the construct's validity (MacKenzie et al., 2005). Because of these reasons, the validity of the FFM charisma compound will be investigated in terms of (a) convergent validity; (b) test-retest reliability; and (c) predictive validity in the present paper.

Convergent Validity

A first question that will be addressed in this validation process is whether leaders with a charismatic personality, as defined by their scores on the FFM charisma compound, are also rated as highly charismatic by (a) themselves, and (b) by their subordinates. To examine this question, we assessed leader's self-perceptions of charismatic leadership and subordinates' perceptions of their leaders' charismatic leadership styles using a widely accepted charisma instrument, namely the Conger-Kanungo Scale (CKS; Conger, Kanungo, Menon, & Mathur, 1997) of charismatic leadership. As charisma concerns personal characteristics that allow an individual to influence other people by affecting their feelings, opinions, and behaviors (Riggio, 2009), charismatic personality tendencies should be reflected in the eye of the beholder, and thus in both self-perceptions of leader charisma and followers' attributions of the leader's charisma.

Hypothesis 1. FFM charisma relates positively to self-perceptions of leader charisma and to followers' attributions of charismatic leadership.

Test-retest Reliability

Moreover, another aspect of this validation process relates to the long-term stability of the FFM charisma compound (cf. test-retest reliability). Given that the FFM personality traits are relatively stable over time (Cobb-Clark & Schurer, 2012; Roberts & DelVecchio, 2000), and the FFM charisma compound is a linear combination of FFM facets, we can expect FFM charisma to be relatively stable as well. Despite the presence of several major life events in the particular life stage we are investigating (i.e., between 23 and 38 years old), such as graduation from college, entering a specific career, and most likely getting married and having children, we can expect a relatively high rank-order stability. Based on meta-analytic population estimates of trait consistency in the age categories 22-29 (ρ = .57) and 30-39 (ρ = .62) (Roberts & DelVecchio, 2000), we expect the test-retest correlation to be around r = .60 for this specific age group.

Hypothesis 2. FFM charisma will show a stability coefficient around .60 across a 15-year time span.

Predictive Validity

A final and crucial step in the validation process of the FFM count relates to the ability of FFM charisma to predict work-related outcomes. This step is of particular importance to I/O psychologists as it allows relating FFM charisma to meaningful outcomes in the future. In the current study, we chose to incorporate a broad range of outcomes, as charismatic personality may have differential associations with various

criteria. Specifically, the predictive validity of the FFM charisma compound will be investigated with respect to (a) extrinsic career success; (b) career roles; and (c) job performance.

Consistent with other studies, we conceptualize extrinsic career success as a construct that includes the income level of the employee, the number of subordinates, and the current managerial level (e.g., Dries, Pepermans, Hofmans, & Rypens, 2009; Wille, De Fruyt, & De Clercq, 2013a). Commonly, a distinction is made between *intrinsic* and *extrinsic* career success (Judge, Higgins, Thoresen, & Barrick, 1999; Wille et al. 2013a). Whereas intrinsic success is more subjective, for instance one's level of career satisfaction, extrinsic success is relatively objective and tangible. According to the career success model (Judge & Kammeyer-Mueller, 2007), one important mechanism through which career success is obtained concerns social behavior. Social behavior is referred to as the capabilities to build and sustain social relationships at work, which are considered to be manifestations of underlying personality traits. Given that charismatic leaders have a tendency to be extraverted and display high levels of social behavior (Bono & Judge, 2004), we expect charismatic personality tendencies to relate to higher career success. Specifically, as charismatic leaders usually are inspirational, energetic, and optimistic about the future, and have the ability to evoke enthusiasm, and commitment in their followers by using excellent rhetoric abilities (e.g., Emrich, Brower, Feldman, & Garland, 2001), climbing the career ladder more easily can be expected. This is consistent with previous research demonstrating positive associations between CEO charisma and career success markers, such as salary (Tosi, Misangyi, Fanelli, Waldman, & Yammarino, 2004). Therefore, the following hypothesis is proposed:

Hypothesis 3. FFM charisma is positively related to extrinsic career success, indicating that highly charismatic personalities will have a higher salary, a higher number of subordinates, and a higher managerial level.

Although extrinsic career success markers are informative, these outcomes might be better indicators for career success, or *leadership* in general, than for *charismatic leadership*. Therefore, we do not only look at career success, but also at specific career roles that people are embedded in. In particular, we will study whether college alumni with a highly charismatic personality are more likely to find themselves in a charismatic leadership-related career role 15 years later. According to the Career Roles Model (CRM; Hoekstra, 2011), career roles are considered to be the building blocks of individual careers, and can be described as enduring aspects of work roles that an employee identifies with. In a job with a certain level of autonomy, six career roles can be distinguished that are potentially attainable according to the CRM (Hoekstra, 2011). The Maker role is focused on producing tangible results, and pertains to employees making things happen. A second career role, that is also focused on *individual performance*, is the Expert role. In the latter role, however, the focus is on problem solving rather than on realizing a preset goal. Further, the Presenter and Guide role can be defined in the realm of *interaction with others*. Here, role takers can be distinguished by their focus on convincing and influencing others, or helping others to move towards their goals, respectively. Finally, the Director and Inspirator roles fit into the domain of *collective developments* of groups and organizations. While the Director role focuses on attaining long term goals and collective success, the Inspirator role focuses on strategic change processes by exploring ideals, values and principles shared by the collective.

According to gravitation theories (Donohue, 2006; Woods & Hampson, 2010) people actively shape their work environment to enhance person-environment fit. On these grounds, one can assume that people progress through their career into roles that fit their personality. Note that a longitudinal design is indispensable to investigate the predictive validity of the FFM charisma compound in relation to career roles. In contrast, concurrent relationships between charisma and career roles can be explained by the role one is currently in. For instance, people in Inspirator roles probably have to behave in a charismatic way because they are currently in an Inspirator role. In the current study, we are specifically interested in how charismatic personalities 'gravitate' toward career roles that fit their needs 15 years later.

As charismatic leaders typically emphasize collective identity, communicate a collective mission and pursue collective goals and interests (Bass, 1985; Conger & Kanungo, 1998), we expect highly charismatic personalities to end up more easily in a Director and Inspirator role 15 years later. Moreover, as one of the hallmarks of the charismatic leader involves displaying exceptional strategic vision and articulation (Conger et al., 1997) using advanced rhetoric abilities (e.g., Emrich et al., 2001), we further expect a positive association with the Presenter role. Regarding the relation between charismatic personality and the Guide role, we also predict a positive association. Although the Guide role is very typical for a broad range of helping professions, this role is also seen in management positions, in which it is more focused on committing and connecting others, rather than on offering concrete help (Hoekstra, 2011). Finally, given the strong emphasis on independent individual production in both the Maker and the Expert role (Hoekstra, 2011), we do not expect to find a longitudinal association with charismatic personality. This is in line with

Conger (1990), who raised that charismatic leaders may become so excited by their mission, that the implementation of their ideas hangs back. In that perspective, these career roles may have a better fit with positions as performant subordinates, instead of leaders.

> **Hypothesis 4.** FFM charisma is positively related to the (leadership-related) Director and Guide roles, and to the (charismatic leadership-related) Inspirator and Presenter roles.

As a final set of outcomes potentially related to charismatic personality, we included three subtypes of job performance: task-, contextual-, and adaptive performance. Although the distinction between task and contextual performance is well established (e.g., Borman & Motowidlo, 1997), increased attention is being devoted to a third dimension of performance: adaptive performance (e.g., Griffin, Neal, & Parker, 2007; Jundt, Shoss, & Huang, 2015; Pulakos, Arad, Donovan, & Plamondon, 2000). Task performance refers to quality of work regarding one's job responsibilities (see Renn & Fedor, 2001). Contextual performance taps into the interpersonal facilitation dimension by Van Scotter and Motowidlo (1996), including cooperative acts that assist coworkers' performance. Finally, adaptive performance refers to dealing appropriately with uncertain, unpredictable, or crisis situations at work (see Pulakos et al., 2000).

Charismatic leaders are more likely to emerge in situations of crises (Pillai, 1996; House & Aditya, 1997), and in environments characterized by a high degree of challenge and opportunities for change (De Hoogh et al., 2005). Further, it has been shown that charismatic leadership is most effective under conditions of environmental uncertainty (Waldman, Ramirez & House, 1996). A high level of adaptive performance is thus needed to operate effectively in these types of environments. With regard

to task and contextual performance, charismatic leadership has been found to influence *subordinates*' task performance (Judge & Piccolo, 2004) as well as contextual performance (Wang, Law, Hackett, Wang, & Chen, 2005). As we expect the highly charismatic personalities to be more likely to hold leadership positions (cf. Hypothesis 3), their focus might be less on individual task and contextual performance. Taken together, we hypothesize a positive relationship between charismatic personality and adaptive performance. As for the relation of FFM charisma with task and contextual performance, no a priori hypotheses will be formulated.

Hypothesis 5. FFM charisma is positively related to adaptive performance.

Plan of Study

The current manuscript includes two studies. Using an expert consensus approach, Study 1 aims to get in-depth information regarding the core personality traits of a charismatic leader in order to develop a FFM charisma compound. In Study 2, convergent validity, test-retest reliability, and predictive validity evidence in terms of career-relevant outcomes will be provided for the proposed FFM charisma compound. Specifically, associations between FFM charisma and (a) extrinsic career success; (b) career roles; and (c) job performance will be investigated over a 15 year time period.

STUDY 1: Construction of the FFM charisma compound

Materials and Methods

Participants and Procedure

Experts in the field of leadership and personality research were invited to participate in an expert panel. A similar procedure was followed as in Lynam and Widiger (2001), in which expert generated FFM prototypes were obtained for personality disorders. To be included in this panel, significant expertise with charismatic leadership and personality profiling was required. Through electronic searches on the Web of Science using the search terms "charisma", "charismatic", "personality", "Big Five", "NEO PI-R", 58 experts were identified. As such, researchers had to have at least one publication within the leadership domain. Moreover, 24 practitioners active in the (international) field of leadership consultancy were contacted to participate in the expert panel. Of these 82 experts, 38 completed the online survey (i.e., 46.34 %). Most of the experts were male (84%), and their mean age was 42.47 years (*SD* = 11.88). Participants were highly educated, holding a PhD (76%) or a Master's degree (24%). The experts originated from the United States (29%), Belgium (21%), the Netherlands (15%), Germany (11%), United Kingdom (8%), Canada (5%), Switzerland (5%), Singapore (3%), and France (3%). Moreover, 90% (*N* = 34) indicated to be I/O psychologists, and 10% (*N* = 4) indicated to be applied personality researchers. In terms of occupational profiles, the experts indicated to be mainly (26%) or exclusively (47%) academic, as much academic as practitioner (13%), or mainly (8%) or exclusively (6%) practitioner.

To obtain prototype descriptions of the charismatic leader, a similar procedure was followed as in Lynam and Widiger (2001). For each of the

30 NEO personality traits, experts were asked to rate the prototypical case of a charismatic leader on a l-to-9 scale. The label of each of the 30 NEO PI-R facets was provided (e.g., modesty) along with two to four adjectives that described both poles of the trait dimension. For example, modesty was assessed using the following descriptors: confident, boastful, arrogant (*extremely low*), versus meek, self-effacing, humble (*extremely high*). Adjectives were adopted from Lynam and Widiger (2001), who relied on the NEO PI-R test manual and the FFM adjective checklists (Costa & McCrae, 1992), except for the adjectives for the facet positive emotions (i.e., placid, anhedonic versus high-spirited), that were taken from the National Character Survey (i.e., somber, sober versus happy, cheerful, joyous; McCrae & Terracciano, 2006). As descriptions of charismatic leadership already include important personality-related adjectives, the experts were not primed or steered with a definition of charismatic leadership, as this was intertwined with their task to describe the prototypical charismatic leader in terms of personality traits. Experts were assured that their individual ratings would be held confidential and aggregated with the other expert ratings. The specific instructions read as follows (see Lynam & Widiger, 2001):

> *We would like you to describe **the prototypic case for a successful charismatic leader** on a 1 to 9 point scale, where 1 indicates that the prototypic charismatic leader would be extremely low on the trait, 5 indicates that the charismatic leader would typically have an average score on the trait, and 9 indicates that the successful charismatic leader would be extremely high on that trait. For traits that are deemed irrelevant to describe the prototypical case of a successful charismatic leader, please indicate "irrelevant" (IR).*

For example, for the vulnerability trait dimension, a score of 1 would indicate that the prototypical case of a successful charismatic leader is evaluated as extremely low in vulnerability (i.e., stalwart, brave, fearless, unflappable), whereas a score of 9 would indicate that the successful charismatic leader is assessed as extremely high in vulnerability (i.e., fragile, helpless). A score of 5 would indicate that the successful charismatic leader is expected to have an average score on vulnerability, while an endorsement of "irrelevant" (IR) would indicate that the vulnerability trait dimension is not a meaningful personality descriptor of this professional profile (in other words: successful charismatic leaders may as well score extremely high, extremely low, or average on this trait). Please rate the prototypic case for a successful charismatic leader on each of the 30 trait dimensions.

Two criteria were used in order to select the NEO facets that will form the FFM charisma compound. First, the most characteristic traits were selected by using cut-off scores on the mean expert ratings on the 30 facets. Facets that are rated as prototypically high (≥ 7) or prototypically low (≤ 3) were selected for inclusion in the FFM charisma compound (see Miller et al., 2005). Second, there had to be sufficient agreement among the experts regarding the prototypical score on each of the selected facets. Therefore, inter-rater agreements (IRA) had to be sufficiently high (i.e., IRA of .71 to .90; LeBreton & Senter, 2008).

Results

The charismatic personality prototype descriptions

Table 1 provides means and standard deviations of the expert ratings for each of the 30 NEO facets. Similar as in Miller et al. (2005), facets that were rated as prototypically high (≥ 7) or prototypically low (≤ 3) are summed together to obtain a FFM count score (i.e., FFM count technique; see Miller et al., 2005). To allow for enough differentiation on the trait continuum, we used a 9-point rating scale instead of a 5-point scale. Hence, the cut-offs we used for inclusion in the FFM charisma compound, were proportional to the cut-offs used by Miller et al. (2005) (i.e., ≥ 4 and ≤ 2 for a 5-point scale). Following this procedure, 12 facets were selected for inclusion in the FFM charisma compound: four Neuroticism facets (i.e., anxiety, depression, self-consciousness, and vulnerability), five Extraversion facets (i.e., warmth, gregariousness, assertiveness, activity, and positive emotions), two Openness facets (i.e., actions and values), and one Conscientiousness facet (i.e., achievement striving). Before computing the FFM charisma count, however, the Neuroticism facets that are considered to be prototypically *low* for the charismatic leader must be reverse scored (i.e., indicated by (r) in the formula below). In this way, all facets are framed in the same direction so that high scores on the FFM charisma compound indicate high levels of charismatic personality. None of the selected facets was indicated as "irrelevant" by the experts. The expert consensus approach resulted in the following FFM charisma count score:

FFM charisma = N1 (r) + N3 (r) + N4 (r) + N6 (r) + E1 + E2 + E3 + E4 + E6 + O4 + O6 + C4

In summary, the experts described the prototypical charismatic leader to be low on several Neuroticism facets, indicating that they are in general relaxed, unconcerned, cool (N1 (r): low on anxiety); optimistic (N3 (r): low on depression); self-assured, glib, shameless (N4 (r): low on self-consciousness); clear-thinking, fearless, and unflappable (N6 (r): low on vulnerability). Moreover, the experts rated the charismatic leader as typically high on all Extraversion facets, except for excitement seeking. This means that the charismatic leader tends to be cordial, affectionate, attached (E1: high on warmth); sociable, outgoing (E2: high on gregariousness); dominant, forceful (E3: high on assertiveness); vigorous, energetic, active (E4: high on activity); happy, cheerful, and joyous (E6: high on positive emotions). Further, two Openness facets have been indicated to be prototypically high for the charismatic leader, namely actions (O4: unconventional, eccentric) and values (O6: permissive, broad-minded). Finally, within the Conscientiousness domain, achievement striving (C4: workaholic, ambitious) is perceived to be high in charismatic leaders, and none of the Agreeableness facets came out as a relevant personality-related description of the prototypical charismatic leader.

Agreement among experts

For estimating the $r_{wg(j)}$ inter-rater agreement (IRA) coefficients (James, Demaree, & Wolf, 1984) among the experts, the procedures developed by LeBreton and Senter (2008) were followed. In particular, prior to calculating IRA estimates, our data was restructured such that raters became variables. Next, the observed variance within each NEO facet across the experts (obs_var) was estimated. Finally, a uniform null distribution was used in the computation of $r_{wg(j)}$ for the NEO facet scales, such that each response option had an equal chance of being selected by a

judge. For a 9-point scale, this resulted in an expected error variance (σ^2_E) of 6.67 (see Table 2 in LeBreton & Senter, 2008), to estimate $r_{wg(j)}$ as 1 - (obs_var/6.67). To evaluate the level of rating similarity, guidelines of LeBreton and Senter (2008) were used (p. 836). As the results in Table 1 show, there exists a strong agreement among the experts (IRA of .71 to .90) for the majority of the selected facets. For two of the chosen facets, i.e. Self-consciousness (.70) and Warmth (.65), there was a moderate agreement among the experts (IRA of 51 to .70). On average, the within group agreement for the selected FFM facets was strong (*Average* r_{wg} = .80). To conclude, the 12 facets forming the FFM charisma compound meet the criteria of (1) being described as highly characteristic for the charismatic leader, (2) with sufficient agreement among the experts.

STUDY 2: Construct- and predictive validity of the FFM charisma compound

Materials and Methods

Procedure and Participants

Sample 1. To provide initial convergent validity evidence for the FFM charisma compound, Belgian leaders (N = 41) completed the first half NEO PI-R (McCrae & Costa, 2007), and both the leaders as well as their direct subordinates (N = 41) completed the Conger-Kanungo Scale (Conger et al., 1997) to evaluate the leaders' charismatic leadership style. Leader-subordinate dyads were recruited by a final year undergraduate student in the context of a master's thesis research. Among the participating organizations were a real estate firm (35%), a retail company (23%), a chemistry firm (16%), a hospital (14%), and a telecom company (12%). After the management had expressed their commitment to participate, employees in a leadership position were informed about the

study by email, including a noncommittal request to participate through an online survey. Each of the targets was asked to nominate one direct subordinate who was able to evaluate their superior. To encourage honest responses, confidentiality was guaranteed to both the target leaders as well as their subordinates. Participating leaders were on average 38.63 years old (*SD* = 10.64), and 66% were male. Target leaders had a mean tenure in their current job of 7.87 years (*SD* = 8.28), and had on average 12.41 (*SD* = 12.83) subordinates.

Sample 2. To test the predictive validity of the FFM charisma compound, this study relied on the "1994 Ghent alumni sample" – a sample of Dutch-speaking undergraduate alumni who participate in a longitudinal research project on personality development and career trajectories (see also De Fruyt, 2002; De Fruyt & Mervielde, 1999; Wille et al., 2013a; Wille, Beyers, & De Fruyt, 2012; Wille, De Fruyt, & Feys, 2013b; Wille, Hofmans, Feys, & De Fruyt, 2014). In 1994 (Time 1; T1), 934 college students from a large variety of faculties completed the NEO PI-R three months prior to graduation. Fifteen years later, in 2009 (Time 2; T2), a follow-up study was conducted when the participants' career had unfolded. Data were used from a subsample of 262 participants from whom we have personality information in 1994 (T1) and 2009 (T2), and relevant career indicators in 2009 (T2). As the Ghent alumni cohort was still studying at T1, career outcomes could only be assessed at T2. Fifty-two percent of this sample was male, and the mean age was 37.22 years at T2 (*SD* = 1.21). The participants were occupied in a broad range of companies from different employment sectors. Studies part of this research project already illustrated the importance of *Big Five traits* with regard to initial job choice, early career work adjustment, work attitudes, work-family conflict, and career transitions (De Fruyt, 2002; De Fruyt &

Mervielde, 1999; Wille et al., 2012; Wille et al., 2013b, Wille et al., 2014). Moreover, the validity of *FFM aberrant compounds* (e.g., antisocial personality disorder (PD) compound, narcissistic PD compound, borderline PD compound) to predict intrinsic and extrinsic career outcomes was investigated (Wille et al., 2013a). The current study is the first to focus on the predictive validity of *charismatic personality* (i.e., FFM charisma) for a broad range of career outcomes. As in Wille et al. (2013a), extrinsic career outcomes are selected as relevant criteria in relation to FFM charisma. Different than Wille et al. (2013a), this study further takes into account six career roles, and three subtypes of job performance as relevant career outcomes.

Measures

Charismatic Personality. The FFM charisma compound was used to measure participants' charismatic personality. Leaders in Sample 1 completed the first half NEO PI-R to obtain FFM charisma scores. The NEO PI-R *First Half* consists of the first 120 items of the NEO PI-R, including four items for each of the 30 facets. Evidence is accumulating that brief versions of the NEO Personality Inventories, consisting of 120 items instead of the original 240, are good and time-saving alternatives for research, advantaged by the retention of fine-grained descriptions of personality in terms of NEO facets (e.g., *NEO PI-3 First Half* in McCrae & Costa, 2007; *NEO PI-R Short Form* in Mooi et al., 2011; *IPIP-NEO-120* in Johnson, 2014). In Sample 1, the internal consistency of the FFM charisma compound (48 items) was .88. In Sample 2, participants completed the full NEO PI-R in both phases of the longitudinal design. Cronbach alpha's for the FFM charisma compound (96 items) were .93 when the NEO PI-R was administered for the first time (T1), and .94 when the sample rated their personalities 15 years later (T2). In Sample 2, FFM

charisma (48 items) based on the *first half* NEO PI-R, including four items per facet, correlated .97 with FFM charisma (96 items) based on the full NEO PI-R comprising eight items per facet.

Charismatic Leadership. In Sample 1, both leaders and their respective subordinates provided ratings on charismatic leadership using the 20-item Conger-Kanungo Scale (CKS; Conger et al., 1997). The CKS contains five subscales of charismatic behavior: strategic vision and articulation (7 items), personal risk (3 items), sensitivity to the environment (4 items), sensitivity to members' needs (3 items), and unconventional behavior (3 items). Items were rated on a 5-point Likert scale ranging from 1 (*not characteristic*) to 5 (*very characteristic*). Example items are "*Inspirational – able to motivate by articulating effectively the importance of what organizational members are doing*", and "*Engages in unconventional behavior in order to achieve organizational goals*". Cronbach alphas of the charismatic leadership scale were .85 and .73 for the self- and subordinate-ratings respectively, indicating a high level of internal consistency.

Extrinsic Career Success. To obtain extrinsic career success markers, participants of Sample 2 provided information on their monthly salary before taxes (i.e., income), managerial level of their current job, and number of subordinates at Time 2. Monthly salary was measured in twelve categories ranging from lower to higher income levels. Managerial level was measured in five categories between 1 (= *no managerial position*) and 5 (= *top manager in a large company*). Number of subordinates was measured on a 6-point scale ranging between 1 (= *no subordinates*) and 6 (= *100 or more subordinates*). As such, the three career success markers were measured in an ordinal manner.

Career Roles. Participants of Sample 2 completed the 30-item Career Roles Questionnaire (CRQ; Hoekstra, 2011) at Time 2. Each of the six career roles were measured by means of five items: Maker role (e.g., "*Enjoy doing the utmost in the activity of carrying out a task*"), Expert role (e.g., "*Explicate the way complex systems work*"), Presenter role (e.g., "*Present an idea in such a way that all are impressed*"), Guide role (e.g., "*Achieve something with a person by empathic understanding*"), Director role (e.g., "*Take the lead in confusing situations*"), and Inspirator role (e.g., "*Inspire the people around me with a story from the heart*"). Respondents were asked to indicate how well each statement described the role they typically had in their work on a Likert scale ranging from 1 (= *not at all*) to 7 (= *very well*). Cronbach alphas of the scales were good, ranging between .85 (for Inspirator) and .92 (for Guide).

Job Performance. In Sample 1, leaders were evaluated by direct subordinates on their job performance. In Sample 2, participants provided self-ratings on their performance at Time 2. In both Samples, three performance areas were assessed: task performance (3 items; e.g., "*Delivers work with a minimal number of errors and instances of carelessness*"), contextual performance (4 items; e.g., "*Helps someone without being asked*"), and adaptive performance (4 items; e.g., "*Deals with unpredictable and unexpected work situations appropriately*"). The full item set can be found in the Appendix. All performance items were rated on a 5-point Likert scale ranging from 1 (*not characteristic*) to 5 (*very characteristic*). Self-rated task ($\alpha = .78$), contextual ($\alpha = .74$), and adaptive ($\alpha = .70$) performance had a high level of internal consistency in Sample 2. Cronbach alphas for the subordinate-rated performance scales in Sample 1 were somewhat lower: $\alpha = .63$ for task performance, $\alpha = .75$ for contextual performance, and $\alpha = .65$ for adaptive performance. To test

whether the 3-factor structure fitted the data well, a confirmatory factor analysis was conducted in Mplus version 7.3. To evaluate model fit, we relied on the Root Mean Square of Error of Approximation (RMSEA), with values of ≤ .10 pointing to an acceptable fit, values ≤ .08 pointing to an approximate model fit, and values ≤ .05 suggesting a good model fit (Chen, Curran, Bollen, Kirby, & Paxton, 2008). Moreover, we also used the Comparative Fit Index (CFI) and the Tucker–Lewis Index (TLI), for which a value of ≥ .90 suggests an adequate model fit. Finally, we also checked the Standardized root mean square residual (SRMR), for which a value of ≤ .08 refers to a good model fit (Hu & Bentler, 1999). The results revealed that the 3-factor model of performance fitted the data well in both the self-rated version (Sample 2: RMSEA = .05; CFI = .95; TLI = .94; SRMR = .05) and the subordinate-rated version (Sample 1: RMSEA = .00; CFI = 1; TLI = 1; SRMR = .08). All descriptive statistics, correlations, and internal consistencies of the study variables are reported in Table 2 (for Sample 1) and Table 3 (for Sample 2).

Results

Convergent Validity

Consistent with our expectations (Hypothesis 1), correlational analyses in Sample 1 demonstrate that self-rated charismatic personality (FFM charisma) is positively related to both subordinate-rated charismatic leadership (CKS; r = .38, p < .05) as well as to self-rated charismatic leadership behavior (CKS; r = .59, p < .001) (see Table 2). Moreover, the FFM charisma compound accounts for respectively 15% and 35% of the variance in charismatic leadership, as rated by direct subordinates (F(1,39) = 6.62, p < .05), and the leaders themselves (F(1,39) = 24.71, p < .001).

Test-retest Reliability

Cross-time stability coefficients for the FFM charisma compound were calculated in Sample 2, between Time 1 and Time 2 (see Table 3). The test-retest correlation for FFM charisma was .68 ($p < .001$), indicating relatively high rank-order stability over a 15-year time period (Hypothesis 2).

Predictive Validity

Both concurrent and longitudinal associations between FFM charisma and career outcomes were examined in Sample 2. The relationships between FFM charisma (T2) and career outcomes (T2) are referred to as "concurrent" associations, whereas the relationships between FFM charisma (T1) and career outcomes (T2) are referred to as "longitudinal" associations. To investigate these associations, 24 hierarchical regression analyses (1 predictor × 12 career outcomes × 2 time points) were conducted. As sex is likely to influence career success outcomes (e.g., Baruch & Bozionelos, 2011), we included sex as a control variable in each of the regression models (Step 1), followed by FFM charisma (Step 2). To investigate concurrent and longitudinal associations with career outcomes, FFM charisma at T2 and T1 respectively served as the predictor variable. Twelve career outcomes at T2 (i.e., 3 extrinsic career success markers, 6 career roles, and 3 types of job performance) served as the dependent variables. Results are summarized in Table 4.

Moreover, relationships between FFM charisma and job performance were also examined in Sample 1, in which job performance was *subordinate-rated*. Here again, a series of three hierarchical regressions were conducted, in which sex was entered in a first step followed by FFM charisma in a second step.

Extrinsic Career Success. Concurrent and longitudinal associations between FFM charisma and extrinsic career success markers were examined in Sample 2. The results in Table 4 confirmed our expectations regarding the relationship with career success (Hypothesis 3). Specifically, *income* (T2) was significantly positively related to FFM charisma after controlling for sex, both concurrently (T2: β = .24, p < .001) as well as longitudinally (T1: β = .25, p < .001). With regard to *number of subordinates* (T2), positive associations with FFM charisma were also consistently found (T1: β = .18, p < .01; T2: β = .32, p < .001). Finally, we found *managerial level* (T2) to be positively related with FFM charisma from a concurrent (T2: β = .27, p < .001) and longitudinal (T1: β = .12, p < .05) perspective.

Career Roles. Relationships between FFM charisma and career roles were examined in Sample 2. As can be seen in Table 4, four career roles have significant and consistent relationships with FFM charisma, i.e. Presenter, Guide, Director, and Inspirator roles (Hypothesis 4). Although the strength of the associations between these career roles and FFM charisma is somewhat higher when personality and career roles were assessed concurrently at T2 (T2: β = .30, .24, .38, and .28 for Presenter, Guide, Director, and Inspirator respectively, p < .001), the Presenter (β = .19), Guide (β = .18), Director (β = .19), and Inspirator (β = .15) role still relate to FFM charisma (T1) across a 15-year time-span. The Maker role, on the other hand, was only significantly related to FFM charisma when personality was measured at T2 (β = .19, p < .01), and the Expert role was unrelated to FFM charisma (T1: β = .11; T2: β = .06, p > .05).

Job Performance. Relationships between FFM charisma and job performance were examined in both samples (Hypothesis 5). In Sample 1, where job performance was rated by direct subordinates of the leaders, we

found a significant relationship between FFM charisma and adaptive performance (β = .33, p < .05), indicating that highly charismatic personalities tend to deal more appropriately with uncertain, unpredictable, or crisis situations at work. No significant relationship was found between FFM charisma and both task- and contextual performance (β = -.05 and -.04 respectively, p > .05). In Sample 2, where job performance was self-rated both concurrently and longitudinally, we found consistent relationships between FFM charisma and contextual- (T1: β = .17, p < .01; T2: β = .28, p < .001) and adaptive performance (T1: β = .29, p < .001; T2: β = .42, p < .001). Again, no significant relationship was found between FFM charisma and task performance (T1: β = -.07, p > .05; T2: β = -.05, p > .05).

Discussion

Despite several attempts to identify the dispositional building blocks of charismatic leadership, charisma is still very much a "black box". Inspired by innovative approaches in the clinical literature on personality disorders (Lynam & Widiger, 2001; Miller et al., 2005), the current study is the first to propose a FFM charisma compound, as a personality-based operationalization of charisma. Compared to research that focuses on the relationships between charisma and isolated personality traits, our study focuses on a meaningful collection of traits that underlie charisma, thereby taking an integrative –rather than a fragmented– perspective on the individual. In what follows, we will summarize and discuss the major findings.

First, a FFM profile for the prototypical charismatic leader was proposed relying on ratings of experts in the field of leadership and personality. We sought to extend the five factor model understanding of

charismatic leadership (e.g., Bono & Judge, 2004) by focusing on facet level information, and by considering the *specific combination of traits* which is most relevant for understanding and predicting work-related and career outcomes (Shoss & Witt, 2013). Agreement among the expert raters was relatively high. The lowest interrater agreements were obtained within the Agreeableness domain. Consistent with this, none of the Agreeableness facets came out as a relevant personality-related descriptor of the prototypical charismatic leader. This disagreement aligns with previous research that has shown divergent associations between charismatic leadership and Agreeableness-related constructs. On the one hand, charismatic leadership has been related to individualized consideration and empathic understanding, which is positively associated with Agreeableness (e.g., Judge & Bono, 2000). On the other hand, charismatic leadership has been related to overconfidence, hubris, and narcissism (Deluga, 1997; House & Howell, 1992; Sankowsky, 1995; Popper, 2002) – which are negatively associated with Agreeableness (e.g., Furnham & Crump, 2014). Consistent with these complexities, some of the experts noticed in the closing remarks of the survey that they kept in mind the potential "dark side" of charisma (Conger, 1990; Howell, 1988), including narcissistic, exploitative, and non-egalitarian tendencies (Judge et al., 2009). Nevertheless, it seems that the modesty and kindness of agreeable persons is not the hallmark of charismatic leaders, an idea also expressed by Bono and Judge (2004).

Once an expert-generated-prototype for the charismatic leader was established, its convergent validity, cross-time stability, and predictive validity in terms of career outcomes was investigated. Here, we provided initial convergent validity evidence using both self-ratings and subordinate-ratings of charismatic leadership. Specifically, the

combination of an observed association between FFM charisma and charismatic leadership of r = .59 for the self-ratings and r = .38 for the subordinate-ratings can be interpreted as relatively strong when keeping in mind that (1) the relationship between *two different constructs* was investigated, namely a personality measure (FFM charisma) and a measure of leadership behavior (CKS charismatic leadership), which is assumed to be a manifestation of the underlying personality core, and (2) the association between FFM charisma and subordinate-rated charismatic leadership concerns *two different rater perspectives*. For instance, the results by De Vries (2012) suggested that the relatively weak associations between personality and leadership styles are mainly due to the relatively low levels of self-other agreement between leaders and subordinates. Provided that other studies reported levels of self-other agreement among leaders and subordinates on *the exact same variables* of r = .15 (i.e., for transformational leadership, Judge, LePine, & Rich, 2006), we can be confident that FFM charisma taps into charismatic leadership. Further, self-rated FFM charisma accounted for 15 % of the variability in observer-rated charismatic leadership. Compared to Bono and Judge's (2004) meta-analysis, in which they concluded that the Big Five traits accounted for 12 % of the variability in charisma, this is not a big improvement. However, comparison is difficult as we investigated the proportion of explained variance of *one* compound trait, instead of *five* separate personality domains (Bono & judge, 2004). To increase comparability, this share increases to 46 % when the 12 personality traits of the FFM charisma compound are entered separately into the regression analysis. Taken together, preliminary evidence was found that charismatic personality tendencies are indeed reflected in the eye of the beholder, i.e., in followers' attributions of the leader's charisma.

With regard to the long-term stability of the FFM charisma compound, we found a test-retest correlation coefficient of .68, which is relatively high (Roberts & DelVecchio, 2000). Despite the major life events in the age group we are investigating (23 – 38 years old), for instance graduating, entering careers, and most likely being married and have children, we can conclude that charismatic personality tendencies are relatively stable over time.

Finally, the current study provided predictive validity evidence for FFM charisma in terms of career outcomes. First, the results supported our expectations regarding the relationship with three different extrinsic career outcomes. Higher charismatic tendencies are related to higher income levels, more subordinates, and a higher managerial position, across a 15-year time span. Second, individuals with charismatic tendencies are more inclined to hold a role as Director, Inspirator, Presenter, and Guide in their future careers. Although the Director and Guide role are conceptually related to a leadership role in general, the Presenter and the Inspirator role connect particularly to the *charismatic* leadership role (e.g., Bass, 1985; Conger & Kanungo, 1998; Emrich et al., 2001). Further, a concurrent relationship was also found with the Maker role, which was inconsistent with our expectations given the strong emphasis on independent individual production in this role (Hoekstra, 2011). Although the association was smaller in magnitude than the relations we expected to find, and the relationship did not hold longitudinally, future research using observer ratings of career roles in addition to self-ratings may further shed light on this.

Finally, associations between FFM charisma and *job performance* were investigated in two samples: One cross-sectional sample using subordinate ratings of performance, and one longitudinal sample using

self-ratings of performance. Overall, the only consistent relationship was found between FFM charisma and adaptive performance. Charismatic personalities are thus more likely to score higher on adaptive performance – even when performance is measured 15 years later, or when performance is rated by subordinates. This is in line with our hypothesis, and reflects a tendency of charismatic leaders to operate more effectively in environments characterized by a high degree of challenge and opportunities for change (e.g., De Hoogh et al., 2005), in which it is important to deal appropriately with uncertain, unpredictable, or crisis situations at work. Further, contextual performance was only significantly related to FFM charisma when performance was self-rated, and task performance did not relate to charismatic tendencies in any case.

Theoretical and Practical Implications

Without undermining the attributional perspective on charismatic leadership, our results support the trait-perspective on leadership. If consistency exists in the eye of the beholder, there must be something in that leader that makes charismatic judgements consistent. Therefore, charismatic personalities are perceived to be charismatic. The current study was the first to propose a personality-based operationalization of charisma, by means of innovative techniques including an expert consensus approach and the FFM count technique.

Understanding the underlying personality core associated with charismatic leadership has important implications for practice, such as the selection, training, and development of leaders. First, an assessment of charismatic personality tendencies could be useful in a leadership selection context. Although this personality profile is not meant to relate exclusively to charismatic leaders, but to reflect a characteristic constellation of traits

that makes charismatic leadership more likely, we found the FFM charisma compound to have meaningful and longitudinal associations with different career outcomes, such as climbing the career ladder more easily, and displaying higher adaptive performance levels. Moreover, as FFM charisma could be computed whenever the NEO PI-R is administered, this useful information can be obtained in a straightforward and time- and resource-friendly way. Second, knowledge of charismatic personality tendencies may be used for coaching and development purposes. As it has been shown that charismatic leadership behaviors can be trained to a certain extent (e.g., Barling, Weber, & Kelloway, 1996; Dvir, Eden, Avolio, & Shamir, 2002), screening these traits may potentially aid in determining which individuals could gain most from a charismatic leadership training or coaching trajectory.

Limitations and Directions for Future Research

Some limitations of this study should be acknowledged. First, to provide initial convergent validity evidence for the FFM charisma compound, a sample of leaders completed the *first half* NEO PI-R (McCrae & Costa, 2007), and direct subordinates completed the Conger-Kanungo Scale (Conger et al., 1997) to evaluate their leaders' charismatic leadership style. Although we have reasons to believe that the first half NEO PI-R is as reliable and informative as the full NEO PI-R (e.g., r = .97 between the full and first half version in Sample 2), additional convergent validity evidence for FFM charisma is required.

A second limitation concerns the cut-off scores for inclusion in the FFM charisma compound. The expert-based prototype is composed of NEO facets with mean scores of 3 and lower (*low*), and 7 and higher (*high*). Obviously, cut-off scores are always arbitrary in some way, and different cut-offs provide different compounds. For instance, if the cut-offs

for inclusion were on 3.5 and lower (*low*), and 6.5 and higher (*high*), 20 facets would have been included in the FFM charisma compound.

Third, although a relatively small sample was used (Sample 1), it holds the advantage of having observer-rated data on both charismatic leadership and job performance, in a sample of actual leaders. In contrast, the larger, longitudinal sample (Sample 2) only contains self-reported data in a heterogeneous sample of employees. As the latter sample was exclusively based on self-reports, common method bias can be a potential confound for some of the associations. The extrinsic career outcomes are objective rather than subjective ratings, and the career roles are mainly descriptive, which may alleviate these concerns in part. Job performance, however, is mainly evaluative, increasing the importance of using different rater sources. To conclude, both study samples have their constraints, but one responds to the limitations of the other.

Finally, it is worth considering a replication of the expert generated prototype, taking into account the differentiation between *socialized charismatic leadership* – representing the positive side of charismatic leadership – and *personalized charismatic leadership*, including narcissistic, exploitative, and non-egalitarian tendencies (House & Howell, 1992). However, socialized and personalized charismatic leadership are not mutually exclusive (House & Howell, 1992) and represent a continuum rather than two distinct forms of charismatic leadership (Waldman & Javidan, 2009). In other words, charismatic leaders can display behaviors that reflect *both* bright (cf. '*socialized*') and dark side (cf. '*personalized*') charismatic personality tendencies (House & Howell, 1992; Judge et al., 2009; Waldman & Javidan, 2009). So, against recent developments in personality literature, supporting a dimensional perspective on aberrant personality (e.g., De Fruyt et al., 2013; O'Boyle,

Forsyth, Banks, & McDaniel, 2012) in which dark side tendencies are considered to be extreme extensions of the bright side forms, a differential profile development might be a step backwards. The dark side of personality can be described as "*the impression we make when we let down our guard – when we are stressed, tired, or do not care how we are perceived*" (Kaiser & Hogan, 2007, p.12). Everyone has them, as they are part of our normal personality. For the bigger part, it is rather the situation that will determine whether one's dark side arises to the surface or not (e.g., stress, fatigue, low control-perception). Therefore, future researchers could focus on replicating a "bright side" FFM charisma compound, keeping in mind that this profile is potentially associated with some dark sides, instead of developing two different FFM charisma profiles.

Conclusion

In line with increasing evidence in support of trait-perspectives on leadership, we argued that charisma does not exclusively exist in the eye of the beholder, but can be understood as a specific configuration of personality traits that does not relate exclusively to charismatic leaders, but reflects a characteristic constellation of traits that makes charismatic leadership more likely. In search for these specific characteristics, the current study was the first to extend the five factor model understanding of charismatic leadership by using an expert consensus approach to obtain the FFM charisma compound. Moreover, the current study provided initial convergent validity evidence for FFM charisma, and illustrated that this trait configuration is relatively stable over a 15-year time span. Our findings show that FFM charisma is meaningfully associated with career-related criteria, as we found that higher charismatic tendencies are associated with higher income levels, more subordinates, and a higher managerial position. Finally, individuals with charismatic tendencies are

more inclined to hold leadership roles (Director, Guide), and charismatic leadership roles (Inspirator, Presenter) in their future careers, and score higher on adaptive performance. In sum, this work helped to clarify the personality blocks that underlie leader charisma in a more detailed way than what has been done before, and demonstrated the opportunities to map charismatic tendencies in a career-relevant way.

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Tables

Table 1

Five-Factor model expert ratings for the prototypical charismatic leader: Study 1 (N = 38)

Domain and facet	*M*	*SD*	*IRA* (r_{wg})
Neuroticism	2.78	.87	.89
N1: Anxiety	2.59	1.12	.81
N2: Hostility	3.03	1.61	.61
N3: Depression	1.86	1.00	.85
N4: Self-consciousness	2.31	1.41	.70
N5: Impulsiveness	4.94	1.93	.44
N6: Vulnerability	2.03	1.32	.74
Extraversion	7.69	.71	.92
E1: Warmth	**7.19**	1.53	.65
E2: Gregariousness	**7.95**	1.23	.77
E3: Assertiveness	**7.95**	1.11	.81
E4: Activity	**8.32**	.90	.88
E5: Excitement seeking	6.71	1.38	.71
E6: Positive emotions	**7.89**	.98	.86
Openness to experience	6.96	.82	.90
O1: Fantasy	6.58	1.20	.78
O2: Esthetics	6.48	1.35	.73
O3: Feelings	6.80	1.64	.60
O4: Actions	**7.46**	1.12	.81
O5: Ideas	6.97	1.22	.78
O6: Values	**7.32**	1.13	.81
Agreeableness	4.87	1.36	.72
A1: Trust	5.56	1.50	.66
A2: Straightforwardness	5.76	2.25	.24
A3: Altruism	5.56	1.89	.47
A4: Compliance	4.22	1.40	.71
A5: Modesty	3.47	1.48	.67
A6: Tender-Mindedness	4.72	1.73	.55
Conscientiousness	6.29	.82	.90
C1: Competence	6.58	1.13	.81
C2: Order	5.70	1.33	.73
C3: Dutifulness	5.56	1.40	.70
C4: Achievement Striving	**7.92**	.91	.88
C5: Self-discipline	6.61	1.68	.58
C6: Deliberation	5.16	1.56	.64

Note. Characteristic items defined as ≤ 3 or ≥ 7, appear as underlined (low) or boldfaced (high) values.

Table 2

Descriptive statistics and variable intercorrelations: Sample 1 in Study 2 (N = 41)

	M	***SD***	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
1. Sex[a]	-	-								
2. Age	38.63	10.64	-.03							
3. FFM charisma (self)	43.03	4.62	-.17	.06	**.88**					
4. Charismatic leadership (sub)	3.57	.39	-.01	-.12	.38*	**.73**				
5. Charismatic leadership (self)	3.45	.48	-.19	-.11	.59***	.56***	**.85**			
6. Task performance (sub)	4.25	.61	-.10	.13	-.03	.29	.13	**.63**		
7. Contextual performance (sub)	4.09	.62	.15	-.22	-.06	.42**	.00	.43**	**.75**	
8. Adaptive performance (sub)	3.91	.59	-.26	.21	.36*	.40**	.16	.31*	.22	**.65**

Note. Bold values on the diagonal show the internal consistency of the relevant variable; [a] Sex is dummy coded such that 0 = male and 1 = female; self = self-report; sub = subordinate-report; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$

Table 3

Descriptive statistics and variable intercorrelations: Sample 2 in Study 2 (N = 262)

	M	***SD***	**1.**	**2**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**	**16.**
1. Sex[a]	-	-																
2. Age (T2)	37.22	1.21	-.08															
3. FFM charisma (T1)	39.55	4.08	-.10	.02	**.93**													
4. FFM charisma (T2)	40.80	4.04	-.06	-.01	.68***	**.94**												
5. Income (T2)	1.44	.40	-.36***	.03	.29***	.28***												
6. Number subordinates[b] (T2)	1.22	1.38	-.25***	-.07	.20**	.34***	.33***											
7. Management level[c] (T2)	1.08	1.14	-.26***	-.09	.15*	.29***	.40***	.61***										
8. Maker (T2)	5.72	1.15	.03	-.14*	.01	.18**	.10	.16*	.17*	**.89**								
9. Expert (T2)	5.07	1.42	-.16*	.06	.07	.13*	.17*	.11	.12	.50***	**.89**							
10. Presenter (T2)	4.58	1.55	-.03	.03	.19**	.30***	.09	.21**	.30***	.49***	.36***	**.91**						
11. Guide (T2)	4.94	1.45	-.04	.09	.18**	.24***	.10	.36***	.26***	.28***	.19**	.38***	**.92**					
12. Director (T2)	4.60	1.59	-.27***	-.01	.21**	.39***	.29***	.53***	.58***	.44***	.39***	.61***	.49***	**.91**				
13. Inspirator (T2)	4.58	1.23	-.02	-.01	.15*	.28***	.04	.34***	.31***	.50***	.38***	.67***	.60***	.61***	**.85**			
14. Task performance (T2)	4.12	.60	.09	-.09	-.08	-.06	-.01	-.07	-.12	.23***	.14*	.02	.09	-.02	.08	**.78**		
15. Contextual performance (T2)	3.83	.56	-.06	-.03	.18**	.28***	.02	.14*	.18**	.14*	.04	.22***	.36***	.22***	.35***	.12	**.74**	
16. Adaptive performance (T2)	3.72	.57	-.30***	-.01	.32***	.44***	.30***	.32***	.34***	.30***	.27***	.29***	.23***	.47***	.31***	-.03	.31***	**.70**

Note. Bold values on the diagonal show the internal consistency of the relevant variable; [a] Sex is dummy coded such that 0 = male and 1 = female; [bc] In respectively 6 and 5 categories; Career role scores are computed on a scale from 1 to 7; T1 = 1994; T2 = 2009; * $p < .05$, ** $p < .01$, *** $p < .001$

Table 4

Summary of hierarchical regression analyses (β) examining the associations between FFM charisma (T1 and T2) and career outcomes (T2), after controlling for sex (Sample 2 in Study 2, N = 262)

		Longitudinal: FFM charisma (T1) – career outcomes (T2)	Concurrent: FFM charisma (T2) – career outcomes (T2)
	Step 1: Sex[a]	Step 2: FFM charisma (T1)	Step 2: FFM charisma (T2)
Income (T2)	-.36***	.25***	.24***
Number subordinates[b] (T2)	-.25***	.18**	.32***
Management level[c] (T2)	-.26***	.12*	.27***
Maker (T2)	-.03	.01	.19**
Expert (T2)	-.16*	.06	.11
Presenter (T2)	-.03	.19**	.30***
Guide (T2)	-.04	.18**	.24***
Director (T2)	-.27***	.19**	.38***
Inspirator (T2)	-.02	.15*	.28***
Task performance (T2)	.09	-.07	-.05
Contextual performance (T2)	-.06	.17**	.28***
Adaptive performance (T2)	-.30***	.29***	.42***

Note. Standardized beta coefficients are reported; [a]Sex is dummy coded such that 0 = male and 1 = female; [bc] In respectively 6 and 5 categories $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

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Appendix A

Performance Scale

Task performance

1. Performs duties thoroughly and to perfection
2. Delivers work with a minimal number of errors and instances of carelessness
3. Sets high quality standards for work performance

Contextual performance

4. Says things to make people feel good about themselves or the work group
5. Encourages others to overcome their differences and get along
6. Treats others fairly
7. Helps someone without being asked

Adaptive performance

8. Deals with unpredictable and unexpected work situations appropriately
9. Takes effective action when necessary without having to know the total picture or have all the facts at hand
10. Effectively adjusts plans, actions, or priorities to deal with changing situations
11. Maintains emotional control in crisis situations

Chapter 3

The double-edged sword of leader charisma: Understanding the curvilinear relationship between charismatic personality and leader effectiveness[1]

Abstract

This study advanced knowledge on charisma by (1) introducing a new personality-based model to conceptualize and assess charisma and by (2) investigating curvilinear relationships between charismatic personality and leader effectiveness. Moreover, we delved deeper into this curvilinear association by (3) examining moderation by the leader's level of adjustment and by (4) testing a process model through which the effects of charismatic personality on effectiveness are explained with a consideration of specific leader behaviors. Study 1 validated HDS charisma (Hogan Development Survey) as a useful trait-based measure of charisma. In Study 2 a sample of leaders (N = 306) were assessed in the context of a 360-degree development center. In line with the too-much-of-a-good-thing effect, an inverted U-shaped relationship between charismatic personality and observer-rated leader effectiveness was found, indicating that moderate levels are better than low or high levels of charisma. Study 3 (N = 287) replicated this curvilinear relationship and further illustrated the

[1] Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (in press). The double-edged sword of leader charisma: Understanding the curvilinear relationship between charismatic personality and leader effectiveness. *Journal of Personality and Social Psychology*. DOI: 10.1037/pspp0000147

moderating role of leader adjustment, in such a way that the inflection point after which the effects of charisma turn negative occurs at higher levels of charisma when adjustment is high. Nonlinear mediation modeling further confirmed that strategic and operational leader behaviors fully mediate the curvilinear relationship. Leaders low on charisma are less effective because they lack strategic behavior; highly charismatic leaders are less effective because they lack operational behavior. In sum, this work provides insight into the dispositional nature of charisma and uncovers the processes through which and conditions under which leader charisma translates into (in)effectiveness.

Introduction

The topic of charisma is characterized both by ambiguity and intense debate. Vivid questions about this intriguing and everyday-life construct involve its underlying nature (e.g., Bono & Judge, 2004; Resick, Whitman, Weingarden, & Hiller, 2009) as well as its consequences, particularly in, but not limited to, organizational contexts. Is charisma something that can be measured independently from those perceiving a person as charismatic? If it is, can we identify a cluster of personality characteristics that meaningfully predicts others' ratings of charisma? And finally, is it always beneficial for leaders in organizational contexts to demonstrate high levels of charisma? The overall objective of our work was to investigate these open questions.

Although most of us can easily imagine a charismatic person, and are able to tell whether someone is charismatic or not, to date, charisma is still a fuzzy construct in the scientific literature. At the core of the debate lies the question: Does charisma represent a personal characteristic of the leader (e.g., Judge, Piccolo, & Kosalka, 2009; Riggio, 2009) or is it an attribution based on relational processes (e.g., Conger, Kanungo, & Menon, 2000; Howell & Shamir, 2005)? Traditional models of charismatic leadership, such as Conger and Kanungo's (1987) model, conceptualize charisma as an attribution based on follower perceptions of their leader's behavior. Stated differently, according to these models, charisma only exists "in the eye of the beholder". More recently, however, increased attention is being devoted to trait-perspectives on leadership (e.g., Judge et al., 2009; Zaccaro, 2012), referring to charisma as a constellation of personal characteristics that allows an individual to influence other people by affecting their feelings, opinions, and behaviors (Riggio, 2009). As a compromise, the literature now acknowledges that charismatic leaders

have certain characteristics that distinguish them from non-charismatic leaders (DuBrin, 2012). In other words, individual differences in personality play an important role in the level of charisma that is attributed to a specific leader. Previous efforts to uncover this dispositional nature of charisma have mainly focused on Big Five personality traits (Bono & Judge, 2004), showing only modest associations. The starting point of our work was the aim to provide an in-depth investigation of the dispositional nature of charisma, by establishing a trait-based model of charisma that can be assessed independently from the observer's perspective.

Turning to the outcomes of charisma, we can say that organizational research has generally shown that charisma is positively related to individual-, group-, and firm-level outcomes. Charismatic leaders have the ability to inspire followers towards higher levels of performance and to instill deep levels of commitment, trust, and satisfaction (e.g., Conger et al., 2000; Dvir, Eden, Avolio, & Shamir, 2002; Shamir, House, & Arthur, 1993). As a result, they are generally perceived as more effective by their subordinates compared to less charismatic leaders (Amirul & Daud, 2012; Lowe, Kroeck, & Sivasubramaniam, 1996). However, in the light of recent theoretical advances in organizational-behavior and management literatures, it can be questioned whether this positive association between charisma and leader effectiveness is appropriately represented by a continuous and linear relationship. Specifically, the now widely established too-much-of-a-good-thing (TMGT) effect (Pierce & Aguinis, 2013) has challenged the assumption that more of a desirable trait is always better. The alternative to this linear model is a perspective in which ordinarily beneficial antecedents are no longer advantageous when taken too far. Studies have indeed indicated that, after a certain point, too much leader assertiveness (Ames & Flynn, 2007), too much leader-member

exchange (Harris & Kacmar, 2006), and too much contingent-reward leadership (Harris & Russell, 2013) can be detrimental for leadership outcomes. In the context of charisma, the critical question arises whether a leader can be too charismatic, meaning that from a certain point more charisma may no longer be advantageous or may even become a hindrance with respect to his or her effectiveness. Therefore, our work extended the available literature in this domain by investigating curvilinear relationships between charismatic personality and leader effectiveness.

A central tenet in the TMGT principle is that the inflection point—or the point after which further increases in the "desirable trait" become counterproductive— is context-specific or depends on specific boundary conditions (Pierce & Aguinis, 2013). With regard to this context, charismatic leaders are more likely to emerge in situations of crises (Pillai & Meindl, 1998) and in environments characterized by a high degree of challenge and opportunities for change (Shamir & Howell, 1999). In this respect, a leader's typical way of coping with stressful situations has been put forward as a boundary condition that influences the likelihood that charisma also translates into beneficial outcomes (Hogan & Hogan, 2007). Our work therefore investigated the role of leaders' levels of adjustment as a condition under which the curvilinear relationship between charisma and effectiveness may vary.

Finally, an overview of the literature indicates that the mechanisms that explain any relationship between leader charisma and effectiveness are still unclear. Moreover, because the nature of the meta-theoretical TMGT principle is more descriptive than exploratory, the presence of a curvilinear relationship would not explain why charisma can backfire. That is, whereas the TMGT principle offers a prediction about the functional form of the association between charisma and effectiveness, it

provides no account for the specific mechanisms that intervene in this relationship. Thus, explanatory frameworks underlying the TMGT effect become increasingly important (Busse, Mahlendorf, & Bode, 2016). As a final objective, our work also investigated specific leader behaviors as mechanisms through which leader charisma can result in leader (in)effectiveness.

In sum, our aim was to enhance the understanding of charisma and its role in leader contexts in four different ways. In Study 1 we made a case for HDS charisma (Hogan Development Survey; Hogan & Hogan, 2009), as a new personality-based model to conceptualize and assess charisma (**objective 1**). In Study 2, this measure of charisma was related to leader effectiveness, with particular attention to curvilinear relationships, as this may signal a too-much-of-a-good-thing effect (**objective 2**). Besides replicating this curvilinear relationship, Study 3 delved deeper into this association by examining adjustment as a potential moderator (**objective 3**) and by testing a process model in which the effects of charismatic personality on effectiveness can be explained through specific leader behaviors (**objective 4**). An integrative research model, including these four objectives, is presented in Figure 1.

A Trait-Based Perspective on Charisma

Conceptualizing charisma in terms of personality raises the question of which traits to consider. Investigating the relationship between charisma and the five-factor model of personality, Bono and Judge (2004) found that the highly charismatic leader tends to score high on extraversion and low on neuroticism. Nevertheless, their results also showed that the Big Five explained only 12% of the variability in

charisma, which made the authors conclude that charisma might have dispositional antecedents that cannot be captured by the Big Five.

The current study proposes the HDS charismatic cluster, named after the personality instrument used to assess the personality of leaders (i.e., the Hogan Development Survey; Hogan & Hogan, 2009), as a useful trait-based measure of charisma. The HDS is an empirically validated personality instrument grounded in socioanalytic theory (Hogan, 2007). A central premise of the theory is that personality is conceptualized as an individual's reputation—that is, in terms of attributions observers make about that person's characteristic behavior. In addition, socioanalytic theory identifies a dark side to reputation, referring to attributes that may be beneficial in some contexts but counterproductive in other contexts. The four personality tendencies constituting this charismatic cluster—i.e., Bold, Mischievous, Colorful, and Imaginative—have been selected based on their conceptual overlap with the construct of charisma and have previously been referred to as the "charismatic cluster" (Kaiser & Hogan, 2007; Kaiser, LeBreton, & Hogan, 2015; VanBroekhoven, 2011). Generally, however, it has been labeled the "moving against" people factor (Horney, 1950), referring to the tendency to overwhelm, co-opt, intimidate, manipulate, and persuade as a technique for managing insecurities and self-doubts (Hogan & Hogan, 2009). This factor resembles what Tellegen (1985) calls "positive affectivity" and has been related to management potential (Furnham, Trickey, & Hyde, 2012), leadership performance (Benson & Campbell, 2007), and innovative potential (Zibarras, Port, & Woods, 2008). Moreover, there is convincing empirical evidence linking each of these traits separately to charismatic leadership.

A first crucial feature of the charismatic personality concerns self-confidence (Bass, 1998; Bono & Judge, 2004; House & Howell, 1992). Self-confidence allows leaders to convey that they are credible in their conviction that high-performance expectations can be achieved (Dóci & Hofmans, 2015; Judge & Bono, 2000). This feature is captured in the HDS Bold scale. Second, charismatic persons are captivating, and this relates to a tendency to be expressive, energetic, and optimistic about the future (Bono & Judge, 2004). Charismatic leaders are extraverted and inspirational, with excellent rhetoric abilities (e.g., Emrich, Brower, Feldman, & Garland, 2001), which allow them to evoke enthusiasm, confidence, and commitment in their followers (Bass, 1998). This second dimension is captured in the HDS Colorful scale. Third, charismatic persons stand out because of their tendency to explore the unknown, persuading themselves and others to keep on pushing the limits. Charismatic leaders usually enjoy challenging the status quo and taking risks (Conger, Kanungo, Menon, & Mathur, 1997; House & Howell, 1992; Shamir et al., 1993), which is captured in the Mischievous scale of the HDS. Fourth and finally, charismatic leaders are visionary (Judge & Bono, 2000; House & Howell, 1992) and are seen as thinking in creative ways (Mueller, Goncalo, & Kamdar, 2011). This is captured in the HDS Imaginative scale.

In the light of the "trait versus attribution" debate described above, evidence for the construct validity of the HDS charismatic cluster can be obtained by linking people's self-reports on this personality cluster to observers' perceptions of charisma levels. More specifically, if HDS charisma truly captures charismatic personality, then we should find positive associations between HDS charisma self-reports and observers' perceptions of charisma-related tendencies such as self-confidence,

expressiveness, energy, optimism about the future, rhetorical ability, being inspirational, risk taking, challenging the status quo, and creativity. Similarly, when HDS charisma is applied to a leadership context, we should observe positive associations between leaders' self-reports on HDS charisma and followers' attributions of charismatic leadership.

The Curvilinear Effect of Charismatic Personality

Turning to the outcomes of charisma, we note that a key question driving the current research is whether the association between people's charismatic personality and their levels of effectiveness, particularly in a leadership context, is best represented by a curvilinear (cf. too-much-of-a-good-thing) instead of a linear relationship (cf. more is better).

Closer inspection of the four personality traits constituting the charismatic cluster already signals curvilinearity, given that each of these traits can be linked to dysfunctional tendencies when they are taken too far (Hogan & Hogan, 2009). Specifically, self-confidence (i.e., Bold) can translate into overconfidence, hubris, and narcissism in highly charismatic leaders (Deluga, 1997; House & Howell, 1992; Sankowsky, 1995; Popper, 2002), posing valid threats to their overall effectiveness. In line with these thoughts, a curvilinear relationship was found between the Bold scale and leader effectiveness (Grijalva, Harms, Newman, Gaddis, & Fraley, 2015). Similarly, the enthusiastic and entertaining nature of charismatics (i.e., Colorful) may turn into attention-seeking behaviors that distract the organization from its mission. In this context, Gardner and Avolio (1998) described highly charismatic leaders as "the epitome of drama" (p. 33). Further, risk tolerance and persuasiveness of charismatics (i.e., Mischievous), the third cornerstone of the charismatic cluster, may turn into manipulative and exploitative behavior. This is in line with research

showing that high charisma in leaders is also associated with Machiavellianism (Deluga, 2001). Finally, at the extreme of creativity (i.e., Imaginative), highly charismatic leaders have also been described to think and act in fanciful, eccentric ways (Kaiser & Hogan, 2007), which may represent a final threat to their level of effectiveness in organizational settings. In sum, it can be expected that a certain degree of charismatic tendencies is indeed desirable and associated with higher effectiveness, whereas too much causes harm. Very low levels of charisma should manifest as a lack of the confidence, strategic vision, and dynamism often associated with effective leadership (Den Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999; Lord, Foti, & DeVader, 1984). At very high levels, on the other hand, the self-absorbed tendencies associated with charisma—arrogance, manipulation, grandiose visions, and dramatic attention seeking—may negatively affect observers' evaluation of leader effectiveness (Benson & Campbell, 2007; Epitropaki & Martin, 2004). These effects are expected to give shape to a curvilinear relationship between charisma and leader effectiveness. In order to further understand these curvilinear effects, we needed to take a closer look at the specific behaviors displayed by charismatic leaders.

Charismatic Personality and Leader Behaviors

An important objective of our work was to enhance our understanding of the (curvilinear) association between charisma and leader effectiveness by investigating specific leader behaviors. To this end, we considered four leader-behavior dimensions, which serve as mediating mechanisms in our research model. Specifically, we drew on the versatile leadership model (Kaiser, Overfield, & Kaplan, 2010) in which leader behaviors are covered by two pairs of opposing leadership dimensions: Forceful versus enabling leadership, representing the interpersonal side, or

how one leads; and strategic versus operational leadership, representing the organizational side, or *what* one leads. Forceful leadership includes assuming authority and using power to push for performance, while enabling leadership concerns creating conditions for others to contribute, through empowerment, participation, and support. Strategic leadership can be defined as positioning the organization for the future by setting direction, expanding capability, and supporting innovation, whereas operational leadership includes guiding the team to get things done in the near term by managing the tactical details of execution, focusing resources, and managing with process discipline (Kaiser et al., 2010, 2015). Although each of the two classes of leader behaviors are conceptualized as opposing dimensions (i.e., highly forceful leaders are usually low on enabling), a small percentage of "versatile" leaders can use opposing leader behaviors with equal ease. This leadership model overlaps with other taxonomies of leader behavior (e.g., DeRue, Nahrgang, Wellman, & Humphrey, 2011; Yukl, 2006). For instance, in terms of Yukl's (2006) taxonomy, forceful and enabling cover the relation-oriented category of leader behavior, strategic taps into the change-oriented category, and operational covers the task-oriented category of leader behavior. Importantly, each of these dimensions has clear conceptual associations with charismatic personality.

Interpersonal Leader Behavior

A forceful leader takes charge by assuming authority and giving direction, is decisive, speaks up, and doesn't back down easily. Moreover, forceful leaders express high performance expectations and push people hard to get there (Kaiser et al., 2010)—features that are also characteristic of charismatic leaders (e.g., Conger & Kanungo, 1987; Shamir et al., 1993; Waldman, Ramirez, House, & Puranam, 2001). In addition, the high

need for power, along with manifestations of authoritarian behavior that have been observed in charismatic leaders (House & Howell, 1992), suggests that charismatic personalities will be more likely to be forceful in their interpersonal style. Enabling behaviors, on the other hand, include listening to others, seeking their input, and supporting others by showing appreciation and being sensitive to people's feelings (Kaiser et al., 2010). In this regard, the leadership literature has demonstrated an extensive overlap between charismatic leadership and narcissistic tendencies (e.g., Deluga, 1997; Galvin, Waldman, & Balthazard, 2010; Howell, 1988; Sankowsky, 1995), which are assumed to make charismatic leaders poor listeners and highly sensitive to criticism (Maccoby, 2004). Narcissism is not only associated with an inflated sense of self-importance and a preoccupation with fantasies of unlimited success but also with interpersonal exploitation, a lack of empathy, and indifference toward others (House & Howell, 1992). As such, we expected highly charismatic leaders to be perceived as more forceful and less enabling by coworkers, compared to less charismatic leaders.

Organizational Leader Behavior

In addition to the effects at the interpersonal level, charisma has also been described to influence behavior at the organizational or business-related level. Most obviously, one of the hallmarks of charismatic leadership involves displaying exceptional strategic vision and articulation (Bass, 1985; Conger & Kanungo, 1998; Maccoby, 2004). Charismatic leaders are believed to engage in behaviors such as referring to collective history, emphasizing collective identity, communicating a collective vision or mission, and pursuing collective goals and interests. On the other hand, the realization of this vision requires leadership that fosters goal setting, planning, and task execution (Kaiser et al., 2010). It is here, at the

operational level, that highly charismatic leaders may underachieve compared to those with lower charismatic tendencies. For instance, Conger (1990) noticed that charismatic leaders can become so excited by their ideas that they can lose touch with reality and get stuck in the process of implementing these visions. Operational behavior involves the short-term handling and monitoring of daily tasks, and this may appear less appealing to highly charismatic leaders, who are mainly interested in the bigger picture and long-term objectives. Taken together, we expect highly charismatic leaders to be more strategic and less operational compared to less charismatic leaders.

How can these expected behavioral manifestations of leader charisma explain lower effectiveness ratings for the highest charisma levels? Drawing on the Antecedent-Benefit-Cost (ABC) framework (Busse et al., 2016), we theorized that the explanatory mechanism underlying the curvilinear relationship was to be found in inadequately proportioned patterns of leader behaviors associated with various charisma levels. The ABC framework adopts a competitive-mediation perspective (e.g., Hayes & Preacher, 2010) to explain the TMGT effect, by stating that an overall effect results from the aggregation of multiple opposed effects. Specifically, a special case is investigated in which a dependent variable is affected by two (or more) mediators with opposite directionalities of influence, which are caused by a common antecedent variable. The competing mediators can be understood as benefits and costs of the antecedent. From an ABC perspective, a decrease in effectiveness (i.e., TMGT effect) occurs at higher levels of a desired antecedent variable, when the costs associated with the desired variable outweigh its benefits. When applied to the research model presented in Figure 1, the costs associated with operational leader behavior may outweigh the benefits

delivered by strategic behavior when a certain level of charisma is exceeded. Highly charismatic leaders may be strategically ambitious, but at the expense of getting day-to-day work activities executed in a proper manner, with detrimental effects on perceived effectiveness. Similarly, the costs associated with enabling behavior may outweigh the benefits that can be ripped from forceful behavior. Even when there are benefits of giving direction and expressing high performance expectations, beyond certain charisma levels leaders might be less capable to meet their followers' needs because of a lack of enabling behavior. Ultimately, this would also result in decreased ratings of effectiveness.

The Moderating Role of Adjustment

The central idea in our work was that charismatic tendencies become maladaptive, particularly in relation to leader effectiveness, when taken too far. Importantly, however, a core tenet in the TMGT principle is that the inflection point—or the point after which further increases in the "desirable" trait are no longer beneficial— is context-specific (Pierce & Aguinis, 2013). Consistent with these thoughts, previous work in this area, studying for instance the curvilinear association between conscientiousness and job performance (Le et al., 2011), has indeed indicated that situational features play a crucial role in determining this inflection point. Findings particularly indicate that there needs to be a match between a person's trait levels and the requirements that are imposed in a certain environment or situation. In this regard, a leadership context can be thought of as an environment that typically combines high pressure with high discretion. High pressure indicates that leaders often face difficult decisions with potentially far-reaching implications for themselves, their subordinates, and their entire organizations. Charismatic leaders in particular often encounter such stressful conditions, as they are

more likely to emerge in situations of crises and in environments characterized by a high degree of challenge and opportunities for change (Pillai & Meindl, 1998; Shamir & Howell, 1999). High discretion means that they can and are even required to take responsibility for their actions. Kaiser and Hogan (2007) have described both conditions as situations in which derailment is more likely to occur.

A crucial element that can help leaders to cope with these high levels of pressure is the leader's ability to remain self-composed and adjusted (Hogan & Hogan, 2007). For instance, Kaiser et al. (2015) argued that low adjustment or increased reactivity to difficult circumstances diminishes the resources needed to self-regulate, and the resulting experience of threat triggers self-protective strategies. It is these self-protective strategies that define the dark side of charisma and which have the potential to render charisma dysfunctional in terms of leaders' effectiveness. In other words, it can be predicted that a leader's level of adjustment, or his or her general ability to cope with stressful events, plays an important role in determining at which level charisma loses its beneficial effects.

Predictions and Plan of Study

Our account of the current investigation of charisma and its outcomes in a leadership context led to four sets of predictions, which are also summarized in our research model (Figure 1). The first set of predictions relates to the construct validity of HDS charisma as a trait-based measure of charisma. We expected HDS charisma to relate positively to self and observers' perceptions of charisma-related personality tendencies (**Hypothesis 1a**) and to followers' attributions of charismatic leadership (**Hypothesis 1b**).

The second prediction focused on the link between charismatic personality and leader effectiveness. In line with the TMGT principle, a curvilinear effect was expected for charismatic personality and observer-ratings of leader effectiveness: Leaders with both low *and* high charismatic personalities would be perceived as being less effective than leaders with moderate levels of charisma (**Hypothesis 2**).

The third prediction addressed the potential moderating effect of the leader's level of adjustment. Specifically, adjustment was expected to moderate the curvilinear effect of charisma on leader effectiveness, in such a way that the inflection point after which the relation turns asymptotic and negative occurs at higher levels of charisma when adjustment is high (**Hypothesis 3**). As such, the decrease in effectiveness (cf. the right part of the inverted U-shape) would present itself at higher levels of charisma when adjustment is high.

Our final set of predictions addressed the underlying mechanisms of the curvilinear relationship between leader charisma and effectiveness. With regard to interpersonal leadership, we expected charisma to be positively associated with forceful behavior (**Hypothesis 4a**) and negatively associated with enabling behavior (**Hypothesis 4b**). With regard to organizational leadership, we expected charisma to be positively associated with strategic behavior (**Hypothesis 5a**) and negatively associated with operational behavior (**Hypothesis 5b**). Moreover, we expected these leader behaviors to mediate the curvilinear relationship between charismatic personality and leader effectiveness (**Hypothesis 6**). Beyond a certain optimal level (i.e., the inflection point), further increases in charismatic personality might reduce the effectiveness of leaders in two important ways (Busse et al., 2016): Enabling costs may outweigh forceful benefits, and operational costs may outweigh strategic benefits.

These hypotheses were tested in three studies. In Study 1, evidence of construct validity was provided for the HDS charismatic cluster as a trait-based measure of charisma. In Study 2, ratings of leader effectiveness (i.e., from self, subordinates, peers, and superiors) were collected to test for the relationship between charismatic personality and leader effectiveness. Finally, in Study 3, a second sample of 360-degree-rated leaders was used to replicate the curvilinear relationship between charismatic personality and observer-rated leader effectiveness, as well as to examine interaction-effects with the leader's level of adjustment (i.e., moderation) and to explore the underlying mechanisms (i.e., mediation).

STUDY 1

In Study 1, we used two different samples to provide construct validity evidence for HDS charisma as a useful trait-based measure of charisma: Goldberg's (2008) Eugene-Springfield community sample (Sample 1) and a Belgian sample of leaders (Sample 2). The first goal of this validation study was to empirically test whether HDS charisma relates to charisma-related tendencies that have been described in the literature, such as self-confidence, expressiveness, energy, optimism about the future, rhetorical ability, being inspirational, risk taking, challenging the status quo, and creativity (cf. **Hypothesis 1a**). To this end, the Eugene-Springfield Community sample was used; with it HDS charisma could be related to a list of self- and observer-rated personality descriptions (i.e., Big Five Inventory; John & Srivastava, 1999). By relating HDS charisma to a set of fine-grained behavioral descriptions reflecting personality tendencies, we gained an in-depth understanding of its content.

The second question we addressed in this validation study was whether charismatic personality, as operationalized by leaders' scores on

HDS charisma, related to followers' attributions of charismatic leadership. This question was answered using data from actual leaders, who were rated by subordinates in terms of charismatic leadership (Sample 2). As charisma pertains to a constellation of personal characteristics that allow an individual to influence other people by affecting their feelings, opinions, and behaviors (Riggio, 2009), charismatic personality should be reflected in followers' attributions of charisma, a point also made by socioanalytic theory (Hogan, 2007). Hence, if HDS charisma really captures charismatic personality, it should be positively related to charismatic leadership attributions (**Hypothesis 1b**).

Method

All research was conducted according to the ethical rules presented in the General Ethical Protocol of the Faculty of Psychology and Educational Sciences of Ghent University.

Procedure and Participants

Sample 1. Data were used from Goldberg's (2008) Eugene-Springfield community sample. Previous research has, for instance, used this sample to investigate personality structure (DeYoung, Quilty, & Peterson, 2007), well-being (Naragon-Gainey &Watson, 2014), and vocational interests (Pozzebon, Visser, Ashton, Lee, & Goldberg, 2010). For the current study, a subsample (N = 156) was used, from which we have self- and observer ratings of five-factor model personality in 1998 (Time 1: Big Five Inventory) and self-ratings of charismatic personality in 2007 (Time 2: Hogan Development Survey). At Time 1, an average of three peers provided observer ratings of personality. Targets were on average 47.67 years old (SD = 11.27), and 44 % were male (see Goldberg, 2008, for additional details about this sample).

Sample 2. In the context of a course assignment, third-year psychology undergraduate students were asked to recruit one target leader. Students were only responsible for recruiting the target and for delivering the informed consent. Three inclusion criteria were imposed: Targets had to be (1) at least 25 years old, (2) responsible for at least three subordinates, and (3) have at least 3 years of working experience. All target leaders received an email including a personal login and a link to an online survey. In total, 204 Belgian leaders participated in the study by providing self-ratings on their personality (HDS and NEO-Five Factor Inventory). Fifty-seven percent of the leaders were male and the mean age of the sample was 45.96 years (*SD* = 8.62). The majority of the leaders had completed a higher education program (89.4% had a bachelor's degree or higher) and the average job tenure was 24.01 (*SD* = 8.50) years. Each of the targets was asked to nominate one subordinate deemed willing and able to evaluate their direct superior on charismatic leadership (Conger-Kanungo Scale). Thirty-eight percent of the subordinates were male and their mean age was 39.87 years (*SD* = 10.24). Subordinates reported frequent personal contacts with their respective leaders (60.1% reported to have daily contact or more) and indicated that they were familiar with their target's behavior at work (*M* = 4.08, *SD* = .78; on a 5-point Likert scale). On average, subordinates and leaders indicated that they had been working together for an average duration of 71.49 months (*SD* = 68.60).

Measures

Charismatic personality. In both samples the participants completed the 56 items comprising the Bold, Mischievous, Colorful, and Imaginative scales of the HDS (Hogan & Hogan, 2009). Participants responded by indicating whether they agreed or disagreed with the items. Consequently, the raw scale scores ranged from 0 to 56, with higher scores

indicating higher charisma levels. Cronbach alphas of the combined HDS charisma scale were .84 (Sample 1) and .85 (Sample 2). Correlations between the four scales ranged between r = .23 (Bold-Imaginative) and r = .45 (Bold -Colorful) in Sample 1 and between r = .19 (Bold-Imaginative) and r = .53 (Mischievous-Imaginative) in Sample 2.

Big Five traits. In Sample 1 both self-reports and observer reports were provided on the 44-item Big Five Inventory (BFI; John & Srivastava, 1999) and two additional items measuring physical attractiveness (see Goldberg, 2008). For each of these 46 descriptions, we obtained an observer score by averaging the separate peer ratings. The average $r_{wg(j)}$ inter-rater agreement coefficient (James, Demaree, & Wolf, 1984) among the peers was relatively high ($r_{wg(j)}$ = .65), justifying this aggregation approach. In Sample 2, leaders completed the 60-item NEO Five-Factor Inventory (Hoekstra, Ormel, & De Fruyt, 2007) to measure their standing on the Big Five traits (i.e., Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness). The internal consistencies of the five scales were acceptable to good, ranging between .71 (Openness) and .88 (Neuroticism).

Charismatic leadership. In Sample 2, subordinates rated their leader using the 20-item Conger-Kanungo Scale (CKS; Conger et al., 1997) of charismatic leadership. The CKS consists of five subscales: strategic vision and articulation (7 items), personal risk (3 items), sensitivity to the environment (4 items), sensitivity to members' needs (3 items), and unconventional behavior (3 items). Items were rated on a 5-point response format ranging from 1 (*not characteristic*) to 5 (*very characteristic*). Example items are: "*Consistently generates new ideas for the future of the organization*" and "*Uses non-traditional means to achieve organizational goals*." A high level of internal consistency was obtained

for the entire charismatic leadership scale (α = .92). The Cronbach alphas for the separate subscales were also acceptable to good: α = .92 for strategic vision and articulation, α = .85 for personal risk, α = .84 for sensitivity to the environment, α = .78 for sensitivity to members' needs, and α = .63 for unconventional behavior. All descriptive statistics, correlations, and internal consistencies of the study variables in Sample 2 are reported in Table 1.

Results

Correlations between HDS charisma and self-rated and observer-rated BFI descriptions were examined in the Eugene-Springfield sample (cf. Hypothesis 1a). Results in Table 2 confirm that, across rater sources, behavioral indicators tapping into extraversion are highly relevant for describing charismatic personalities. For self- and observer ratings respectively, positive associations were found with the following items: "Is talkative" (r = .36 and .26), "Is full of energy" (r = .30 and .28), "Is outgoing, sociable" (r = .34 and .31), and "Has an assertive personality" (r = .36 and .32); negative associations were found with the following: "Is reserved" (r = -.28 and -.30), "Tends to be quiet" (r = -.24 and -.28), and "Is sometimes shy, inhibited" (r = -.22 and -.29). Tapping right into one of the core features of charisma, "Generates a lot of enthusiasm" also had significant associations with HDS charisma (r = .38 and .30 for self- and observer ratings respectively, $p < .001$). Results further confirmed that charismatic personalities are usually perceived as open and creative minds. For self- and observer ratings respectively, positive correlations were found between HDS charisma and personality descriptions, including: "Has an active imagination" (r = .28 and .31), "Is inventive" (r = .37 and .29), "Is original, comes up with new ideas" (r = .37 and .32), "Likes to reflect, play with ideas" (r = .34 and .20), and "Is curious about many

different things" (r = .23 and .26); negative correlations included: "Prefers work that is routine" (r = -.24 and -.34). Interestingly, charismatic personalities are more likely to be perceived as "Somewhat careless" by observers (r = .17), which could reflect the risk-taking behavior that is associated with charisma. Finally, associations were found between HDS charisma and self-rated emotional stability descriptions such as "Is relaxed, handless stress well" (r = .20), "Worries a lot" (r = -.19), and "Gets nervous easily" (r = -.24), as well as self-rated attractiveness items such as "Physically attractive" (r = .33) and "Not good-looking" (r = -.22).

In the sample of actual leaders (Sample 2), correlations between HDS charisma and charismatic leadership attributions were examined. Consistent with our expectations (Hypothesis 1b), Table 1 demonstrates that leaders' self-rated charismatic personality (HDS) was positively related to the subordinate-rated charismatic leadership composite (CKS), r = .29, p < .001. Regarding the CKS subscales, the expected positive relationship was confirmed for strategic vision and articulation (r = .27, p < .001), personal risk (r = .28, p < .001), and unconventional behavior (r = .29, p < .001). No significant correlations were found between HDS charisma and both sensitivity scales (r = .10 and .13, p > .05).

Finally, the availability of information about the leaders' standing on the Big Five domains allowed us to investigate the incremental validity of the HDS charismatic personality cluster to predict followers' charismatic attributions above and beyond the Big Five personality traits. As such, a hierarchical regression analysis was conducted in which the Big Five traits were entered in a first step, followed by HDS charisma in a second step. The charismatic leadership composite (CKS), as rated by subordinates, served as the dependent variable. Results indicated that the set of Big Five traits was significantly related to ratings of charismatic

leadership (R^2 = .13, p < .01) and that HDS charisma demonstrated incremental validity over and above the Big Five personality traits (ΔR^2 = .04, p < .01).

Discussion

In summary, the results of Study 1 speak for the significance of HDS charisma as a useful, trait-based measure of charisma. By relating HDS charisma to a set of fine-grained behavioral descriptions that reflect personality tendencies, a more in-depth understanding of its content was obtained. Consistent with other research (Bass, 1998; Bono & Judge, 2004; De Vries, 2008), charismatic persons are typically described as energetic, assertive, talkative people who inspire others by generating a lot of enthusiasm. Moreover, inventiveness, imaginativeness, and originality reflect their creative minds, while their carelessness may reflect risk-taking behaviors. Interestingly, stress-coping is perceived to be good by the participants themselves, while this is not necessarily the case for observers. However, it is possible that descriptions that reflect emotional stability are judged less accurately by peers because of a lower level of "trait visibility" (Funder & Dobroth, 1987). Finally, some associations between HDS charisma and self-rated—but not observer-rated—personality descriptions may indicate a self-enhancement bias, which is particularly characteristic for people with high levels of self-esteem (e.g., Judge, LePine, & Rich, 2006). For instance, their attractiveness and ingenious levels might be slightly overrated because observer reports do not reflect these characteristics. Note that HDS charisma and BFI were administered with a 9-year time difference in the Eugene-Springfield sample, making the correlations around r = .30 quite substantial.

Moreover, a positive correlation was found between HDS charisma based on leaders' self-reports and subordinate-rated charismatic leadership styles. The observed relationship of r = .29 between HDS charisma and the CKS measure of charismatic leader behavior needs to be interpreted keeping in mind that *different constructs* (i.e., personality and leader behavior) were rated by *different raters* (cf. De Vries, 2012). Provided that other studies report levels of self-other agreement among leaders and subordinates on the exact same variables of r = .16 (e.g., for transformational leadership; see Judge et al., 2006), we consider this as convincing evidence that HDS charisma is a valid measure of charismatic personality.

Finally, we provided incremental validity evidence for HDS charisma, which accounts for an additional proportion of the variance in charismatic leadership beyond Big Five traits. Controlling for Big Five traits was relevant in this context given that prior research had already established their association with charismatic leadership (Bono & Judge, 2004). We found that, despite the conceptual and empirical overlap with the FFM domains, most importantly with extraversion (i.e., r = .44 in the current study), the observed positive association between HDS charisma and charismatic leadership cannot be explained by Big Five traits, including extraversion, that has previously been found to be the most important personality correlate of charismatic leadership (Bono & Judge, 2004; De Vries, 2008).

STUDY 2

Having provided evidence for the validity of HDS charisma as a trait-based operationalization of charisma, the purpose of Study 2 is to test for the expected effects of charismatic personality on leader effectiveness. In line with the meta-theoretical TMGT principle (Pierce & Aguinis, 2013), we hypothesized a curvilinear relationship between charismatic personality and leader effectiveness (**Hypothesis 2**). Such a perspective challenges the existing theories of charismatic leadership that advocate the "more is better" idea (e.g., Bass, 1985; Bass & Avolio, 1994), and is consistent with increasing evidence in the organizational and applied personality literature in support of curvilinear relationships (e.g., Debusscher, Hofmans, & De Fruyt, 2014; Grijalva et al., 2015; Le et al., 2011).

Method

Procedure and Participants

This study used data for 306 leaders, all employed by the same international aerospace company. The data, including demographics, experience, and ratings of effectiveness, were gathered as part of an assessment process conducted for a training-and-development program. Participants went through the program in cohorts of approximately 25 to 30 leaders each, spaced out over 3 years. Most of the leaders were North-American (95%) men (65.4%), and the mean age was 47.64 years (*SD* = 6.39). An average of 14 raters (with a minimum of 7 and a maximum of 31 raters) rated each leader in terms of overall effectiveness, including at least one subordinate, one peer, and one superior. Taken together, 4,345 coworkers participated in this study, comprising 666 superiors, 1,659 peers, and 2,020 subordinates. The leaders had on average 16.01 years (*SD*

= 7.23) of managerial experience and had a mean tenure in the current job of 2.51 years (*SD* = 2.54). Leaders occupied different managerial levels ranging from supervisors (30%) to general managers (20%).

Measures

All descriptive statistics, correlations, and internal consistencies of the study variables are reported in Table 3.

Demographic and control variables. Based on significant correlations with the study criteria (see Table 3), leader sex and managerial experience were used as relevant control variables in statistical tests of the hypotheses.

Charismatic personality. Leaders completed the 56 items from the Bold, Mischievous, Colorful, and Imaginative scales of the HDS (Hogan & Hogan, 2009). HDS charisma scores were expressed in terms of percentiles ranging from 1 to 100 (i.e., relative to the general population of working adults in the U.S.). Percentile scores help to interpret the relationship between charismatic personality and leader effectiveness by referencing personality scores to a normative population (e.g., Is the optimal level of charisma near the normative mean, slightly elevated, or highly elevated?). The internal consistency of the HDS charisma scale was .85.

Overall leader effectiveness. A single-item of the Leadership Versatility Index (LVI; Kaiser et al., 2010) was used to measure overall leader effectiveness. The item reads: "*Please rate this individual's overall effectiveness as a leader on a ten-point scale where 5 is adequate and 10 is outstanding.*" Leaders (*N* = 306), along with their subordinates (*N* = 2,020), peers (*N* = 1,659), and superiors (*N* = 666), provided overall leader-effectiveness ratings. An average of seven subordinates, five peers,

and two superiors rated each of their respective leaders. Based on a composite of the ratings from superiors, peers, and subordinates, an aggregated observer rating was computed for overall leader effectiveness. This aggregate score represents the grand mean of the mean ratings for the observer rating groups, excluding self-ratings. To obtain this aggregated score, the mean ratings across raters within the superior, peer, and subordinate groups were calculated separately. For example, to obtain an aggregate score of overall effectiveness for a particular leader, the mean ratings of the superiors (6.50), peers (7.71), and subordinates (8.75) were summed (22.96), and divided by three (7.65). This procedure results in an overall score that unit-weights each observer-rater perspective and, according to Oh and Berry (2009), is the most valid way to aggregate ratings from coworkers to an overall score. To provide additional justification for this aggregation method, the $r_{wg(j)}$ inter-rater agreement coefficient (James et al., 1984) and the one-way random effects intra-class correlation coefficient (ICC; McGraw & Wong, 1996) were computed *within* superior, peer, and subordinate groups, as well as *across* these three sources (LeBreton, Burgess, Kaiser, Atchley, & James, 2003). The results in Appendix A indicate that the level of similarity across superior, peer, and subordinate ratings is sufficiently high to support aggregation (LeBreton & Senter, 2008).

Kaiser et al. (2010) summarized validity and reliability evidence for the single item overall effectiveness measure, showing that it has substantial correlations with other, multi-item scales of leader effectiveness (e.g., r = .86 with Quinn, Spreitzer, & Hart's, 1991, managerial effectiveness scale; r = .73 with Tsui's, 1984, managerial reputational effectiveness scale). In the current study, the correlation between different rater sources was r = .34 for superior-peer, r = .20 for

superior-subordinate, and r = .22 for peer-subordinate ratings, demonstrating a modest degree of convergent validity of the single-item measure that is similar in magnitude to meta-analytic estimates of cross-source correlations on multi-item scales (Conway & Huffcut, 1997).

Results

To test for curvilinearity in the relationship between charismatic personality and leader effectiveness (Hypothesis 2), we conducted a hierarchical regression analysis. Prior to the analysis, we centered the charismatic personality scores and then computed the squared term based on the centered scores. The control variables (i.e., sex and managerial experience) were entered in a first step, followed by charismatic personality (centered) in a second step, and the squared term for charismatic personality was entered in a third and final step. The aggregated observer rating for overall effectiveness served as the dependent variable.

The results (Table 4, Model 1) first show that more experienced leaders were perceived as more effective (Step 1: β = .14, p < .05). Next, we added the linear term for charismatic personality (Step 2). This revealed that charismatic personality was not linearly related to leader effectiveness (β = .04, p > .05). Relevant to Hypothesis 2, however, are the results of Step 3, where both the linear and the squared term were included. Consistent with the hypothesized inverted-U curvilinear effect, the squared term for charismatic personality was negative and significant (β = -.24, p < .001). The robustness of this finding was further illustrated by significant curvilinear effects in each of the three rater groups (see Models 2 to 4 in Table 4). In other words, leaders with both low and high charismatic personalities were perceived as being less effective than

leaders with moderate levels of charisma, and this was true according to all three the rater groups.

On exploratory grounds, a similar regression analysis was conducted to test whether the same trend was observed for the association between charismatic personality and self-perceived leader effectiveness. Again, control variables were entered (Step 1), followed by charismatic personality (Step 2), and the squared term for charismatic personality (Step 3). The only difference was that the dependent variable was not other-perceived but self-perceived overall effectiveness. Table 4 (Model 5) indicates that more experienced leaders also perceived themselves as more effective (β = .15, p < .05). More importantly, however, Step 2 showed that charismatic personality was linearly related to self-perceived effectiveness (β = .27, p < .001), whereas the squared term for charismatic personality in Step 3 was not significant (β = .02, p > .05). This indicates that higher charisma levels are consistently associated with higher self-perceived effectiveness. Figure 2 shows the regression lines for the significant quadratic and linear effects for observer and self-ratings of perceived leader effectiveness, respectively. In this figure, it can be seen that—according to relevant others—moderate, or slightly elevated, levels of charisma (i.e., around percentile 60) were associated with the highest effectiveness levels.

Discussion

In Study 2 the relationship between leaders' charismatic personality and overall effectiveness was examined. Consistent with our expectations, we found that leader charisma related to observer-rated effectiveness in a curvilinear way, with moderate levels being more effective than low or high levels of charismatic personality. Moreover, the curvilinear

relationship held across the three observer groups (i.e., subordinates, peers, and supervisors). Next, we found that this relationship was different for self-rated overall effectiveness. Consistent with self-enhancement theories (e.g., Alicke & Govorun, 2005; Leary, 2007), a positive linear relationship was found, implying that higher charismatic tendencies were consistently related to higher self-perceived effectiveness. This finding is also in line with other research demonstrating that leaders with high self-esteem typically overrate their performance on a variety of criteria (e.g., Judge et al., 2006).

STUDY 3

Study 2 showed that charismatic personality related in a curvilinear way to observer-rated leadership effectiveness. In Study 3, we sought to replicate and extend these results in two important ways. First, the potential moderating role of the leader's level of adjustment in this curvilinear relationship is tested (**Hypothesis 3**). Second, the mechanisms underlying this curvilinear association are explored. Specifically, a process model is tested describing the association between charismatic personality and perceived leader effectiveness, as mediated through leader behaviors. This is in line with recent calls to integrate trait and behavioral leadership theories into process-type models which aim to clarify the effects of distal individual differences (e.g., traits and styles) on leader outcomes through more proximal leader behaviors (Antonakis, Day, & Schyns, 2012; DeRue, et al., 2011; Dinh & Lord, 2012; Zaccaro, 2012). As charismatic leaders express high performance expectations and push people hard to get there (Waldman et al., 2001), potentially at the expense of being sensitive to followers' feelings (Deluga, 1997), we expect charisma to be positively associated with forceful (**Hypothesis 4a**), and negatively associated with enabling behavior (**Hypothesis 4b**). Moreover, charismatic leaders display

exceptional strategic vision (Bass, 1985), but they can become so excited about their ideas, that they get stuck in the process of implementing their big visions (Conger, 1990). Therefore, we expect charisma to be positively associated with strategic (**Hypothesis 5a**), and negatively associated with operational behavior (**Hypothesis 5b**). We argue that the effectiveness of various levels of leader charisma is mediated by these leader behaviors (**Hypothesis 6**). From an ABC perspective (Busse et al., 2016), enabling costs may outweigh forceful benefits, and/or operational costs may outweigh strategic benefits, such that beyond a certain optimal level, further increases in charismatic personality might reduce the effectiveness of leaders.

Method

Procedure and Participants

Development-center test data were obtained from an international consultancy firm specialized in leader assessment and executive coaching. Leaders (N = 287) from 23 different countries (e.g., 53% North America, 33% Western Europe, 8% Africa, 4% East Asia) participated in the study. To obtain a true 360 view of the leadership criteria (i.e., leader effectiveness and the four leader behaviors), only leaders who were rated at least once by each of three rater categories (i.e., superiors, peers, and subordinates) were included. An average of 11 raters (1 superior, 5 peers, and 5 subordinates; minimum of 5 and a maximum of 27 raters) rated each leader in terms of overall effectiveness and leader behaviors. Taken together, 3,052 coworkers participated in this study, comprising 309 superiors, 1,380 peers, and 1,363 subordinates. Most of the leaders were male (81%) and the mean age was 45.37 years (SD = 6.78). They reported an average of 15.78 years (SD = 7.77) managerial experience and had a

mean tenure in their current job of 2.99 years (*SD* = 3.40). Leaders occupied different managerial levels—from supervisors (12.2%) to general managers (15%)—and most of them worked in business organizations. Part of the data were also used in Kaiser et al. (2015). Different than Kaiser et al. (2015), which focused on relationships between the 11 individual HDS traits and the four LVI leader behaviors, the current study focused on the HDS "charismatic cluster" as a measure of charismatic personality and its relation to overall leader effectiveness. Further, although the four LVI leader behaviors served as the main criteria in Kaiser et al. (2015), they are examined as mediators in the current study.

Measures

All descriptive statistics, correlations, and internal consistencies of the study variables are reported in Table 5.

Demographic and control variables. Based on significant correlations with the study criteria (see Table 5), age and managerial experience qualified as relevant control variables. However, because of the strong correlation between age and experience ($r = .72$, $p < .001$), and because the impact of experience on leader effectiveness has already been established (Avery, Tonidandel, Griffith, & Quiñones, 2003), only managerial experience was included as a control variable. As in Study 2, we also controlled for sex.

Charismatic personality. As in Study 2, leaders completed the 56 items from the Bold, Mischievous, Colorful, and Imaginative scales of the HDS (Hogan & Hogan, 2009). The internal consistency of HDS charisma was .84.

Adjustment. Leaders completed the 37-item adjustment scale of the Hogan Personality Inventory (HPI; Hogan & Hogan, 2007), which corresponds to the FFM Emotional Stability dimension and can be described as the degree to which a person appears calm and self-accepting or, conversely, self-critical and tense. The internal consistency of the adjustment scale was .85.

Leadership criteria. The Leadership Versatility Index (LVI; Kaiser et al., 2010) was used to measure both overall leader effectiveness (see Study 2) and specific leader behaviors. Within the LVI, leader behaviors can be covered by two pairs of opposing dimensions in leadership: Forceful versus enabling leadership, and strategic versus operational leadership. Each of the four dimensions are surveyed by means of 12 items using the "too little/too much" response format ranging from -4 (*much too little*), to 0 (*the right amount*), to +4 (*much too much*). Methodologically, the LVI provides a unique operationalization of these behaviors that goes beyond traditional rating scales and complements our theoretical grounds that emphasize the need for balance between deficiency and excess. Sample items are: "*Takes charge—in control of his/her area of responsibility*" (Forceful), "*Participative—includes people in making decisions*" (Enabling), "*Spends time and energy on long-term planning—future-oriented*" (Strategic), and "*Organized—takes a methodical approach to getting things done*" (Operational; Kaiser et al., 2010).

Both leaders (N = 287) and their respective coworkers (N = 3,052) completed the LVI. To compute aggregated observer ratings for overall leader effectiveness and each of the four leader behaviors, a similar procedure was followed as in Study 2, such that each rating group (i.e., subordinates, peers, and superiors) was equally weighted in the observer score (Oh & Berry, 2009). Based on inter-rater agreement ($r_{wg(j)}$) and inter-

rater reliability (ICC) coefficients (James et al., 1984; McGraw & Wong, 1996) within and across these three sources, support was found to justify this aggregation (see Appendix A).

Cronbach alphas of the aggregated LVI leader behavior dimensions were .93 for forceful behavior, .92 for both enabling and strategic leader behavior, and .80 for operational behavior. Frequencies of leaders being perceived as doing "too little," doing "the right amount," and doing "too much" of each of the four leader behaviors are displayed in Table 6, along with the mean charismatic personality score within each group of leaders. Generally, the frequencies of leaders underdoing leader behaviors are the highest (e.g., 74 % of the leaders perform too little strategic behavior), compared to leaders overdoing and leaders doing the right amount of each of the leader behaviors.

Results

Relating Charismatic Personality to Leader Effectiveness

To test for curvilinearity in the relationship between charismatic personality and leader effectiveness, we followed the same analytical procedure as in Study 2. The results in Table 7 indicate a positive and linear relationship between charismatic personality and self-perceived effectiveness (Step 2: β = .18, p < .01), while no quadratic effect was found (Step 3: β = .06, p > .05). Conversely, when testing the relationship with observer-rated leader effectiveness, the linear term for charismatic personality was not significant (Step 2: β = .04, p > .05), whereas the squared term was negative and significant (β = -.15, p < .05). The regression lines for the significant quadratic and linear effects of respectively observer-rated and self-rated leader effectiveness are highly similar to those reported in Figure 2.

Adjustment as a Moderator

A hierarchical regression analysis was conducted to test whether the quadratic relationship between charismatic personality and leader effectiveness is moderated by adjustment. This answers the question whether the inflection point in the curvilinear relationship between charismatic personality and observer-rated effectiveness depends on the leader's level of self-regulation. Sex and managerial experience were first entered in the regression as control variables (Step 1), followed by charismatic personality (centered) and adjustment (centered; Step 2), and the squared term for charismatic personality (Step 3). In a final step, interaction terms between (a) adjustment and charismatic personality and (b) adjustment and the quadratic term of charismatic personality were entered (Step 4).

Relevant to Hypothesis 3 are the two interaction terms reported in Step 4 of the regression. As can be seen in Table 8, the interaction term between adjustment and the linear effect of charismatic personality approaches conventional levels of significance (β = .13, p = .06), while the interaction term between adjustment and the quadratic effect of charismatic personality is not significant (β = -.04, p > .05). To further interpret this relationship, we plotted the moderation effect in Figure 3. In line with our hypothesis, this figure shows that the inflection point after which the charisma-effectiveness relationship turns asymptotic and negative is lower for leaders who score low on adjustment, compared to leaders scoring high on adjustment.

Leader Behaviors as Mediating Mechanisms

Prior to testing the mediation hypothesis, we investigated the relationships between charismatic personality and each of the four leader

behaviors (i.e., the mediators). Four hierarchical regressions were conducted, with sex and managerial experience entered in the first step (i.e., the control variables) and charismatic personality in the second step. Consistent with our expectations (Hypothesis 5), we found charismatic personality to be positively associated with strategic leadership (β = .27, p < .001) and negatively with operational leadership (β = -.31, p < .001), indicating that higher charisma scores are associated with a tendency to do more strategic behavior and less operational behavior. No significant associations were found between charismatic personality and the two interpersonal leadership dimensions (β = .08 and .06 for forceful and enabling respectively, p > .05), which is inconsistent with Hypothesis 4.

A visualization of the significant effects helps in refining the interpretation of these associations (see Figure 4). The point where the regression line crosses zero (i.e., the right amount) on the leader behavior scale corresponds to the percentile score on charismatic personality associated with the optimal amount of the leader behavior. The positive relation between charismatic personality and strategic behavior (Panel A) illustrates that, whereas low charisma levels correspond with a tendency to underdo strategic behavior, high charisma levels correspond with doing the right amount of strategic behavior. This figure thus reveals that leaders low in charisma are more inclined to show too little strategic behavior, rather than that highly charismatic leaders are more inclined to show too much strategic behavior. With regard to the negative association between charisma and operational behavior, Figure 4 (Panel B) shows that high charisma corresponds with a tendency to underdo operational behavior, whereas low charisma levels correspond with an optimal amount of operational behavior. Hence, high charisma levels are associated with

higher strategic behaviors (but not too much) and a lack of operational behaviors (i.e., too little).

Hypothesis 6 predicted that LVI leader behaviors (i.e., the mediators *M*) mediate the curvilinear relationship between charismatic personality (i.e., the independent variable *X*) and observer-rated leader effectiveness (i.e., the dependent variable *Y*). The mediation hypothesis was tested using path modeling in Mplus version 7.3. Because charismatic personality was related to strategic and operational leadership but not to forceful and enabling leadership, only the two business-related behaviors were included in the model. In particular, strategic and operational behavior were predicted by the linear and squared effect of charismatic personality, while leader effectiveness was predicted by the linear and squared effects of strategic and operational leader behavior and the linear and squared effect of charismatic personality (see Figure 5). In this model, the predictor and mediators were centered before computing the squared effects, and the linear and squared effects of strategic and operational leader behavior were allowed to correlate. Together, this yields the following set of equations:

$$M_{\text{strategic}} = i_{\text{strategic}} + a_{1\ \text{strategic}}X + a_{2\ \text{strategic}}X^2 + e_{\text{strategic}}$$

$$M_{\text{operational}} = i_{\text{operational}} + a_{1\ \text{operational}}X + a_{2\ \text{operational}}X^2 + e_{\text{operational}}$$

$$Y = i_Y + b_1M_{\text{strategic}} + b_2M^2_{\text{strategic}} + b_3M_{\text{operational}} + b_4M^2_{\text{operational}} + c_1X + c_2X^2 + e_Y$$

With respect to the relationship between the predictor and the mediators (i.e., the *a*-paths in Figure 5), we found that charismatic personality was positively related to strategic (β = .26, p < .001) and negatively to operational leader behavior (β = -.33, p < .001), while no curvilinear effects were found (β = -.07 and .01 for strategic and

operational leader behavior respectively, $p > .05$). Regarding the relationships between the mediators and the outcome (i.e., the *b*-paths in Figure 5), we found that both the linear ($\beta = .49$, $p < .001$, and $\beta = .27$, $p < .001$) and the curvilinear components ($\beta = -.16$, $p < .05$, and $\beta = -.13$, $p < .05$) of strategic and operational leader behavior related to leader effectiveness. This suggests that higher levels of strategic and operational behavior positively relate to perceived effectiveness but only up to a point that there is no additional benefit of more strategic and operational behaviors (i.e., positive flattening curves). Finally, the direct effect of charisma on leader effectiveness (i.e., the *c*-paths in Figure 5) was nonsignifcant (β = -.06 and -.07 for the linear and quadratic effect respectively, $p > .05$), which indicates that the relationship between charismatic personality and leader effectiveness is fully mediated by strategic and operational behaviors.

To formally test the indirect mediation effects of charismatic personality on leader effectiveness via strategic and operational leader behavior, we tested the indirect effects following the approach of Hayes and Preacher (2010), which was specifically developed for testing nonlinear mediation. Because the *a*-path is linear, while the *b*-path is quadratic, the mediation—or indirect—effect was computed as follows: $\theta = a(b_1+2b_2(i+aX))$; see Hayes and Preacher (2010), p. 633. As can be seen in this formula, the mediation effect depends on the value of the predictor (i.e., X is part of the formula), which means that the effect of charismatic personality on leader effectiveness through strategic and operational leader behavior depends on the leader's level of charisma. For this reason, Hayes and Preacher (2010) referred to the indirect effect as the *instantaneous indirect effect*, which is the effect of the predictor on the outcome through the mediator(s) at a specific value of the predictor. This

instantaneous indirect effect was tested for different levels of charismatic personality using nonparametric bootstrapping (N = 1,000). A graphical representation of the instantaneous indirect effects, together with their 95% confidence intervals, is shown in Figure 6.

As can be seen in Panel A of Figure 6, and in line with the positive linear *a*- and *b*-paths, we found a positive instantaneous indirect effect of charismatic personality on leader effectiveness through strategic leader behavior. Moreover, combining the positive linear and negative quadratic *b*-paths yields a positive flattening curve, implying that the positive effect of charisma on effectiveness weakens at higher levels of charisma. In turn, Panel B shows that the instantaneous indirect effect of charismatic personality on leader effectiveness through operational leader behavior is negative (which is in line with the negative linear *a*- and positive linear *b*-path). Moreover, because of the negative curvilinear *b*-path, the effect becomes more negative when charismatic personality increases.

Combined, these findings clearly reveal the mechanisms that underlie the curvilinear relationship between charismatic personality and leader effectiveness. For example, for leaders with a centered charisma score of -30 (i.e., low charismatic personality), the predicted instantaneous indirect effect for strategic behavior is .005, which translates into a negative effect of low charisma on effectiveness via strategic behavior (i.e., -30 × .005 = -.150), whereas the predicted instantaneous indirect effect for operational behavior is -.002, which translates into a positive effect of low charisma on effectiveness via operational behavior (i.e., -30 × -.002 = .060). Together, this yields a combined negative effect of low charisma on leader effectiveness of -.150 + .060 = -.090, in which the negative effect is entirely due to the lack of strategic behavior. For leaders with an average charismatic personality (i.e., a centered score of 0), the

predicted instantaneous indirect effect for strategic behavior is .005, while the predicted instantaneous indirect effect for operational behavior is -.003. Together, the effect of average charisma on leader effectiveness equals 0 ((.005 × 0) + (-.003 × 0)). Finally, for leaders with a centered charisma score of 30 (i.e., high charismatic personality), the predicted instantaneous indirect effect for strategic behavior is .004, which translates into a positive effect of high charisma on effectiveness via strategic behavior (i.e., 30 × .004 = .120), while the predicted instantaneous indirect effect for operational behavior is -.005, which translates into a negative effect of high charisma on effectiveness via operational behavior (i.e., 30 × -.005 = -.150). Together, this yields a combined negative effect of high charisma on leader effectiveness of .120 + (-.150) = -.030, in which the negative effect is entirely due to the lack of operational behavior.

Discussion

In Study 3 we replicated the curvilinear relationship between charismatic personality and leader effectiveness. Moreover, conditions under which and processes through which this curvilinear relationship occurs were examined. Hogan and Hogan (2007) pointed to the crucial role of adjustment in professional contexts. The presented study showed that, when a leader's level of adjustment is high, the inflection point after which the relation with effectiveness turns asymptotic and negative occurs at higher levels of charisma. This means that a high level of adjustment can alleviate the negative effects associated with high charisma levels.

Finally, the overall results of the mediation analysis revealed that leaders low on charisma are perceived to be less effective than leaders with an average charisma level because they lack strategic behaviors, while leaders high on charisma are perceived to be less effective because

they lack operational behaviors. In line with the ABC framework (Busse et al., 2016), the instantaneous-indirect-effect approach showed that the TMGT effect results from two competing indirect effects: a positive indirect effect via strategic behavior (i.e., benefit variable) and a negative indirect effect via operational behavior (i.e., cost variable). At high charisma levels, the beneficial effect of highly strategic behavior is still there, but these benefits are offset by the operational costs associated with high charisma levels.

General Discussion

Our work aimed to advance the understanding of leader charisma by (1) introducing a trait-based model of charisma; (2) demonstrating curvilinear relationships between charismatic personality and leader effectiveness; (3) studying the boundary conditions under which the nature of this relationship may change; and (4) examining the processes through which this relationship may occur.

The first objective was addressed in Study 1. Results of this study generally speak for the significance of HDS charisma as a useful, trait-based measure of charisma. In addition to conceptual arguments for the relevance of this constellation of personality traits, we found significant correlations between HDS charisma and fine-grained behavioral descriptions of charisma that were both self-rated and observer-rated 9 years earlier. Moreover, a significant correlation was found between HDS charisma based on leaders' self-reports and subordinate-rated charismatic leadership styles (CKS charismatic leadership), and we provided incremental validity evidence for HDS charisma, which accounts for an additional proportion of the variance in charismatic leadership beyond Big Five traits.

Delving deeper into the associations between the two charisma ratings further showed that no significant relationships were observed between HDS charisma and both CKS sensitivity subscales. This reinforces the idea that the current measure of charismatic personality focuses on communicating vision, unconventional behavior, and personal risk taking but does not necessarily cover attention to other people's needs or assessing events in the external environment. Although an extensive discussion of this finding transcends the purposes of this study, it is relevant to point out that this may shed light on the difference between charismatic and transformational leadership. Consistent with Bass's (1985) conceptual differentiation between charisma and individualized consideration, this finding might indicate that sensitivity or individual consideration is a critical factor distinguishing charismatic from transformational leaders. This idea was also expressed by Bono and Judge (2004), who stated that "*the modesty and kindness of agreeable individuals is not the hallmark of charismatic leaders*" (p. 903).

Moreover, existing theories and research on leader charisma have in common that they all tend to depart from a rather simplistic "more is better" perspective. With evidence increasing in favor of an alternative "too much of a good thing" perspective in the fields of applied personality, organizational behavior, and management science, a second objective of our work was to investigate whether leaders can be too charismatic. Consistent with our expectations, the results in both Study 2 and Study 3 revealed a nonlinear relationship between charismatic personality and observer-rated overall leader effectiveness, supporting the idea that moderate levels are better than low or high levels of charismatic personality. This finding aligns with leadership research demonstrating the dynamic of strengths becoming weaknesses when overusing them (e.g.,

Kaiser & Hogan, 2011; McCall, 2009). Striking in this regard is the divergent effect of charismatic personality on self-rated overall effectiveness, which was positive and linear in both studies, implying that higher charismatic tendencies consistently go together with higher self-perceived effectiveness. The explanation for this finding may be found in self-enhancement theory (Leary, 2007), which states that people are motivated to protect their levels of self-esteem, especially in potentially threatening situations like self-assessment. This may explain why the highly charismatic, with typically high levels of self-esteem, might be blind to their weaknesses and exaggerate their strengths.

A third objective, which was addressed in Study 3, was to investigate the boundary conditions under which this curvilinear relationship may change. A central tenet in the TMGT principle is that the inflection point after which the relationship turns asymptotic is context-specific (Pierce & Aguinis, 2013). Although we did not take situational variables into account, such as stressful situations, we did take into account how one usually reacts to stressful situations (i.e., adjustment). Consistent with Hogan and Hogan (2007), we found that adjustment plays an important moderating role. When the leader's level of adjustment is high, the inflection point after which the relation with effectiveness turns asymptotic and negative occurs at higher levels of charisma. This means that the "damage" of being highly charismatic depends on other traits that the leader has: A high level of adjustment can buffer the negative effects associated with high charisma levels.

A final objective of our work, also addressed in Study 3, was to explore the mechanisms that account for the nonlinear relationship between charismatic personality and observer-rated effectiveness. For this purpose, both interpersonal (i.e., forceful and enabling) and organizational

(i.e., strategic and operational) behaviors were considered as potential outcomes of charismatic personality, but only the latter were significantly associated with charisma levels. Using path modeling, we found that strategic and operational leader behaviors fully mediate the curvilinear relationship between charismatic personality and overall leader effectiveness. Moreover, the instantaneous-indirect-effect approach clearly provides insight into the mechanisms driving this curvilinear relationship. Specifically, it was found that *different leader behaviors are accountable for the curvilinearity between charismatic personality and overall effectiveness at different charisma levels*. At lower charisma levels, the lack of strategic leader behavior makes leaders less effective than moderately charismatic leaders (cf. the left part of the inverted U-shape in Figure 2). At higher charisma levels, on the other hand, a clear lack of operational leader behavior reduces leader effectiveness (cf. the right part of the inverted U-shape in Figure 2).

Research Implications

The current study departed from a research model, integrating leader characteristics, leader behaviors, and finally relevant outcomes. This kind of overarching framework may help to structure this field of study and, eventually, facilitate the accumulation of knowledge in this domain. The specific conceptualizations adopted in the present study for leader characteristics (i.e., charismatic personality, adjustment), leader behavior (interpersonal and organizational) and leader outcomes (effectiveness) allowed us to shed light on the general but highly prevalent question: "What breaks a leader?" (cf. Ames & Flynn, 2007; Hogan, Hogan, & Kaiser, 2010). Linking charismatic tendencies to leadership behaviors revealed that charisma is most strongly associated to business-related behaviors. Whereas conventional wisdom suggests that highly charismatic

leaders fail for interpersonal reasons like arrogance, self-centeredness, and not caring about others (Blair, Hoffman, & Helland, 2008; O'Boyle, Forsyth, Banks, & McDaniel, 2012), our findings suggest that business-related behaviors, more than interpersonal behavior, drive leader effectiveness ratings.

Interestingly, the mediation analysis pinpoints the exact role of these business-related behaviors in the curvilinear relationship between charismatic personality and leader effectiveness. For operational behavior, the results indicate that higher charisma scores are associated with a lack of operational behavior and that this impacts negatively on leader effectiveness. Moreover, this effect is curvilinear, meaning that the detrimental effects of this lack of operational behaviors become even stronger at higher levels of charisma. Regarding strategic behavior, it was found that higher charisma scores are associated with more strategic behavior and that this impacts positively on leader effectiveness. And this effect is also curvilinear, indicating that the beneficial effects of these higher levels of strategic behavior become weaker at higher levels of charisma. Taken together, although the decline in perceived effectiveness of highly charismatic leaders cannot be due to "strategic overreach" or the tendency to do too much strategic behavior, high strategic levels are associated with a lack of operational behavior, which has a negative impact on the perceived effectiveness. Insufficient operational leadership refers to (a) an inability to attend day-to-day operations, (b) an inadequate focus and level of personal efficiency, and (c) a lack of process discipline to manage an orderly workflow. It seems that highly charismatic leaders overestimate what they can do and underestimate their limits, the risks, and the complex tangle of involvements. These findings align with management research (e.g., Chatterjee & Hambrick, 2011; Malmendier &

Tate, 2005) that has related hubris/narcissism to bad business decisions (e.g., paying too much for acquisitions) and to erratic corporate financial performance. The underlying culprit seems to be a lack of self-discipline and insufficient attention for the operational details of business management.

Taken together, our mediation results provide support for theoretical models of leadership arguing for leader behaviors as mechanisms through which individual leader traits influence leadership effectiveness (e.g., Antonakis et al., 2012; DeRue et al., 2011; Dinh & Lord, 2012; Zaccaro, 2012). Based on the fact that we found full mediation, it can be suggested that for the curvilinear relation between charismatic personality and leader effectiveness, it's all in the behavior. From a broader perspective, the results of the current study support and expand the idea of the TMGT effect (Pierce & Aguinis, 2013) as a meta-theoretical principle and provide an explanation of how it works for charismatic personality from a cost-and-benefit perspective (Busse et al., 2016).

In terms of practical implications, our research findings may be useful in a leadership-selection context. Specifically, our findings suggest that organizations may want to consider selecting applicants with midrange levels of charisma into leadership roles, instead of extremely charismatic leaders. Besides their moderate charisma score, applicants preferably should score high on adjustment. Moreover, knowledge of charismatic tendencies could be useful for the purposes of coaching and development. For instance, one strategy could be to confront highly charismatic leaders with the potential gap between their own perception of effectiveness (i.e., being very effective) and the perceptions of their collaborators (i.e., being not so effective), along with the most prevalent pitfalls associated with their leadership style. Results of the mediation

analysis are particularly relevant in this regard, demonstrating that highly charismatic leaders would probably gain the most from a coaching program focused on operational deficiencies. On the other hand, the developmental advice for leaders with low charismatic personalities might have a different focus—namely, on increasing strategic behavior. This training program could, for instance, focus on spending more time and energy on long-term planning, taking a broader perspective on the business as a whole, questioning the status quo, and creating a safe environment for trying new things (Kaiser et al., 2010).

Limitations and Strengths

Some limitations of the current work should be acknowledged. First, a single-item measure was used to assess the overall effectiveness of leaders (Kaiser et al., 2010), while some argue against the use of single-item measures (Pedhazur & Schmelkin, 1991). However, evidence is accumulating that single-item measures can be reliable, certainly when it pertains to constructs that are sufficiently narrow and unambiguous, such as overall job satisfaction and effectiveness (Sackett & Larson, 1990; Wanous & Hudy, 2001). Moreover, we also included other leadership-effectiveness criteria that allowed us to map more specific leader-behavior dimensions. Nevertheless, future research is warranted that replicates our findings with other and multiple-item leadership outcomes.

A second limitation of this study is that no actual situational factors were included as influencers of the relationship between charismatic personality and overall effectiveness. Previous research has, for instance, revealed conditions of crisis and perceived uncertainty as relevant moderators in this relationship (e.g., De Hoogh, Den Hartog, & Koopman, 2005; House & Aditya, 1997; Waldman et al., 2001). In line with this

stream of research, it could be, for instance, that under conditions of high environmental uncertainty, the inflection point in the curvilinear association between charisma and effectiveness occurs at higher levels of charisma than under conditions of environmental certainty. In fact, higher charisma scores may not always lead to derailment. In certain conditions, such as low-stress situations, the charisma-effectiveness relationship may be linear, rather than curvilinear. However, we believe that high-stress and pressure situations are rather typical for a "normal" leadership context, enhancing the likelihood of a curvilinear relationship.

We do want to point out, however, that we did test the idea that the curvilinear relationship between charisma and effectiveness is subject to boundary conditions. This was done by testing the moderating effect of adjustment, which reflects how one usually deals with stressful situations. Moreover, one of the advantages of the "too little/too much" response format adopted in the current study is that part of this situational variability is automatically taken into account. After all, coworkers rate the behaviors of their leaders as "too little," "too much," or "the right amount" given the specific situation that one is evaluated in. In other words, although this approach does not provide concrete information about the specific situational factors that might be influencing this association, situational variables are implicitly controlled for when using this particular measurement scale, provided that something is "the right amount" in a given situation. Nevertheless, future research should aim to uncover the specific circumstances in which the curvilinear relationship between charismatic personality and effectiveness can be obtained.

Beyond these limitations, this study also has a number of notable strengths that bolster its contribution to the extant literature. First, except for the Eugene-Springfield sample, participants were all actual leaders

behaving in authentic leadership situations. Moreover, most of the data were collected in the context of large-scale and multinational leader-assessment programs (Study 2 and Study 3) that benefit from a number of methodological strengths: for instance, sufficiently large samples of leaders assessed using a multi-informant design in which large samples of coworkers participated. Finally, including multiple leader-effectiveness criteria (both behaviors and overall leader effectiveness) allowed us to delve deep into the exploratory mechanisms underlying the nonlinear charisma-effectiveness association, which can be considered as a robust methodological advancement (Antonakis et al., 2012; Hayes & Preacher, 2010) and is highly relevant for both theory and practice.

Conclusion

Our work tested a personality-based operationalization of charisma. In line with the TMGT effect, the picture that emerged from the presented set of studies suggests that leaders with average levels of trait-charisma are perceived as more effective by coworkers than those with either low or high charisma levels. However, higher charisma levels are less harmful for leaders having high adjustment levels as well. Our findings further clarified how and why charismatic personality impacts leader effectiveness, as we found that leaders low on charisma are less effective because they lack strategic behaviors, while highly charismatic leaders are less effective because they lack operational behaviors. These findings may stimulate further research on the specific conditions under which charismatic personality is something desirable—or not.

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Table 1

Descriptive Statistics and Variable Intercorrelations in Study 1 (Sample 2: N = 204)

	M	***SD***	**1.**	**2**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**
1. Sex[a]	-	-															
2. Age	45.96	8.62	-.09														
3. Experience[b]	24.01	8.50	-.10	.96***													
4. HDS charisma[c]	26.64	7.92	.10	-.02	-.04	**.85**											
5. Neuroticism	2.26	.65	.08	-.17*	-.17*	-.14	**.88**										
6. Extraversion	3.82	.53	.13	-.10	-.07	.44***	-.50***	**.84**									
7. Openness	3.21	.51	.15*	.13	.11	.19*	-.03	.09	**.71**								
8. Agreeableness	3.82	.44	.11	.22**	.25**	-.12	-.27***	.34***	.12	**.84**							
9. Conscientiousness	4.09	.42	.07	.13	.17*	.02	-.33***	.41***	-.03	.31***	**.81**						
10. SVA	3.53	.82	.10	-.01	.01	.27***	-.05	.27***	.10	.20*	.21**	**.92**					
11. PR	2.39	1.03	.05	.04	.05	.28***	-.12	.27***	.14	.06	.06	.47***	**.85**				
12. SE	3.69	.75	.11	.05	.09	.10	-.03	.16*	.11	.25***	.25***	.67***	.34***	**.84**			
13. SMN	3.67	.80	.14	-.02	.02	.13	.03	.16*	.10	.22**	.21**	.65***	.31***	.68***	**.78**		
14. UB	2.49	.84	.02	-.11	-.09	.29***	-.13	.29***	.17*	-.07	.01	.43***	.61***	.33***	.32***	**.63**	
15. CKS_total	3.26	.66	.11	-.01	.02	.29***	-.08	.30***	.15*	.18*	.21**	.90***	.69***	.79***	.76***	.66***	**.92**

Note. Bold values on the diagonal show the internal consistency of the relevant variable; [a]Sex is dummy coded such that 0 = male and 1 = female; [b]Work experience in years; [c]HDS = Hogan Development Survey; maximal score is 56 (raw scores); Conger-Kanungo subscales are SVA = strategic vision and articulation; PR = personal risk; SE = sensitivity to the environment; SMN = sensitivity to members' needs; and UB = unconventional behavior; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 2

Correlations between HDS Charisma and Self-rated and Observer-rated Personality Descriptions in Study 1 (Sample 1)

	HDS charisma (2007)			HDS charisma (2007)	
	Observers (1998)	Self (1998)		Observers (1998)	Self (1998)
Is talkative	.26**	.36***	Is emotionally stable, not easily upset	-.09	.02
Tends to find fault with others	-.01	.03	Is inventive	.29***	.37***
Does a thorough job	-.03	.03	Has an assertive personality	.32***	.36***
Is depressed, blue	-.11	-.12	Is original, comes up with new ideas	.32***	.37***
Is reserved	-.30***	-.28**	Can be cold and aloof	.00	.09
Can be somewhat careless	.17*	.10	Not good-looking	-.09	-.22**
Is relaxed, handles stress well	.04	.20*	Perseveres until the task is finished	-.03	.17*
Is full of energy	.28**	.30***	Values artistic, aesthetic experiences	.17*	.15
Starts quarrels with others	.04	.11	Is sometimes shy, inhibited	-.29**	-.22**
Can be moody	-.02	.01	Is considerate and kind to almost everyone	-.06	.02
Is a reliable worker	-.06	-.14	Does things efficiently	.10	.14
Can be tense	.07	.10	Remains calm in tense situations	-.05	.11
Is ingenious, a deep thinker	.09	.24**	Prefers work that is routine	-.34***	-.24**
Generates a lot of enthusiasm	.30***	.38***	Is helpful and unselfish with others	-.09	-.04
Has a forgiving nature	-.08	.05	Is outgoing, sociable	.31***	.34***
Physically attractive	.03	.33***	Is sometimes rude to others	.03	.14
Tends to be disorganized	.03	-.03	Makes plans and follows through with them	.12	.11
Worries a lot	-.05	-.19*	Likes to reflect, play with ideas	.20*	.34**
Has an active imagination	.31***	.28**	Has few artistic interests	-.16	-.12
Tends to be quiet	-.28**	-.24**	Likes to cooperate with others	-.05	.00
Is generally trusting	-.09	-.07	Is easily distracted	.03	.05
Tends to be lazy	-.08	-.08	Is sophisticated in art, music, literature	.09	.19*
Gets nervous easily	-.08	-.24**	Is curious about many different things	.26**	.23**

Note. N = 156; Big Five Inventory (John & Srivastava, 1999) descriptions; HDS = Hogan Development Survey; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 3

Descriptive Statistics and Variable Intercorrelations in Study 2 (N = 306)

	M	***SD***	**1.**	**2**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**
1. Sex[a]	-	-								
2. Age	47.64	6.39	-.19**							
3. Experience[b]	16.01	7.23	-.24***	.70***						
4. Charismatic personality[c]	48.82	18.13	-.01	-.01	.12*	**.85**				
5. Leader effectiveness (self)	7.62	.77	-.04	.07	.15*	.29***				
6. Leader effectiveness (observers)	8.22	.43	-.14*	.08	.17**	.05	.21***			
7. Leader effectiveness (subordinates)	8.31	.64	-.11	.06	.14*	.05	.14*	.69***		
8. Leader effectiveness (peers)	8.03	.53	-.14*	.03	.08	-.03	.10	.69***	.22***	
9. Leader effectiveness (superiors)	8.31	.66	-.05	.08	.13*	.08	.20***	.75***	.20***	.34***

Note. Bold values on the diagonal show the internal consistency of the relevant variable; [a] Sex is dummy coded such that 0 = male and 1 = female; [b] Managerial experience in years; [c] Maximal score is 100 (percentiles); $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 4

Hierarchical Regression Analyses Examining the Associations between Charismatic Personality and Overall Leader Effectiveness in Study 2(N = 306)

		Overall leader effectiveness														
		Model 1: Aggregated observer rating			Model 2: Subordinates			Model 3: Peers			Model 4: Superiors			Model 5: Self		
		β	*SE (b)*	*ΔR²*	*β*	*SE (b)*	*ΔR²*	*β*	*SE (b)*	*ΔR²*	*β*	*SE (b)*	*ΔR²*	*β*	*SE (b)*	*ΔR²*
Step 1				.04**			.02*			.02*			.02			.02*
	Sex	-.10	.05		-.08	.08		-.13*	.07		-.02	.08		.00	.10	
	Exp.	.14*	.00		.12*	.01		.05	.00		.12*	.01		.15*	.01	
Step 2				.00			.00			.00			.00			.07***
	Charisma	.04	.00		.04	.00		-.04	.00		.07	.00		.27***	.00	
Step 3				.05***			.06***			.02*			.01*			.00
	Charisma	.08	.00		.09	.00		-.02	.00		.09	.00		.27***	.00	
	Charisma^2	-.24***	.00		-.24***	.00		-.14***	.00		-.12*	.00		.02	.00	

Note. Sex is dummy coded such that 0 = male and 1 = female; Exp. is managerial experience in years; $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Table 5

Descriptive Statistics and Variable Intercorrelations in Study 3 (N = 287)

	M	***SD***	**1.**	**2**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**
1. Sex[a]	-	-										
2. Age	45.37	6.67	.07									
3. Experience[b]	15.98	7.73	-.02	.72***								
4. Charismatic personality[c]	59.16	20.62	-.02	-.12*	-.06	**.84**						
5. Forceful	-.06	.47	.10	-.01	-.01	.08	**.93**					
6. Enabling	-.24	.38	-.05	-.10	-.06	.06	-.70***	**.92**				
7. Strategic	-.29	.36	-.10	-.16**	-.06	.28***	.45	-.06	**.92**			
8. Operational	-.12	.25	.07	.10	.04	-.31***	.01	-.01	-.30***	**.80**		
9. Leader effectiveness (observers)	7.73	.84	-.08	-.10	.06	.03	.06	.34***	.45***	.18**	-	
10. Leader effectiveness (self)	7.72	.85	-.10	.01	.14*	.17**	.08	.12*	.18**	.05	.32***	-

Note. Bold values on the diagonal show the internal consistency of the relevant variable; [a] Sex is dummy coded such that 0 = male and 1 = female; [b] Managerial experience in years; [c] Maximal score is 100 (percentiles); * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6

Frequencies (%) of the Three Categories of Leaders in Study 3 (N = 287), plus Mean Charismatic Personality Scores ($M_{charisma}$) within the Three Categories of Leaders

	Forceful		Enabling		Strategic		Operational	
	%	$M_{charisma}$	*%*	$M_{charisma}$	*%*	$M_{charisma}$	*%*	$M_{charisma}$
Too little	54	59.29	61	58.68	74	57.34	57	63.01
The right amount	13	58.61	23	60.31	15	63.67	19	59.23
Too much	33	59.16	16	59.33	11	65.65	24	49.90

Note. Leaders were categorized as "the right amount" when the LVI scores were within plus/minus three Standard Errors of Measurement around 0, because scores within this range are statistically indistinguishable from "0" at $p < .001$ (Ghiselli, Campbell, & Zedeck, 1981); LVI scores exceeding this range = "too much"; below this range = "too little."

Table 7

Hierarchical Regression Analyses Examining the Associations between Charismatic Personality and Overall Leader Effectiveness in Study 3 (N = 287)

		Overall leader effectiveness					
		Model 1: Aggregated observer rating			Model 2: Self		
		β	*SE (b)*	*ΔR²*	*β*	*SE (b)*	*ΔR²*
Step 1				.01			.03*
	Sex	-.08	.13		-.10	.13	
	Experience	.06	.01		.14*	.01	
Step 2				.00			.03**
	Charisma	.04	.00		.18**	.00	
Step 3				.02*			.00
	Charisma	-.01	.00		.20	.00	
	Charisma^2	-.15*	.00		.06	.00	

Note. Sex is dummy coded such that 0 = male and 1 = female; $^{*}p < .05$, $^{**}p < .01$.

Table 8

Hierarchical Regression Analyses Examining the Moderating Effect of Adjustment in the (Curvilinear) Relationship between Charismatic Personality and Overall Leader Effectiveness in Study 3 (N = 287)

		Observer-rated leader effectiveness		
		β	*SE (b)*	*ΔR²*
Step 1				.01
	Sex	-.08	.13	
	Experience	.06	.01	
Step 2				.01
	Charisma	.04	.00	
	Adjustment	.08	.00	
Step 3				.02*
	Charisma^2	-.14*	.00	
Step 4				.02†
	AdjustmentXCharisma	.13†	.00	
	AdjustmentXCharisma^2	-.04	.00	

Note. Sex is dummy coded such that 0 = male and 1 = female; †p = .06, *p < .05.

Figures

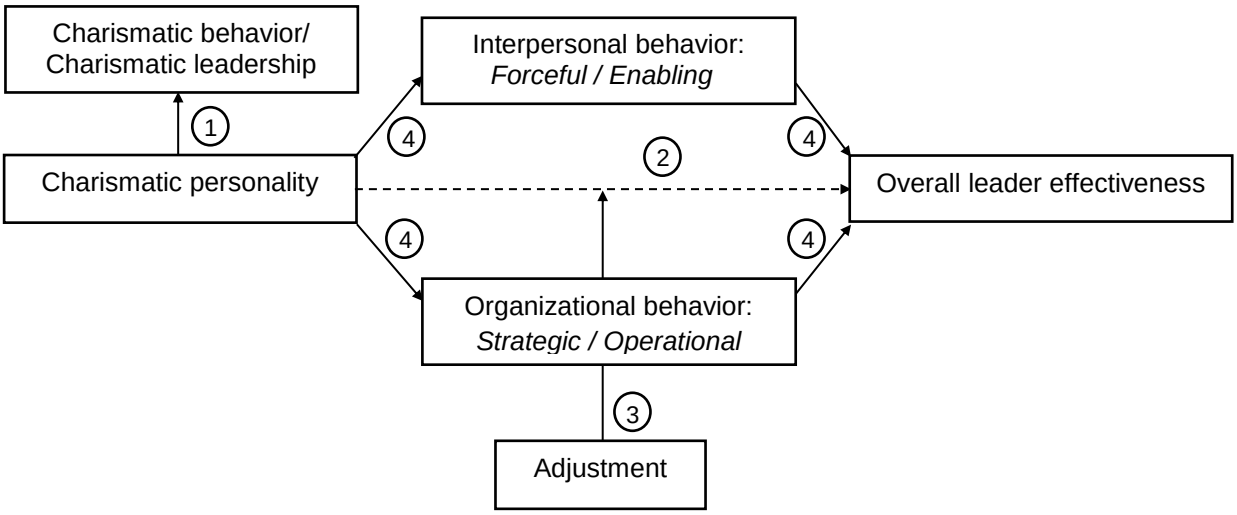

Figure 1. Research model: The (curvilinear) relationship between charismatic personality and (observer-rated) overall leader effectiveness, as moderated by leader adjustment and mediated through leader behaviors.

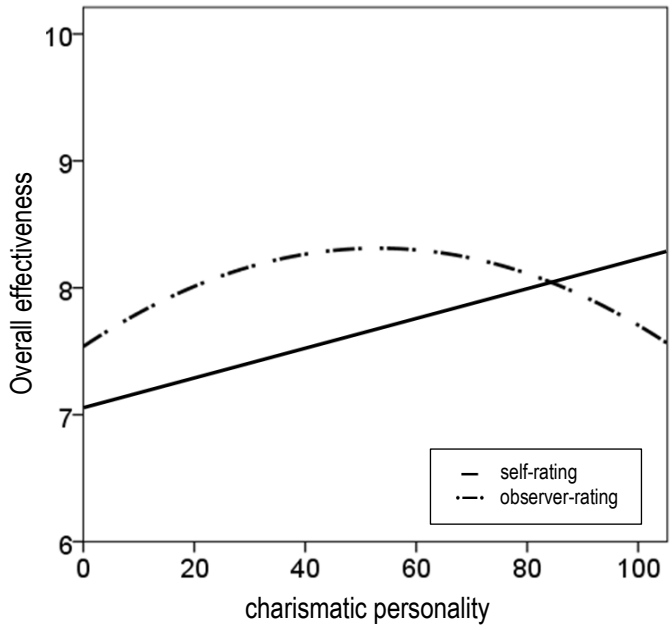

Figure 2. Overall leader effectiveness as a function of charismatic personality (percentiles): aggregated observer-ratings versus self-ratings of overall effectiveness (Study 2).

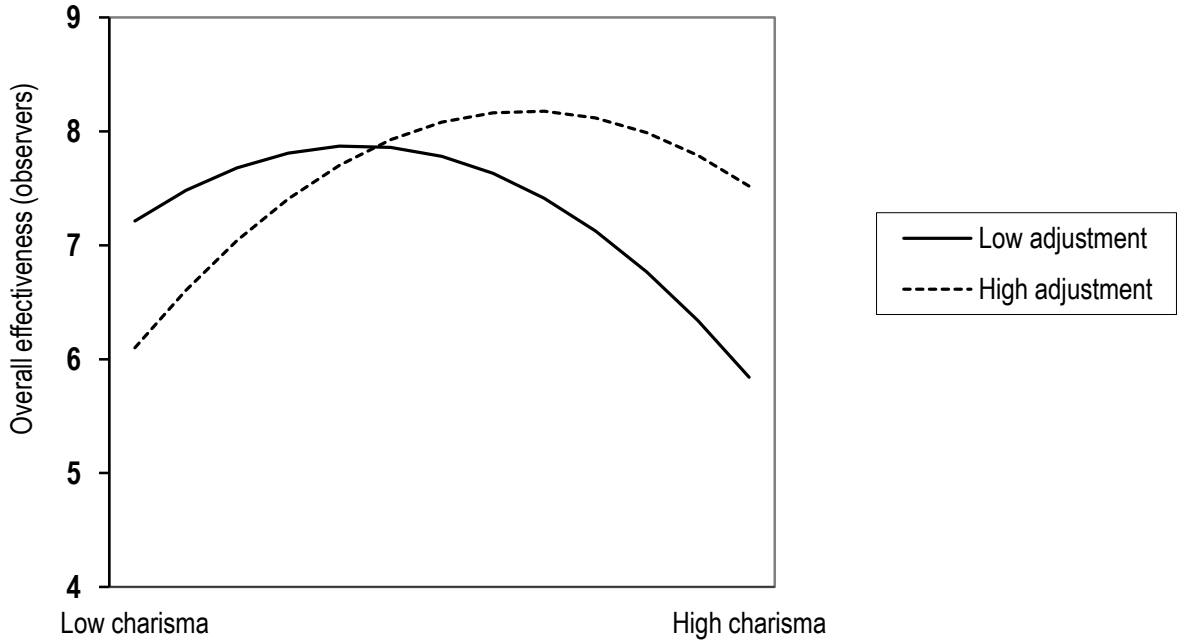

Figure 3. Moderating effect of adjustment in the curvilinear relationship between charismatic personality and observer-rated leader effectiveness (Study 3).

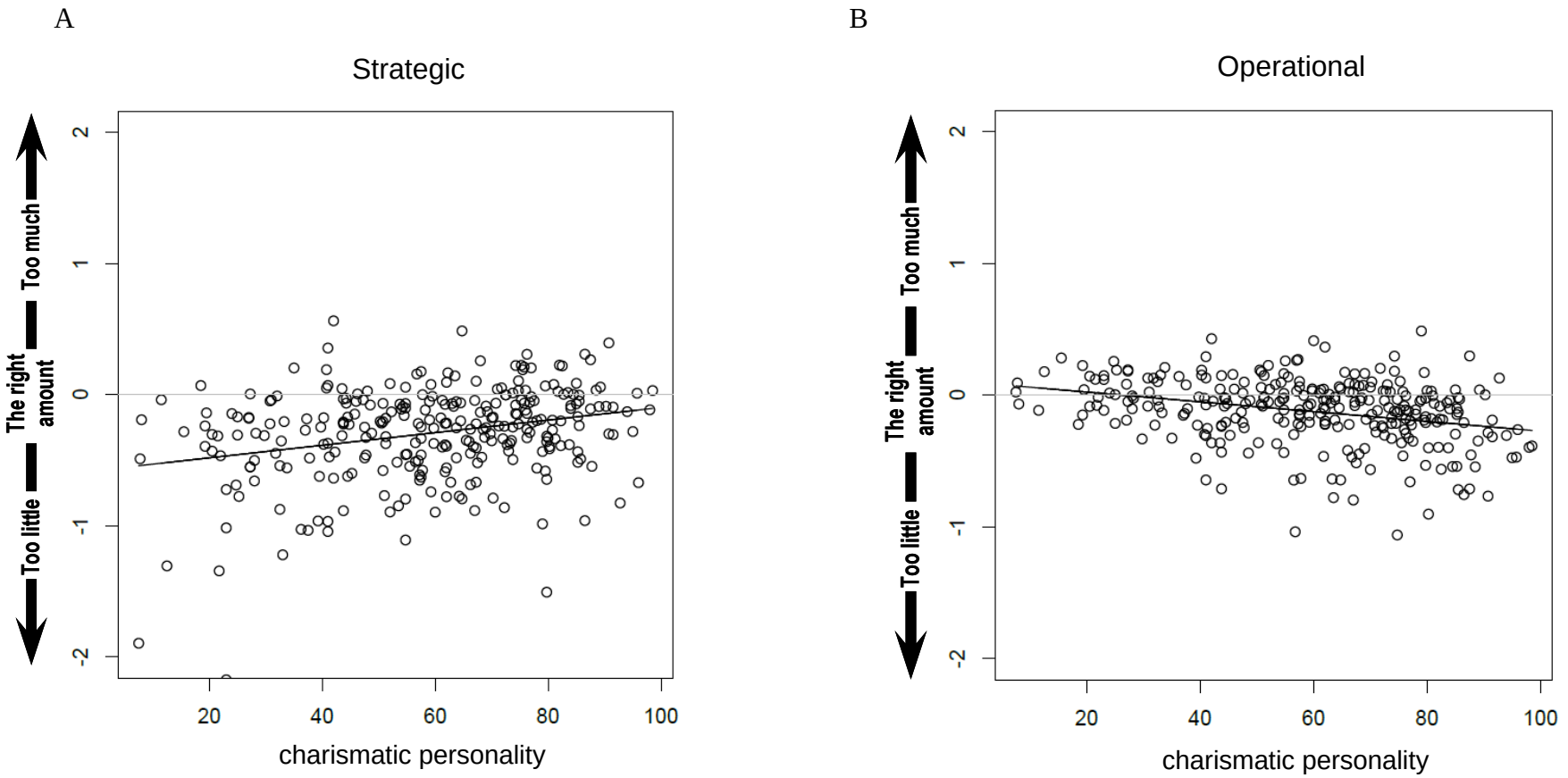

Figure 4. Regression lines for charismatic personality predicting strategic (Panel A) and operational (Panel B) leader behavior. The regression lines are drawn for the range in which we have charisma observations (Study 3).

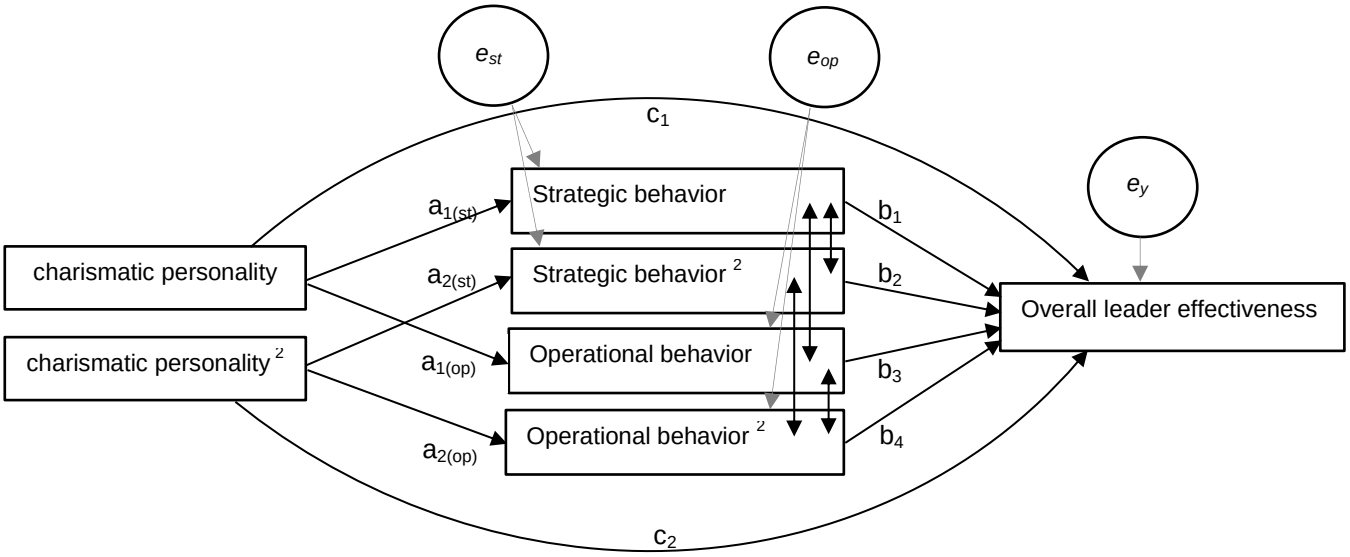

Figure 5. Path model for testing the nonlinear mediation between charismatic personality and overall leader effectiveness through strategic (st) and operational (op) leader behavior (Study 3).

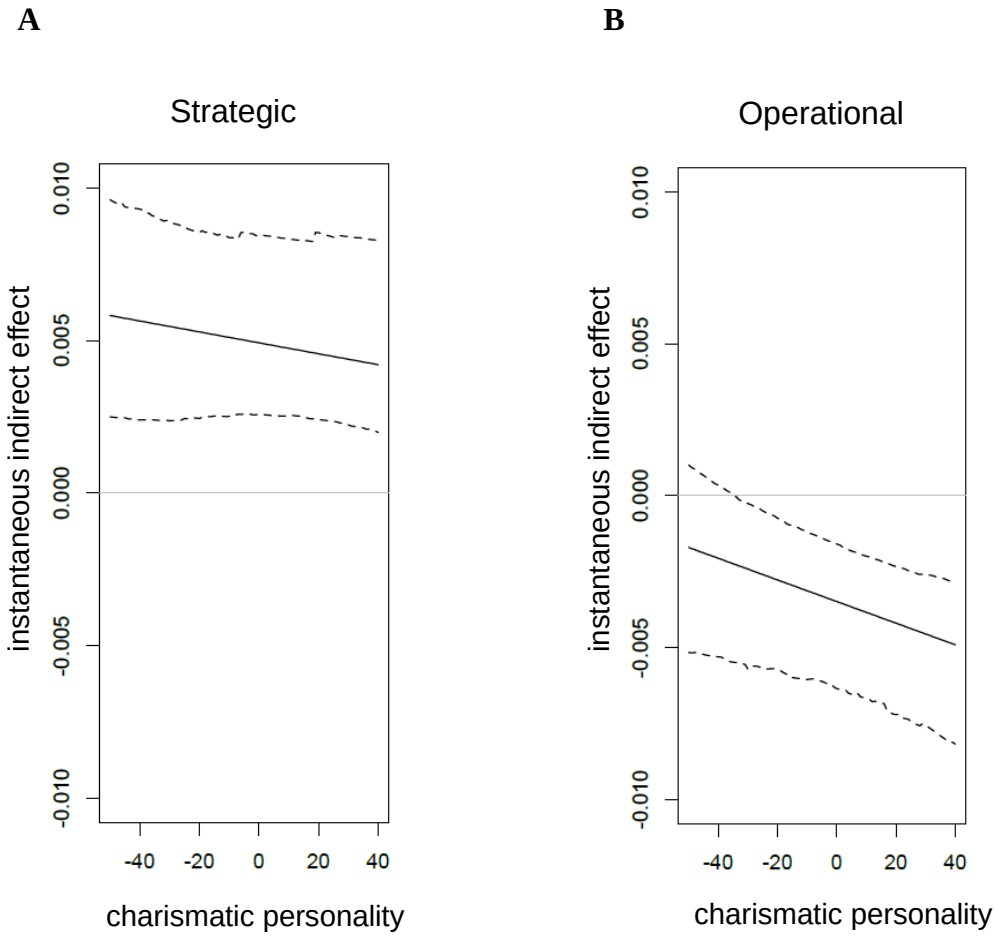

Figure 6. The instantaneous indirect effects of charismatic personality on overall leader effectiveness through strategic (Panel A) and operational (Panel B) leader behavior at specific values of charisma (centered), together with the 95% confidence intervals (i.e., dotted lines) (Study 3).

Appendix A

Aggregated observer ratings—including ratings of subordinates, peers, and superiors—were used for overall effectiveness (i.e., in Study 2 and Study 3) and for the leader behaviors (i.e., in Study 3). To provide additional justification for this aggregation method, the $r_{wg(j)}$ inter-rater agreement coefficient (James et al., 1984) and the one-way random effects intraclass correlation coefficient (ICC; McGraw & Wong, 1996) were computed within superior, peer, and subordinate groups, as well as across these three sources (LeBreton, Burgess, Kaiser, Atchley, & James, 2003). In the computation of $r_{wg(j)}$ for the overall effectiveness rating, the moderately skewed random response null distribution was used to control for a moderate skew because most ratings were between 6 and 10 on the 1 to 10 scale. To account for central tendency bias, a triangular null distribution was used in the computation of inter-rater agreement for the leader-behavior scales (see LeBreton & Senter, 2008). Additionally, intraclass correlations (ICC[1]) were computed to evaluate the reliability of an individual rater and ICC(k) to estimate the reliability of the average rating across k raters—where $k = 2$ for superiors (i.e., the most common number of multiple raters in the superior group); $k = 4$ for peers; k = 5 (Study 2) and k = 4 (Study 3) for subordinates (i.e., the modal number of raters in these groups); and $k = 3$ for the aggregate rating across the three sources (i.e., the grand mean of the three rater group means). The results in Table Appendix A indicate that, in both studies, the level of similarity across superior, peer, and subordinate ratings is sufficiently high to support aggregation (LeBreton & Senter, 2008).

Table Appendix A

Inter-rater Reliability (ICC) and Inter-rater Agreement ($r_{wg(j)}$) for Leader Behavior Scales and Observer-rated Leader-effectiveness Rating in Study 2 and Study 3

	Superiors			Peers			Subordinates			Aggregated across observer sources		
	ICC(1)	ICC(*k*)	$r_{wg(j)}$	ICC(1)	ICC(*k*)	$r_{wg(j)}$	ICC(1)	ICC(*k*)	$r_{wg(j)}$	ICC(1)	ICC(*k*)	$r_{wg(j)}$
Study 2												
Leader effectiveness	.47	.64	.85	.38	.71	.81	.32	.70	.83	.25	.51	.95
Study 3												
Forceful	.56	.72	.98	.32	.66	.89	.29	.62	.92	.57	.80	.99
Enabling	.22	.37	.98	.29	.62	.93	.25	.57	.94	.64	.84	.99
Strategic	.49	.66	.98	.28	.61	.96	.22	.54	.95	.51	.76	.98
Operational	.09	.17	.98	.25	.57	.93	.17	.45	.94	.38	.64	.99
Leader effectiveness	.21	.35	.87	.29	.62	.73	.24	.55	.71	.57	.80	.93

Note. ICC(*k*) was based on $k = 2$ for superior ratings, $k = 4$ for peer ratings, $k = 5$ (Study 2) and k = 4 (Study 3) for subordinate ratings, and $k = 3$ for ratings aggregated across the 3 sources. The $r_{wg(j)}$ values represent the Mean $r_{wg(j)}$ statistic computed across all focal managers ($N = 201$ for superiors, 306 for peers and subordinates in Study 2; $N = 21$ for superiors, 287 for peers and subordinates in Study 3).

Chapter 4

The "too little/too much" scale: A new rating format for detecting curvilinear effects[1]

Abstract

This paper describes the *too little/too much* (TLTM) scale as an innovation in rating scale methodology that may facilitate research on the too-much-of-a-good-thing effect. Two studies demonstrate how this scale can improve the ability to detect curvilinear relationships in leadership research. In Study 1, leaders were rated twice on a set of leader behaviors: once using a traditional 5-point Likert scale and once using the TLTM scale, which ranged between -4 (*much too little*), 0 (*the right amount*), and +4 (*much too much*). Only linear effects were observed for the Likert ratings, while the TLTM ratings demonstrated curvilinear, inverted-U-shaped relationships with performance. Segmented regressions indicated that Likert ratings provided variance associated with the "too little" range of the TLTM scale, but not in the "too much" range. Further, the TLTM ratings added incremental validity over Likert ratings, which was entirely due to variance from the "too much" range. Study 2 replicated these findings using a more fine-grained, 9-point Likert scale, ruling out differences in scale coarseness as an explanation for why the TLTM scale was better at detecting curvilinear effects.

[1] Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (2017). The "too little/too much" scale: A new rating format for detecting curvilinear effects. *Organizational Research Methods, 20,* 518-544. DOI: 10.1177/1094428117706534

Introduction

Management and organizational psychology literatures have recently witnessed a fundamental shift in theory and research away from linear models (e.g., Busse, Mahlendorf, & Bode, 2016; Grant & Schwartz, 2011; Pierce & Aguinis, 2013). The alternative to a linear way of thinking (i.e., "*more is better*") is a perspective in which the optimal level of a predictor variable in a positive (negative) relationship is less likely to be found at the high (low) end of the continuum, but rather closer to the middle of the continuum. As Pierce and Aguinis (2013) noted: "*too much of any good thing is ultimately bad*" (p. 315).

This fresh perspective has inspired researchers to re-examine many relationships in different areas of management, looking for curvilinear effects (e.g., Astakhova, 2015; Blickle et al., 2015; Hofmans, Debusscher, Doci, Spanoulli, & De Fruyt, 2015; Škerlavaj, Černe, & Dysvik, 2014; Zettler & Lang, 2015). However, the search for curvilinear effects has been challenging, and these effects have proven "difficult to find" (e.g., Fleishman, 1998, p. 831). The current work aims to facilitate this research by focusing on a methodological issue that may have limited the ability to identify curvilinear effects. In this paper, we describe an alternative rating format that is conceptually consistent with the too-much-of-a-good-thing (TMGT) perspective (Pierce & Aguinis, 2013), and may allow for a more direct test of curvilinear associations. We demonstrate this methodology in the context of a common area of organizational research: leader behavior and performance.

The focus of this study concerns the way in which work-related behaviors are typically measured and how this may influence the form of behavior-performance relationships. We start from the general observation

that, similar to attitudes, behavioral variables are commonly assessed using dominance measurement models (Coombs, 1964) in combination with Likert-type rating scales. In this paradigm, higher item scores (i.e., ratings) are indicative of higher levels of the assessed variable (Likert, 1932). Although widespread, scholars have begun to identify problems with this method (e.g., Carter et al., 2014; Dalal & Carter, 2015; Drasgow, Chernyshenko, & Stark, 2010; Tay, Drasgow, Rounds, & Williams, 2009) including, among other issues, misestimation of latent trait levels. For example, when a personality questionnaire item measuring extraversion, such as *"I enjoy chatting with a friend at a café"* is not endorsed, psychometric models for dominance response processes infer that this person is more introverted, although it is perfectly reasonable that the highly extraverted person disagrees because (s)he prefers a more exciting setting (see Drasgow et al., 2010). The implication is that this method allows for instances in which people with very different trait levels (e.g., low and extremely high) may respond in the same way to an item (e.g., *disagree*).

The problems of dominance models and Likert ratings are highly relevant to the current study, given that their usage might lead to curvilinear associations being underestimated or even being misrepresented as linear (Carter et al., 2014). We investigate one potential way to overcome these problems with a rating format that allows raters to describe leader behaviors as too little, the right amount, or too much: The "*too little/too much*" or briefly "TLTM" rating scale.

The value of the TLTM scale is examined following a three-step approach. First, the joint relationship between leader behavior ratings on Likert and TLTM scales is investigated. Second, we examine whether the TLTM scale facilitates the identification of curvilinear relationships

between leader behavior and performance. For instance, when raters are explicitly given the opportunity to distinguish between "a lot" of a behavior and "too much" of that behavior the scores may be more likely to show an inverted-U shaped relationship between behavior and performance. Finally, we explore whether and, if so, how TLTM ratings provide incremental validity over typical Likert ratings.

We studied the TLTM rating scale in a leadership context, and so begin by briefly reviewing the relevance of curvilinear effects in leadership research. Next, the measurement problems that may occur when using Likert scales are discussed. Finally, the TLTM scale is presented as a new methodology to prevent these misestimations of latent trait levels and the resulting misspecification of the form of relationships between variables.

The TMGT effect in Leadership Research

Similar to other subdomains of Organizational Behavior, leadership researchers are increasingly considering curvilinear relationships. For example, Stouten and colleagues (2013) demonstrated that ethical leadership relates in a curvilinear way to followers' organizational citizenship behavior (OCB). Specifically, the authors illustrated that ethical leadership promotes OCB, but only up to a point after which additional ethical leadership leads to a decrease in followers' OCB. The explanation for this inverted U-shaped association was found in followers' perceptions of moral reproach. As both highly ethical and highly unethical leaders may give the impression of looking down on their followers' principles and values, the motivation to engage in OCB is undermined at both extremes of the distribution (Stouten, van Dijke, Mayer, De Cremer, & Euwema, 2013).

A similar trend has been observed for other leader behaviors and characteristics, such as initiating structure and consideration (Fleishman, 1998), leader-member-exchange (Harris, Kacmar, & Witt, 2005), leader assertiveness (Ames & Flynn, 2007), contingent reward leadership (Harris & Russell, 2013), and empowering leadership (Zheng & Wang, 2013). The general pattern is that leader characteristics and behavioral styles have detrimental effects, not only when they are underdeveloped but also when they are taken too far. In contrast, a level of behavior between deficiency and excess is associated with the highest levels of leadership effectiveness (Kaiser & Kaplan, 2005a).

Although empirical evidence supporting the TMGT effect (Pierce & Aguinis, 2013) continues to grow, demonstrating curvilinear effects remains a challenge. This has been explained on methodological ground: Very much like interaction effects, curvilinear effects are harder to detect than linear effects because of decreased statistical power due to statistical and methodological artefacts (Aguinis, 2004; Goodhue, Lewis, & Thompson, 2007). An additional explanation that deserves further consideration relates to measurement problems. Specifically, dominance models *in combination with* Likert rating scales may contribute to measurement error, and therefore diminish the chances of finding curvilinear effects (Carter et al., 2014).

Measurement Problems from an Ideal Point Perspective

Although Likert-type rating scales have become conventional orthodoxy as the preferred method of measurement in organizational research and beyond, they may lead to item-level misestimation in two different ways. Both types of misestimation have to do with *excessive* levels of an otherwise desirable behavior. First, *high* Likert scale scores may not differentiate between doing something “a lot and well” and doing

it "too much" (Kaiser & Kaplan, 2005a; 2005b). Consider for instance rating a leader's behavior with the item "*Takes a methodical approach to getting things done*" (Kaiser, Overfield, & Kaplan, 2010). A rater can *totally agree* with this item because (s)he perceives the leader to be very systematic, and in the eyes of the rater, this level of behavior is ideal (scenario 1). However, a leader can also be perceived as too methodical, for instance by rigid adherence to standard operating procedures that take too long and limit the ability to deal with unforeseen problems. In the absence of a response option to directly indicate this extreme level of leader behavior, a rater may decide to agree with this item anyway (e.g., "*Obviously my leader is organized, it's even too much"*). Here, excessive trait levels are thus misspecified as performing "high" on the particular dimension (scenario 2).

A second form of item-level misspecification is associated with *low* Likert scores on dominance items (Carter et al., 2014). These low Likert scores can (correctly) indicate low behavioral levels, but may also reflect a response pattern where a rater disagrees with statements that are too weak to correctly characterize the leaders' extreme behavior. For example, raters may disagree with the item "*Takes a methodical approach to getting things done*" because they perceive the leader to be insufficiently methodological (scenario 3). However, raters may also disagree because they think that the leader is so obsessed with following rules and procedures that he or she cannot get things done anymore (e.g., "*My leader is so obsessed with details that it gets in the way of getting things done"*). Here, extremely high trait levels are thus misspecified as demonstrating little of the particular behavior (scenario 4).

Taken together, using Likert scales one could erroneously conclude that (a) the leader's standing on a particular behavior is high without

making a differentiation between “a lot” (scenario 1) and “too much” (scenario 2) (Kaiser & Kaplan, 2005a); or that (b) the leader’s standing on a particular behavior is low while it is actually extremely high (scenario 4) – confounding with leaders who are actually low on that behavior (scenario 3) (cf. Carter et al., 2014). These examples challenge the internal validity of this measure of leader behavior. Moreover, these misspecifications may have serious consequences for the functional form of the relationships between behavior and outcome variables as it has been shown that use of dominance attitude items with the typical Likert response format may wrongly turn curvilinear associations into linear ones. Accordingly, lower performance scores that should have been associated with excessive levels of the assessed trait (i.e., the decreasing, right part of the inverted-U) are incorrectly associated with low or moderate levels of the trait (i.e., the increasing left part of the inverted-U) (Carter et al., 2014). As a result, a curvilinear relationship between constructs is represented empirically as a positive linear one.

One solution that has been proposed for this problem involves replacing dominance models with ideal point models (Carter et al., 2014). In contrast to dominance models, ideal point models draw on the assumption that statements representing both higher *and* lower locations on the trait continuum have decreasing probabilities of being endorsed as they are further away from the observer’s ideal point (Drasgow et al., 2010; Thustone, 1928). As a result, ideal point models have proven to be a promising way to bypass item-level misestimations, and to facilitate the identification of curvilinear effects in organizational research (Carter et al., 2014). Although effective, there are also some difficulties associated with ideal point modeling that limit its practical applicability.

Ideal point scores can be estimated in two ways: (a) through the original Thurstone (1928) method; and (b) through item response theory (IRT) methods (e.g., Generalized Graded Unfolding Model or GGUM; Roberts, Donoghue, & Laughlin, 2002). Thurstone's (1928) method for scale development is quite labor-intensive. First, a group of subject matter experts needs to develop an item pool in which the items cover the entire range of the trait continuum (i.e., low, intermediate, and high values). Along with the difficulty of formulating items to cover the mid-range of the latent trait continuum (e.g., Brown & Maydeu-Olivares, 2010), a large calibration sample of about 200 to 300 judges is required to define the specific item-locations on the latent trait continuum prior to administration to the sample of interest (Thurstone, 1928). Once the scale has been developed, respondents' standing on the latent trait (i.e., ideal point scores) can be obtained by computing the mean item-location of the items endorsed (Drasgow et al., 2010). Hence, labor-intensive development and specific scoring algorithms are needed when conducting Thurstonian scaling. IRT-approaches, such as GGUM, can also be used to obtain respondents' ideal point estimates, but the scoring methods are highly complicated and large samples of 750 or more are required to enable accurate parameter estimates (Roberts et al., 2002).

A different and perhaps more direct and practically feasible way to deal with the misestimation problems in Likert scaling may be an intervention at the level of the *rating scale* rather than at the level of the items and their measurement model. The remainder of this paper elaborates this idea by exploring the effect of the *too little/too much* (TLTM) scale, which can be used in combination with traditional, positive dominance items (i.e., items that cover high trait levels), without the need for large sample sizes or complex statistical manipulations.

A Direct Assessment of Curvilinear Relationships in Leader Behavior

The TLTM response format combines straightforward positive dominance items with a rating scale that explicitly specifies (a) the ideal point ("the right amount") and distinguishes it from (b) overdoing ("too much"), and (c) underdoing ("too little"; see Figure 1). Combining solely descriptive and positive items with the TLTM response format, where the ideal level is indicated by "the right amount," is consistent with the theoretical and empirical support for the advantages of ideal point models for attitude assessment (e.g., Carter et al., 2014; Dalal & Carter, 2015; Drasgow et al., 2010; Tay et al., 2009). Moreover, this scaling method aligns with the meta-theoretical TMGT principle, and responds to recent calls for a paradigmatic shift towards curvilinear models (Pierce & Aguinis, 2013). Returning to the methodical leader behavior item in the examples above, the TLTM response format allows raters to describe the observed level of a behavior as too little (scenario 3), the right amount (scenario 1), or too much (scenarios 2 and 4), and avoids confounding these distinct levels of the behaviors. Thus, the TLTM scale may be a simple and easy-to-implement way of overcoming the confounding problems often encountered with traditional Likert scales.

Investigating the joint relationship between ratings on the traditional Likert response format and the TLTM format may also provide new insights into the processes that underlie typical Likert scale responses. For instance, one can examine the extent to which higher Likert scores indicate a desirable (cf. "*the right amount"* on TLTM) or an undesirable level of the variable (cf. "*too much"* on TLTM), and to what extent "a lot and well" and "too much" are confounded by using Likert ratings. Further, a joint analysis of Likert and TLTM response formats can identify the level on a typical Likert scale that corresponds to "the right amount" of a

particular behavior. Given that this is a first attempt to integrate these two formats, no specific hypotheses are proposed here. Instead, the following research question is investigated:

> *RQ 1: How are response patterns on a Likert scale measuring a specific leader behavior dimension related to response patterns on the too little/too much scale of that same leader behavior dimension?*

Investigating response patterns using different rating formats to assess leadership begs the question of which leader behaviors to consider. The current study utilizes the four dimensions of the versatile leadership model: forceful, enabling, strategic, and operational leadership (Kaiser, LeBreton, & Hogan, 2015; Kaiser & Overfield, 2010; Kaplan & Kaiser, 2006). *Forceful leadership* is defined as assuming authority and using personal and position power to push for performance. *Enabling leadership* is defined as creating conditions for others to contribute through empowerment, participation, and support. *Strategic leadership* is defined as positioning the team for the future by setting direction, making bold changes, and supporting innovation. And *operational leadership* is defined as guiding the team to execute near-term goals by specifying the details of implementation, focusing resources, and monitoring performance.

These four dimensions can be understood in terms of their conceptual and empirical relationships with existing leadership constructs (see Kaiser et al., 2010). For instance, Yukl's (2010) taxonomy distinguishes interpersonally-oriented, task-oriented, and change-oriented clusters of leader behavior. The forceful and enabling dimensions map onto Yukl's interpersonally-oriented cluster because interpersonal behavior is defined in terms of a dominant and assertive dimension

juxtaposed against an accommodating and nurturing dimension (Wiggins & Trapnell, 1996). Forceful leadership is also correlated with the initiating component of the initiating structure construct and enabling is correlated with the consideration construct in the classic two-factor model of leader behavior (Stogdill & Coons, 1957). The operational dimension maps onto Yukl's task-oriented cluster which concerns organizing and planning for the execution of initiatives, and is correlated with the structuring component of the initiating structure construct. And the strategic dimension maps onto Yukl's change-oriented cluster which concerns adapting to shifting environmental demands, establishing new directions, and introducing new structures and procedures.

Further, one of the central premises in the versatile leadership model is that leaders may not only underdo these behaviors (i.e., *too little*), but that some may overuse them by demonstrating excessive levels of the behaviors (i.e., *too much*). Of course, leaders can also demonstrate an optimal level of these behaviors, such that the frequency and magnitude of a particular behavior is perceived as ideal (i.e., *the right amount*). Based on years of research on executive career derailment, which identified "strengths that become weaknesses through overuse" as a common reason for leadership failure (McCall & Lombardo, 1983), Kaiser and Kaplan (2009; Kaplan & Kaiser, 2006) have theorized and empirically demonstrated that a deficiency as well as an excess of these behaviors has detrimental effects, much in line with the TMGT principle.

For instance, too little forceful leadership lacks drive and accountability, whereas too much forceful behavior can be abrasive and overbearing. Similarly, too little enabling behavior can be disempowering and insensitive, while too much can be an abdication of authority. Leaders showing too little strategic leader behavior fail to provide vision or

promote change, while too much can involve grandiose plans that defy implementation. Finally, too little operational leadership is accompanied by insufficient organization and focus, whereas too much operational behavior can get bogged down in detail and micromanagement. Each of these behavioral patterns has been addressed in prior research on leader derailment (see Gentry & Chappelow, 2009; Hogan, Hogan, & Kaiser, 2010; Kaiser et al., 2015; McCall & Hollenbeck, 2002; McCall & Lombardo, 1983).

In sum, the versatile leadership model assumes that both underdoing and overdoing of these leader behaviors is less effective than a more optimal, middle-ground level of these behaviors. In other words, the relationships between each of these leader behaviors and a range of leadership outcomes follow an inverted U-shaped pattern (see Kaiser & Kaplan, 2009). In this study we investigate whether these patterns of curvilinearity are more easily identified using the TLTM rating format compared to the traditional Likert scales. The second research question is thus:

> *RQ 2: Does the use of the too little/too much scale, compared to the use of a Likert scale, facilitate the identification of curvilinear relationships between subordinate-rated leader behaviors and performance?*

The final research question concerns the impact that rating formats may have on the strength, rather than the form, of the association between leader behaviors and performance. The misestimations caused by dominance items and Likert scales may only apply to a subset of individuals in a population (i.e., those with more excessive behavioral levels), thus representing only a small amount of covariance (Carter et al.,

2014). Attempts to clarify these item-level misestimations may yield only minor increases in R^2. Nevertheless, any significant increase in R^2 can provide unique insights into the prediction of leader performance. Thus, our final research question:

> *RQ 3: Does the use of the too little/too much rating format add incremental validity beyond Likert scale measures of leader behaviors in the prediction of performance?*

STUDY 1

Method

Procedure

Undergraduate psychology students were instructed to each recruit one participant that qualified as a target leader. Students were only responsible for the recruitment of the target leaders, and to this end they were instructed that the targets had to (1) be at least 25 years old, (2) have at least three subordinates, and (3) have at least three years of working experience. Each target leader had to nominate one subordinate willing and able to evaluate their direct supervising manager (i.e., the target leader). In turn, the nominated subordinates received an email including a personal login and a link leading to an online survey. Subordinates were ensured that their ratings would be treated highly confidential and that there was no feedback at all concerning these ratings to the respective leaders. Subordinates were first asked to rate their leaders' overall job performance, followed by the questionnaires that deal with the more specific leader behavior dimensions. By using this order, we made sure that the performance ratings were not influenced by the leader behavior assessments. Subordinates rated the leader behaviors twice, once using the TLTM format and once using the Likert scale. As the TLTM scale might

influence response patterns on the Likert scale, leader behaviors were first presented with the Likert format, followed by the TLTM format.

Participants

Leaders. A sample of 204 Belgian leaders was recruited. Their mean age was 45.96 years (*SD* = 8.62), and 57% were male. The majority of the leaders completed a higher education program, such as a bachelor's program (52%), a master (35%), or a PhD (3%). They were employed in a broad range of industries including manufacturing, technology, service, and government. The average number of years of labor market experience was 24.01 (*SD* = 8.50), and targets had on average 37 subordinates (min. = 3; max. = 750).

Subordinates. Each of the target leaders nominated one subordinate to participate in this study. In total, 177 subordinates completed the survey. The mean age of the subordinates was 39.87 years (*SD* = 10.24), and 38% were male. Subordinates reported frequent personal contacts with their leaders (e.g., 60.1% reported to have daily contact or more) and indicated to be highly familiar with the targets' behavior at work (*M* = 4.08, *SD* = .78; on a 5-point Likert scale from 1 (*not familiar*) to 5 (*very familiar*)). On average, subordinates indicated working together with their respective leaders for 71.49 months (*SD* = 68.60).

Measures

Leader behavior. Leader behaviors were operationalized using the forceful, enabling, strategic, and operational scales from the Leadership Versatility Index (LVI; Kaiser et al., 2010). The four scales on the original LVI contain 12 items; a subset of 6 items for each was selected to reduce the administrative burden for research participants. Items were selected based on conceptual and empirical grounds (e.g., factor loadings).

Subordinates completed the LVI twice: Once using a standard 5-point Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*), and once using the TLTM response format ranging between -4 (*much too little*), 0 (*the right amount*) and +4 (*much too much*). Example items include "*Takes charge - in control of his/her area of responsibility*" (Forceful), "*Participative - includes people in making decisions*" (Enabling), "*Spends time and energy on long-term planning - future-oriented*" (Strategic), and "*Tactical - gets involved in solving day-to-day problems*" (Operational; Kaiser et al., 2010).

Internal consistency reliabilities (Cronbach □) for the LVI scales rated with the Likert format were .84 for forceful, .87 for enabling, .92 for strategic, and .80 for operational. For TLTM ratings, these values were .83 for forceful, .81 for enabling, .88 for strategic, and .64 for operational. Table 1 illustrates that ratings on the TLTM scale were distributed across the too little to too much range. For example, for the forceful dimension, 32% of the leaders were rated as doing too little; 40% the right amount; and 28% too much.

Performance. Subordinates evaluated the job performance of their leaders using a comprehensive taxonomy. Three broad areas were covered: task- (6 items), contextual- (15 items), and adaptive performance (24 items). For contextual performance, we used the 15-item scale of Van Scotter and Motowidlo (1996) which includes interpersonal facilitation (7 items) and job dedication (8 items) subscales. Based on the Renn and Fedor's (2001) framework, items measuring task performance were created comprising quality (3 items) as well as quantity of work (3 items). Finally, a set of items were created for adaptive performance, relying on the eight-dimensional model of adaptive performance by Pulakos, Arad, Donovan, and Plamondon (2000). Specifically, these items were based on

the original descriptions of the eight dimensions (p. 617), covering (a) solving problems creatively; (b) dealing with uncertain or unpredictable work situations; (c) learning new tasks, technologies and procedures; demonstrating (d) interpersonal-, (e) cultural-, and (f) physically-oriented adaptability; and handling (g) work stress, and (h) emergencies or crises situations. The full item set is presented in the Appendix.

Performance items were rated on a 5-point Likert scale ranging from 1 (*not characteristic*) to 5 (*very characteristic*).[1] The internal consistency reliability for the entire performance scale was high (α = .96). Reliabilities for the subscales were also satisfactory (α = .82 for task, α = .89 for contextual, and α = .93 for adaptive performance). For reasons of simplicity, we only report the analyses with the overall performance scale (being computed as the average of the three subdimensions). However, the results obtained for the three performance dimensions separately were substantively similar and are available upon request. All descriptive statistics, correlations, and internal consistencies are reported in Table 2.

Results

Joint Relationships between Likert and TLTM Response Formats (RQ 1)

Item-level analyses. The associations between Likert and TLTM item scores were plotted for each of the 24 leader behavior items (e.g., Likert ratings for item 1 by TLTM ratings for item 1). The pattern was similar across all items, and can be illustrated with a sample item. Figure 2 shows two views of the association between the two response formats for item 6 on the forceful leader behavior scale, "*Direct - tells people when he/she is dissatisfied with their work."*

First, it can be seen from Panel A that assessments of "the right amount" (i.e., a score of 0 on the X-axis) of this behavior can correspond

to each of the five Likert scale options (i.e., scores 1, 2, 3, 4, or 5 on the Y-axis). For this particular item, this indicates that for some subordinates, high levels of leader directness (i.e., 4 or 5 on Likert) are desirable and reflect an ideal score (i.e., the right amount), while others perceive a moderate (i.e., 3 on Likert), or even a low level (i.e., 1 or 2 on Likert) of directness as ideal. Correspondence between all five levels on the Likert scale and "the right amount" on the TLTM scale was observed in 42% of the items (10 out of 24 items). For the other 14 items (58%), "the right amount" was associated with Likert scale levels between 2 and 5.

The results displayed in Panel B of Figure 2 shed further light on this phenomenon by showing the frequency of the different response patterns for item 6. *The right amount,* as rated on the TLTM scale, is more often accompanied by ratings of 3 and especially 4 on the Likert scale, compared to ratings of 5 on this scale. Across all 24 items, the right amount of a leader behavior corresponded to Likert ratings of 1 (0.5%), 2 (4.4%), 3 (21.7%), 4 (48.7%), and 5 (24.7%). This suggests that the "more is better" assumption does not hold in most cases. For item 6 in particular, 24 subordinates endorsed 5 (*totally agree*) to describe their leader on this aspect. However, only 12 also assessed this behavior as *the right amount* (i.e., "0" on the TLTM scale). The other half endorsed scores either *too much* (10 out of 24) or even *too little* (2 out of 24) on the TLTM scale. When applied to the full item set, subordinates rating a leader behavior as "very characteristic" for their leader (5 on the Likert rating scale), also rated this across the TLTM continuum: *the right amount* (67%), *too much* (30%), or *too little* (3%). In other words, the highest score on the Likert scale was "ideal" or "the best" in only two-thirds of the cases.

The data provide evidence for each of the expected item-level misspecifications that may apply to excessive leader behavior. First, high

Likert scale scores do not differentiate between high levels and extreme levels of the behavior. On average, 30% of the subordinates who endorsed 5 on the Likert scale endorsed *too much* on the TLTM scale (e.g., 42% for sample item 6). Second, low Likert scale scores were also associated with excessive scores on the TLTM scale. Specifically, an average of 11% of the subordinates who disagreed on the Likert scale (i.e., chose response options 1 or 2), endorsed *too much* on the TLTM scale (e.g., 3% for sample item 6). Although this applies to a small proportion of the respondents, the finding supports the notion of item-level misestimation due to behavioral descriptions being too weak in content to describe excessive leader behavior.

Variable-level analyses. Differences and similarities between the two rating formats were further examined by inspecting their interrelations at the variable (scale) level. The results in Table 2 indicate moderate to moderately high correlations between corresponding leader behaviors, ranging from $r = .26$ ($p < .01$) for enabling to $r = .56$ ($p < .001$) for forceful behavior. To gain a better understanding of the uniqueness of the TLTM rating scale, correlations between the corresponding leader behaviors were also computed separately for leaders rated on the *too little* side of the TLTM-scale (i.e., scoring 0 or lower) and leaders rated on the *too much* side (i.e., scoring 0 or higher). Results indicated relatively strong and positive correlations between the *too little* side of the TLTM scale and the entire Likert scale (*r*s = .67, .59, .71, and .57 for forceful, enabling, strategic, and operational, respectively; all *p*s < .001), whereas the Likert scale ratings were unrelated to ratings on the *too much* side of the TLTM scale (*r*s = .08, -.12, -.05, and -.08 for forceful, enabling, strategic, and operational, respectively; all *p*s > .05). This suggests that the Likert scale predominantly covers the low end of the TLTM scale (i.e., from “too

little" to "the right amount"), and does not systematically capture variance at the high end of the TLTM scale (i.e., from "the right amount" to "too much").

To formally test the discontinuous nature of this relationship, segmented regression analyses were conducted using the R package "segmented" (Muggeo, 2008). In segmented- (or piecewise) regression, the slope of the regression line changes after a breakpoint (i.e., a particular value of the independent variable), which implies that the regression function $Y = f(X)$ has different parameters in different segments of the independent variable X (here: X = TLTM-rated leader behavior). Hence, segmented regression analysis allows an empirical test of whether and where there is a significant shift in the form of the relationship between Likert and TLTM scales, such that the relationship may be positive and linear up until a certain point on the TLTM scale, after which they become unrelated. Iterative computational algorithms are used to estimate the breakpoint ψ at which parameters of f are most likely to differ (Muggeo, 2008). The algorithm had to be supplied with an initial guess for the breakpoint, which was set on $\psi_0 = 0$ (i.e., "the right amount" on TLTM scales) for the current analyses.

The results in Table 3 indicate that for each of the four leader behaviors the relationship between Likert and TLTM scales can be characterized by a positive-linear segment (i.e., slope 1) followed by a nonsignificant segment (i.e., slope 2). The gain in explained variance (ΔR^2) when comparing the segmented model with the simple linear model is 12% for forceful, 17% for enabling, 19% for strategic, and 15% for operational leader behavior. Breakpoint estimates were ψ = .17 (SE = .18) for forceful, ψ = .01 (SE = .11) for enabling, ψ = .00 (SE = .11) for strategic, and ψ = .06 (SE = .11) for operational leader behavior. The

empirically-derived breakpoints were thus very close, within one standard error, to "the right amount" (i.e., 0) on the TLTM scale. Figure 3 depicts the segmented regressions between the corresponding Likert and TLTM leader behavior scales.

Curvilinearity (RQ 2)

Hierarchical regression analyses were conducted to investigate whether the type of relationship (i.e., linear versus quadratic) between leader behaviors and overall performance depended on the rating scale format. To test for quadratic effects, we first centered the leader behavior scores for both the Likert and the TLTM measures and then computed the squared term for each of the leader behaviors in both rating formats (e.g., forceful-Likert (centered) × forceful-Likert (centered)). A series of eight hierarchical regression analyses (4 leader behaviors × 2 rating formats × 1 outcome variable) were conducted, examining the effect of each leader behavior on performance one at a time. The centered leader behavior (e.g., forceful-Likert) was entered in a first step, followed by the squared term for the leader behavior in a second step (e.g., forceful-Likert-squared). Subordinate-rated overall performance served as the dependent variable in each of the eight regression analyses.

Results are summarized in Table 4 (see Study 1). A consistent pattern was observed for all four leader behaviors. When they were measured using the Likert rating format, the relationships with performance were positive and strictly linear (*b*s = .38, .42, .46, and .37 for forceful, enabling, strategic and operational respectively, *p*s < .001). Conversely, when the behaviors were measured using the TLTM format, significant quadratic relationships were consistently found (for the squared term, $b = -.08$ for forceful ($p < .01$), $b = -.08$ for enabling ($p < .05$), and *b*s

= -.13 and -.21 for strategic and operational, respectively, *p*s < .001). Figure 4 depicts the linear and curvilinear regression lines for the four leader behaviors and how the form of these relationships differs for the two rating formats.

Incremental Validity (RQ 3)

Hierarchical regression analyses were conducted to test the unique contribution of the TLTM rating format above and beyond Likert ratings in the prediction of leader performance. The centered linear and quadratic term for the Likert-rated behavior (e.g., forceful-Likert and forceful-Likert-squared) were entered in Step 1, followed by the linear and squared term for the equivalent TLTM-rated behavior in Step 2 (e.g., forceful-TLTM and forceful-TLTM-squared). By including the quadratic terms for the Likert-rated behaviors in Step 1, we took a conservative approach and controlled for any, even non-significant, curvilinearity captured by the Likert scales. The incremental validity estimates summarized in Table 5 (see Study 1) indicate that, except for ratings of strategic leader behavior (ΔR^2 = .01, p > .05), the TLTM ratings added significantly to the prediction of leader performance beyond Likert ratings – that is, above and beyond both the linear and the squared effects of those Likert ratings (ΔR^2s = .05, .06, and .03 for forceful, enabling, and operational, respectively).

To test *where* this unique explained variance of the TLTM scale is located, the same procedure was repeated separately for leaders rated on the *too little* side of the TLTM-scale (see TLTM ≤ 0 in Table 5) and leaders rated on the *too much* side (see TLTM ≥ 0 in Table 5). The results first show that for leaders rated *too little*, ratings on the TLTM scale do not explain additional variance in leader performance beyond Likert scale ratings. This indicates that no incremental variance was measured by the *too little* portion of the TLTM scale compared to a Likert scale ranging

from “totally disagree” to “totally agree”. However, for leaders rated in the *too much* range, the significant incremental variance of TLTM ratings beyond Likert ratings is 9% for forceful, 8% for enabling, and 6% for operational, respectively. This indicates that the unique predictive value of the TLTM scale for leader performance is exclusively situated on the positive part of the scale, the range tapping into the “overdoing” of leader behaviors.

Taken together, Study 1 suggests that Likert ratings systematically capture variance ranging from “too little” to “the right amount” of leader behavior, but are less systematic, and in some cases confound, behavior in the “too much” range. On the other hand, TLTM ratings provide no additional valid variance in the “too little” range, but do uniquely provide valid variance in the “too much” range. Further, the “too much” range appears to provide the variance needed to detect curvilinear behavior-performance effects.

STUDY 2

Study 1 demonstrated that different rating formats yielded contradicting results in one and the same sample: Likert scales supported the “more is better” assumption, whereas the TLTM response format supported a “TMGT-effect”. As 5-point Likert scales are widely established in research, and can be perceived as the “typical” or “traditional” Likert scale, we found it most appropriate to compare the TLTM response format with a 5-point Likert scale. However, because of this choice there was a difference in scale “coarseness” between the *9-point* TLTM scale and the *5-point* Likert scale: the TLTM scale was more fine-grained and this difference represents an alternative explanation for why only the TLTM ratings detected curvilinear effects. Indeed, prior

research has demonstrated that fine-grained rating scales detect interaction effects better than do coarser scales (Russell & Bobko, 1992), and quadratic regression analyses rely on interaction terms to model curvilinear effects.

To test this alternative explanation, a replication study was conducted to determine whether the observed differences between Likert and TLTM rating formats still exist when controlling for differences in scale coarseness. Specifically, in a second study we compared an expanded, 9-point Likert scale to the same 9-point TLTM scale for measuring leader behavior.

Method

Procedure

Amazon's Mechanical Turk (MTurk) was used to collect data. Two inclusion criteria were used for participation in the study: (1) respondents needed to be employed ("*Are you currently employed?*") and (2) they needed to have a supervisor ("*Do you have a supervisor?*"). Respondents answering "no" to one of these questions were excluded from the study (N = 27). The remaining participants were each paid $0.75 for a 10-minute survey. To check for careless responding we included three filler items. We excluded participants that did not endorse "*Breathes oxygen each day*" (Jones & Paulhus, 2014) to characterize their supervisor (N = 24), and that did not respond correctly to "*Please select the answer option "disagree"*" (in the LVI Likert-format; N = 16), and "*Please select the answer option "too much"*" (in the LVI TLTM-format; N = 13).

The final sample consisted of 244 participants. Similar to the procedure used in Study 1, participants were first asked to rate their

leaders' overall job performance, followed by the questionnaires that deal with the more specific leader behavior dimensions.

Participants

The mean age of this sample of US-citizens was 36.39 years (*SD* = 10.70) and 43.4% were male. Most participants (86.9%) reported to have daily contact or more with their supervisor, and reported being highly familiar with the targets' behavior at work (*M* = 4.39, *SD* = .78; on a 5-point Likert scale). On average, subordinates indicated working together with their respective leaders for 50.02 months (*SD* = 44.25).

Measures

Study 2 was a replication of Study 1, using the same measures. The only difference was expanding the 5-point Likert response scale in Study 1 to a 9-point version to equal the nine levels on the TLTM response scale. For the LVI leader behaviors, internal consistency reliabilities (Cronbach α) ranged between .79 (for operational) and .93 (for enabling) for subordinate ratings made with the 9-point Likert scale and between .73 (for operational) and .88 (for enabling) for ratings made with the TLTM scale. The internal consistency reliability was α = .98 for the overall, 45-item job performance measure.

Results

Curvilinearity (RQ 2)

The same analytical procedure was followed as in Study 1. Results in Table 4 (see Study 2) indicated positive and strictly linear relationships between each of the leader behaviors and performance when the leader behaviors were measured using the 9-point Likert rating format (*b*s = .33, .33, .39, and .38 for forceful, enabling, strategic and operational

respectively, *p*s < .001), while no quadratic effects were observed (for the squared term, *b* = -.01 for forceful, enabling, strategic and operational, *p*s > .05). Conversely, when the TLTM format was used, significant quadratic relationships were consistently found: for the squared term, *b*s = -.11, -.09, -.09, and -.10 for forceful, enabling, strategic and operational respectively (*p*s < .001).

Incremental Validity (RQ 3)

Again, the same analyses were conducted as in Study 1. Results in Table 5 (see Study 2) indicated that each of the TLTM scales added incremental validity (ΔR^2 = .14 for forceful (p < .001), ΔR^2 = .02 for both enabling (p < .01) and operational (p < .05); and ΔR^2 = .01 for strategic (p < .05)) beyond 9-point Likert scale ratings. And once again, the incremental variance of the TLTM scale in predicting leader performance is exclusively located on the *too much* side of the scale (TLTM ≥ 0), tapping into the "overdoing" range of leader behaviors (ΔR^2s = .19, .09, .03, and .07 for forceful, enabling, strategic, and operational, respectively). In other words, our findings suggest that it is the rating scale format, and not the number of response options, that explains why the Likert ratings demonstrate only linear effects while the TLTM ratings reveal curvilinear effects.

Discussion

Growing belief in the idea that more of a desirable trait, ability, or behavior is not necessarily better, such that strengths may become weaknesses, has inspired researchers in the leadership domain and beyond to explore curvilinear or inverted-U-shaped relationships. Although empirical evidence for this perspective is starting to accumulate, progress is hindered by various methodological challenges (Pierce & Aguinis,

2013). The current paper aimed to stimulate this line of research by exploring whether the way in which we typically assess organizationally-relevant behaviors may obscure curvilinear associations with performance, and applied this to the leadership domain. We specifically argued that the predominant method of combining dominance measurement models with Likert-type rating formats may lead to different forms of item-level misestimation, and these may, in turn, affect the form of the association between the behavior that is assessed and an appropriate criterion. The findings of this exploratory research support this claim in the sense that the two investigated rating formats (i.e., Likert and TLTM) yielded contradictory results. Specifically, only the TLTM format identified curvilinear behavior-performance associations, and this seems to be mainly due to raters being able to differentiate between "a lot" and "too much" of specific behaviors.

We first explored the joint relationships between leader behavior ratings on Likert and TLTM scales. Comparing both rating formats at the item level revealed that a substantial proportion of the leader behaviors that were rated as highly descriptive for the leader on the Likert scale were evaluated as "too much" when this option was explicitly presented. Hence, some raters clearly perceive that more is not necessarily better, which is problematic for traditional Likert scale items as they evidently suffer from range restriction and do not account for excessive levels of behavior. The magnitude of this blind spot is further illustrated by the fact that a substantial proportion of the leaders (i.e., between 20 and 36% of Study 1, depending on the behavior) were rated as overdoing at least one of the leader behaviors. A second form of confounding testifies to the problem of range restriction, where in certain cases excessive levels of behavior were associated with low Likert scores. At the variable-level, the presence of

both forms of item-level misspecifications resulted in a bimodal distribution in the positive part of the TLTM scale (i.e., 0 to +4). Specifically, when subordinates rated a leader behavior as "too much", some people gave high Likert ratings, while others gave low Likert ratings. Along the same line, segmented regression analyses further revealed that the two rating formats are positively related up until a point–hovering around *the right amount* on the TLTM scale–after which they become unrelated. Again, this suggests that the unique contribution of the TLTM scale relative to the Likert scale concerns the range where leaders are rated as overdoing the behavior in question.

A second research question related to the TLTM scales' potential to reveal curvilinear effects between leader behaviors and performance. In this regard, we found that proper estimation of leader behaviors as too little, the right amount, or too much indeed facilitated the identification of curvilinear associations with leader performance. This is in line with Grant and Schwartz (2011) who argued that capturing the entire bandwidth of possible values for the independent variable is crucial when testing the TMGT-effect. Compared to the TLTM scale, the Likert scale does not seem to capture the full continuum of leader behavior (i.e., there is a ceiling effect), and therefore, it is much harder to detect curvilinear relationships with this scale. In contrast, by giving raters the option to report overdoing, or "too much", the bandwidth of the underlying behaviors is effectively increased, allowing researchers to detect the TMGT-effect more easily. Consistent with this, both studies revealed differential results when using the different rating formats. When only the results from the Likert ratings are considered, the empirical results lead to the conclusion that more forceful, enabling, strategic, and operational leader behavior is better, since these behaviors were related to leader

performance in a positive and linear manner. When Likert ratings were used, no evidence was found for an inflection point at which higher levels of these behaviors resulted in decreasing performance. Conversely, the results obtained with the TLTM scale support a very different conclusion: Leaders displaying both low and extremely high levels of these behaviors perform lower compared to leaders who display more moderate levels. On the basis of these results, one would conclude that there is an optimal level of these behaviors and they can indeed become counterproductive when taken too far.

A final aim of this study was to investigate whether the TLTM-rated leader behaviors yielded incremental validity in predicting leader performance above and beyond Likert scale ratings. In both studies, TLTM scale ratings explained a significant proportion of the variance in leader performance above and beyond Likert scale ratings. Compared to Study 2, in which all four TLTM-rated leader behaviors provided incremental validity, TLTM-rated strategic behavior did not add significantly to the prediction of leader performance in Study 1. Although the incremental validity estimate for the TLTM ratings of strategic behavior was only significant in the larger sample (which had more statistical power), the estimate was about the same magnitude in both samples. In both studies, the incremental validity for strategic behavior was lower compared to the other three leader behaviors. This was probably due to the lower incidence of “too much” ratings for strategic behavior, since the misspecifications caused by dominance items and Likert scales appear to apply chiefly to scores that tap the more excessive levels of behavior. A second contribution of the incremental analyses was to localize the unique contribution of the TLTM scale. A consistent finding across studies is that it is the scale’s ability to capture excess with

ratings of "too much" behavior that accounts for the unique explained variance in leader performance. Capturing excess, or differentiating between "a lot" of a certain (desirable) behavior, which is essentially a good thing, and "too much", which is not so good, accounted for the incremental validity for TLTM ratings beyond Likert ratings in the prediction of overall performance.

Implications for Theory and Practice

The idea that ineffectiveness is characterized either by deficiency—too little of the prized behavior—or by excess—too much of it, goes back to Aristotle and his *Ethics* (trans. 1999). Nevertheless, management theory, research, and practice have paid relatively little attention to the idea of "overkill" (Kaiser & Kaplan, 2005a; Kaiser & Hogan, 2011; McCall, 2009). As a matter of fact, this notion has somehow been overlooked in the design of commonly used assessment instruments, which are often not truly adequate for detecting excess, but instead only address the range from "too little" to (what is assumed to be) "the right amount". This raises the question: By overlooking overkill, has the past 100 years of research and theory on leader behavior only considered half of the story? As Pierce and Aguinis (2013) argued, a paradigmatic shift is needed from linear to curvilinear models if we want to improve management theory. The TLTM rating format presented here may be one valuable way to advance theory building in management, by facilitating the detection of curvilinear effects between predictors (e.g., behaviors) and criteria (e.g., performance), and revealing the rest of the story.

Similarly, providing a way for raters to indicate whether a certain behavior is used too little, the right amount, or too much has clear and straightforward implications for management practice. In a 360-degree leadership assessment context, for instance, one can directly pinpoint

under- or overdoing of certain leader behaviors, and the feedback following from this assessment can be very straightforward (e.g., “to step up”, “tone down”, or “keep it up with more of the same”). Seligman (2002) proposed that to increase well-being and effectiveness, people should begin by identifying their signature strengths and then seek to develop them. This idea assumes that “the more developed any strength is, the better people are” (Schwartz & Sharpe, 2006, p. 380). However, this perspective fails to recognize that not only the deficiency but also the excess of strengths can hamper performance, and this information can be communicated directly to people when the TLTM rating format is used. Moreover, one of the advantages of the TLTM response format is that it appears to take context into consideration, as it implies a judgement of leader behavior *relative to a particular job, in a particular organization, at a particular point in time* (Kaiser & Kaplan, 2005a; 2005b; Kaiser et al., 2010). In other words, this response scale provides a quasi-control for situational variability, provided that something is “the right amount” in a particular situation.

Limitations

The current work is not free of limitations. First, it needs to be acknowledged that the internal consistency of some of the LVI leader behavior scales did not meet the threshold of .80 (LeBreton, Scherer, & James, 2014). One reason might be that, because the respondents in our study had to rate the items twice (on Likert and on TLTM scales), we reduced the administrative burden for research participants by using only half of the original item-set. This reduction in the number of items might have lowered the internal consistencies. Whereas a lower threshold of .70 could be considered acceptable for a measurement instrument in the early

phases of development, it might be preferable to use the complete item-set to increase the reliabilities of the LVI scales.

Second, although we included screens to detect careless responding in Study 2, we did not in Study 1. Therefore, some of the results of the item-level analyses should be interpreted with care. For instance, we found that a small proportion of the respondents associated low Likert scores with excessive scores on the TLTM scale, and interpreted this as support for item-level misestimations due to behavioral descriptions being too weak to describe excessive leader behavior. However, an alternative explanation might be that these instances reflect careless responding.

Finally, the nature of our central research questions (i.e., comparing the effects of two different rating scales) required a design in which the same respondents rated an identical set of dimensions twice. For this purpose, we asked all raters to first use the Likert format, followed by the TLTM format in the second series of ratings. The decision to present the rating formats in this order was based on the assumption that the evaluative component underlying the TLTM format could have influenced ratings on the Likert scale more heavily than the other way around. However, future research could consider a counterbalanced design to control for potential order effects.

Future Directions

The current studies provide a proof of concept for the viability of a relatively simple adjustment in measurement methodology to facilitate the detection of curvilinear effects and research on the TMGT effect. Of course, much remains to be learned about this innovation in measurement. As the TLTM format is in line with the philosophy behind ideal point models (Thurstone, 1928), it might be interesting to study the convergence

between both methodologies. Specifically, combined Likert/TLTM-rated data allows deriving two ideal point estimates of a latent trait. A first estimate could be derived by applying unfolding IRT methods (GGUM) on the Likert ratings. A second one could be obtained from mapping the Likert points that correspond to the "right amount" on the TLTM scale, for each item that covers the latent trait. Averaging these Likert values would result in an alternative "ideal point estimate", that could be correlated with the GGUM estimate to investigate similarities and/or differences between these approaches.

Moreover, research is needed to identify the scope of applicability and boundary conditions for the TLTM rating format. It remains an open question whether the TLTM rating format works with leader behaviors other than those covered by the versatile leadership model (Kaiser et al., 2010); for instance, can a leader demonstrate "too much" transformational behavior? Furthermore, how well does the TLTM rating format apply to the measurement of variables beyond the leadership context? This too is an open question. We will use two general classes of variables to illustrate some of the considerations.

First are variables that concern the presence and degree of discrepancy from some optimal point. For instance, the TLTM scale may be useful to study the subjective "fit" between a person and his/her work environment, such as person-organization (P-O) fit. Specifically, allowing raters to evaluate aspects of their organization using the TLTM format could facilitate in-depth investigations of P-O fit, capturing both the magnitude and the direction of misfit between an employee's preferences and an organization's resources. Moreover, fit research indicates that objective features of the organization, job, or other aspects of the environment as well as individual differences among persons, as well as

their interaction, jointly determine fit (e.g., Debusscher, Hofmans, & De Fruyt, 2017). In such a context, the TLTM response format could be useful as the rater typically takes all these variables into account when using this scale.

Other types of discrepancy beyond industrial, work, and organizational psychology could also potentially utilize the TLTM scale. For example, in social psychology, TLTM scales might apply to elucidate discrepancies within the person, such as between the "actual" self and the "ideal" self (Higgins, 1987). Moreover, in marketing, this methodology might help to uncover gaps between consumers' expected service and the perceived level of service provided (Parasuraman, Zeithaml, & Berry, 1985). Such an assessment could identify specific guidelines to improve customer satisfaction.

In addition to different forms of discrepancy, a second class of variables that may be measured with the TLTM scale include traditional individual differences like personality constructs. However, this application may depend on the rater source (e.g., self vs observer or informant) and the purpose of the assessment (e.g., developmental, high stakes, clinical). Observer ratings using the TLTM format may be more valid and reliable due its implicitly evaluative nature and the well-known general tendency for self-assessments to be more susceptible to self-enhancement bias (Krueger, 1998). However, this is an empirical question and identifying whether and why personality measurements using this framework may function differently for self-raters versus observers may in itself be useful and informative.

In terms of different applications, TLTM assessments of personality could measure the appropriateness of certain personality traits *for one specific job in one specific organization* (e.g., in a development center).

Sales jobs, for instance, have been shown to require elevated scores on extraversion, but also that beyond a certain point more is not necessarily better (Grant, 2013). And in a clinical setting, TLTM ratings of counterproductive tendencies could allow clinicians to directly indicate the level and direction of inappropriate (personality) tendencies in their clients. As such, TLTM assessments could aid in both diagnosing pathological tendencies as well as indicating the types of behavioral adjustments needed (i.e., what to do more, less, or the same).

Although we see a lot of potential in this innovative rating format, there might be boundary conditions to its use based on the nature of the construct being measured. For instance, strongly positively or negatively loaded constructs, such as "positive affect" and "Machiavellianism" respectively, may be more difficult *to assess* using TLTM scales due to its transparency. This does not mean that someone cannot have too much positive affect, for instance in relation to proactive behaviors (Lam, Spreitzer, & Fritz, 2014), or cannot have too little Machiavellian tendencies, for instance in relation to job performance (Zettler & Solga, 2013). In such cases, however, a traditional "indirect" approach of testing curvilinear effects, by using Likert rating scales, may probably be preferable.

Finally, much remains to be learned about the processes involved in making TLTM ratings. A key question here involves the frame-of-reference that people use when rating behaviors. The "right amount" and, hence, deviations from this ideal point might reflect both personal standards as well as environmental conditions, and the relative importance of these factors is still unknown.

Practical Guide for Scale Development

If the TLTM scale is considered appropriate to assess a construct, a relevant theme regards the specific item development. Unlike the item generation process for ideal point modelling, for which one needs to write positive, intermediate, and negative items (capturing high, intermediate, and low trait levels respectively), items for TLTM-rated constructs need to be *solely descriptive* and *positive*. "Solely descriptive" refers to the content of the item; items cannot contain evaluative elements, and "positive" refers to the direction of the statement being an indicator of the higher range of the trait dimension. Negative items–or items that must be reverse scored–will not work; they must be reformulated in a positive direction.

Consider for example the following informant NEO FFI items assessing Conscientiousness (Costa & McCrae, 1992): "*Tries to* perform tasks assigned to him/her conscientiously" and "*Is pretty good* about pacing his or herself so as to get things done on time". To make these items appropriate for TLTM ratings, evaluative elements such as "tries to" and "pretty good" must be removed as the evaluation already lies in the TLTM scale anchors. This would result in the following items: "*Performs tasks assigned to him/her conscientiously*" and "*Paces his or herself so as to get things done on time*". Items such as, "Is *not* a *very* methodical person", should be reformulated into "*Is a methodical person*". In sum, the TLTM scale combines unambiguous, positive dominance *items*, with an ideal point *rating format*. With regard to item scoring, items should not be reverse scored, as they are all in the same "positive" direction. To obtain the trait score, the mean score of the item response scores can be computed.

Conclusion

The current studies showed how response format makes an empirical difference, and that the TLTM rating scale was a superior measurement method for revealing curvilinear (inverted U-shaped) predictor-criterion relationships. In a time where the investigation of curvilinear relationships has become increasingly important and prevalent, we hope that the current work may help to overcome some of the methodological obstacles that have hindered research on TMGT effects in organizations and beyond.

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Footnotes

[1] A central objective of this study is to investigate the effect of different rating formats for assessing leader behavior (i.e., Likert and TLTM) on the form of the behavior-performance relationship. Therefore, we found it most appropriate to compare both behavior rating formats against the typical 5-point Likert rating that has been adopted in previous research on curvilinear associations between leader behavior and performance (e.g., Ames & Flynn, 2007; Stouten et al., 2013)

Tables

Table 1

Frequencies (%) of leader behavior categories in Study 1 (N = 177)

	Too little	The right amount	Too much
Forceful	32	40	28
Enabling	22	42	36
Strategic	35	45	20
Operational	46	18	36

Note. Leaders were categorized as "the right amount" when the LVI scores were within plus/minus three Standard Errors of Measurement around 0, because scores within this range are statistically indistinguishable from "0" at $p < .001$ (Ghiselli, Campbell, & Zedeck, 1981); LVI scores exceeding this range = "too much"; below this range = "too little".

Table 2

Descriptive statistics and variable intercorrelations in Study 1 (N = 177)

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Forceful Likert	3.63	.72	**.84**											
2. Enabling Likert	3.80	.69	.35†	**.87**										
3. Strategic Likert	3.68	.83	.65†	.64†	**.92**									
4. Operational Likert	3.57	.69	.45†	.42†	.52†	**.80**								
5. Forceful TLTM	-.04	.87	.56†	-.10	.27†	.02	**.83**							
6. Enabling TLTM	.19	.75	-.20**	.26**	-.05	-.16*	.00	**.81**						
7. Strategic TLTM	-.08	.80	.29†	.26†	.49†	-.01	.50†	.42†	**.88**					
8. Operational TLTM	-.04	.66	-.07	-.06	.02	.39†	.13	.22**	.24**	**.64**				
9. Overall job performance	3.90	.52	.52†	.59†	.72†	.43†	.13	-.04	.35†	.01	**.96**			
10. Task performance	4.04	.66	.42†	.36†	.58†	.48†	.07	-.14	.26**	.19*	.75†	**.82**		
11. Contextual performance	3.92	.57	.49†	.58†	.66†	.45†	.10	-.12	.24**	.05	.93†	.67†	**.89**	
12. Adaptive performance	3.86	.54	.50†	.58†	.69†	.34†	.15*	.05	.39†	-.07	.96†	.62†	.83†	**.93**

Note. Bold values on the diagonal show the internal consistency of the relevant variable; $^{\dagger}p < .001$, $^{**}p < .01$, $^{*}p < .05$

Table 3

Summary of segmented regression analyses examining the piecewise nature of the relationship between corresponding Likert and TLTM leader behavior scales (Study 1: N = 177)

		b	*SE(b)*	*t*	R^2	ΔR^2
Forceful	Linear				.31***	
	intercept	0.00	.05	0.06		
	slope	0.46***	.05	8.89		
	Segmented				.43***	.12***
	intercept	3.82	.06	65.93		
	slope 1	0.79***	.08	10.10		
	slope 2	0.02	.12	0.17		
Enabling	Linear				.07**	
	intercept	-.00	.05	-0.02		
	slope	0.24**	.07	3.54		
	Segmented				.24***	.17***
	intercept	4.00	.08	52.52		
	slope 1	1.07***	.16	6.81		
	slope 2	-0.10	.10	-0.92		
Strategic	Linear					
	intercept	0.00	.05	0.10	.24***	
	slope	0.51***	.07	7.45		
	Segmented				.43***	.19***
	intercept	4.01	.10	40.32		
	slope 1	1.09***	.12	9.14		
	slope 2	-0.05	.10	-0.50		
Operational	Linear				.15***	
	intercept	-0.00	.05	-0.02		
	slope	0.40***	.07	5.51		
	Segmented				.30***	.15***
	intercept	3.83	.08	49.55		
	slope 1	1.03***	.14	7.41		
	slope 2	-0.15	.13	-1.12		

Note. TLTM (too little/too much) scales as independent variables; Likert scales as dependent variables; $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

Table 4

Summary of hierarchical regression analyses examining the linear and quadratic relationships between Likert and TLTM ratings of leader behavior and performance

			Job performance											
			Study 1						Study 2					
			Likert			TLTM			Likert			TLTM		
			b	*SE(b)*	*β*	*b*	*SE(b)*	*β*	*b*	*SE(b)*	*β*	*b*	*SE(b)*	*β*
Forceful	Model 1:	intercept	3.94	.03		3.93	.04		3.78	.04		3.78	.05	
		forceful	0.38***	.05	.52***	0.07	.05	.12	0.33***	.03	.57***	-0.04	.05	-.06
	Model 2:	intercept	3.93	.04		4.00	.04		3.79	.05		3.90	.06	
		forceful	0.39***	.05	.53***	0.07	.04	.11	0.32***	.04	.56***	0.02	.05	.03
		forceful^{2}	0.02	.05	.02	-0.08**	.02	-.25**	-0.01	.01	-.03	-0.11***	.02	-.31***
Enabling	Model 1:	intercept	3.94	.03		3.94	.04		3.78	.04		3.78	.05	
		enabling	0.42***	.05	.56***	-0.06	.05	-.09	0.33***	.02	.75***	0.33***	.04	.46***
	Model 2:	intercept	3.95	.04		3.98	.04		3.80	.04		3.89	.05	
		enabling	0.42***	.05	.55***	-0.01	.06	-.01	0.32***	.02	.73***	0.27***	.04	.39***
		enabling ^{2}	-0.03	.06	-.03	-0.08*	.03	-.18*	-0.01	.01	-.05	-0.09***	.02	-.31***
Strategic	Model 1:	intercept	3.94	.03		3.94	.04		3.78	.03		3.78	.05	
		strategic	0.46***	.03	.71***	0.22***	.05	.33***	0.39***	.02	.80***	0.37***	.05	.47***
	Model 2:	intercept	3.97	.03		4.02	.04		3.80	.04		3.88	.05	
		strategic	0.44***	.04	.69***	0.25***	.04	.37***	0.38***	.02	.78***	0.32***	.04	.40***
		strategic ^{2}	-0.04	.03	-.08	-0.13***	.02	-.35***	-0.01	.01	-.05	-0.09***	.02	-.31***
Operational	Model 1:	intercept	3.94	.04		3.94	.04		3.78	.04		3.78	.05	
		operational	0.37***	.05	.48***	0.06	.06	.07	0.38***	.03	.62***	0.20**	.06	.21**
	Model 2:	intercept	3.91	.05		4.03	.04		3.80	.05		3.86	.05	
		operational	0.37***	.05	.48***	0.16*	.06	.20*	0.37***	.03	.60***	0.17**	.06	.18**
		operational ^{2}	0.07	.06	.07	-0.21***	.05	-.34***	-0.01	.01	-.05	-0.10***	.02	-.28***

Note. N =177 in Study 1 and N = 244 in Study 2; $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

Table 5

Incremental validities obtained from hierarchical regression models including the Likert leader behavior scales (Step 1) and the TLTM scales (Step 2) when predicting overall job performance

	Study 1		Study 2	
	Step 1: Likert scale R^2	Step 2: TLTM scale ΔR^2	Step 1: Likert scale R^2	Step 2: TLTM scale ΔR^2
Forceful	.27***	.05**	.33***	.14***
TLTM ≤ 0	.32***	.00	.61***	.01
TLTM ≥ 0	.24***	.09**	.28***	.19***
Enabling	.31***	.06**	.57***	.02**
TLTM ≤ 0	.28***	.00	.67***	.01
TLTM ≥ 0	.38***	.08***	.36***	.09***
Strategic	.52***	.01	.64***	.01*
TLTM ≤ 0	.55***	.00	.69***	.00
TLTM ≥ 0	.42***	.03	.45***	.03*
Operational	.23***	.03*	.39***	.02*
TLTM ≤ 0	.28***	.01	.47***	.01
TLTM ≥ 0	.23***	.06*	.33***	.07*

Note. Both the linear and the quadratic terms for the leader behavior ratings were entered for the Likert scales in Step 1, and then for the TLTM scales in Step 2; N =177 in Study 1 and N = 244 in Study 2; $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$

Figures

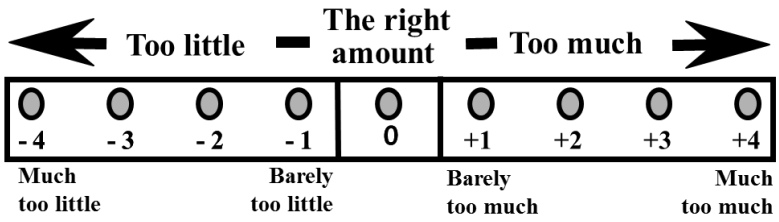

Figure 1. The *too little/too much* (TLTM) rating scale. Reproduced from R. B. Kaiser, D. V. Overfield, and R. E. Kaplan, Authors, 2010, *Leadership Versatility Index® version 3.0: Facilitator's Guide*, Greensboro, NC: Kaplan DeVries Inc. Copyright 2010 by Kaplan DeVries Inc. Used with permission from the publisher.

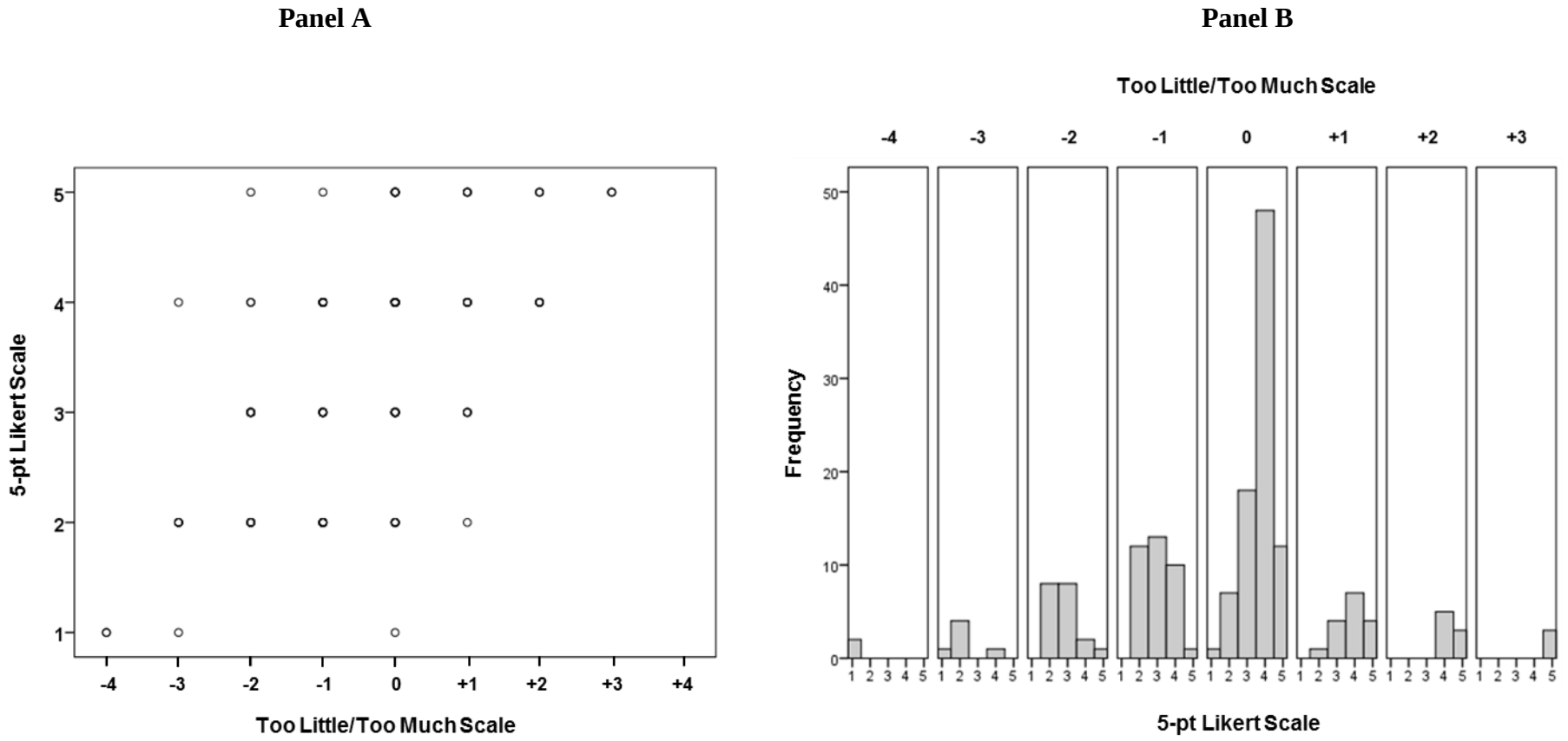

Figure 2. Item-level relationships between Likert and too little/too much (TLTM) ratings (Panel A) and their frequencies (Panel B) for a sample item in Study 1 (item 6: "*Direct – tells people when he/she is dissatisfied with their work"*).

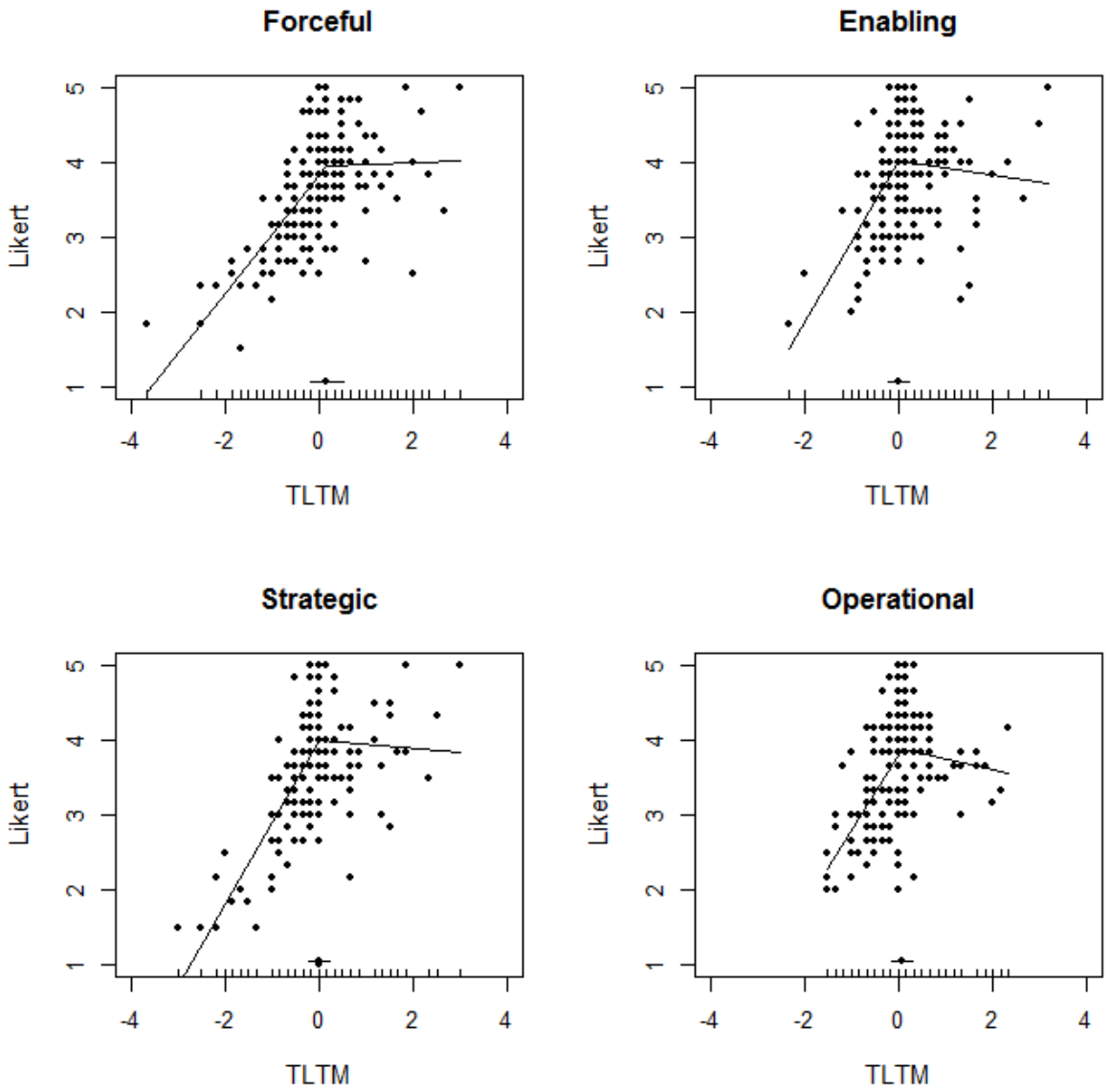

Figure 3. Segmented regressions between Likert and too little/too much (TLTM) scales. Breakpoint estimates on the TLTM scales are ψ = .17, .01, .00, and .06 for forceful, enabling, strategic and operational, respectively. Horizontal lines indicate 95% confidence intervals of the breakpoints (Study 1).

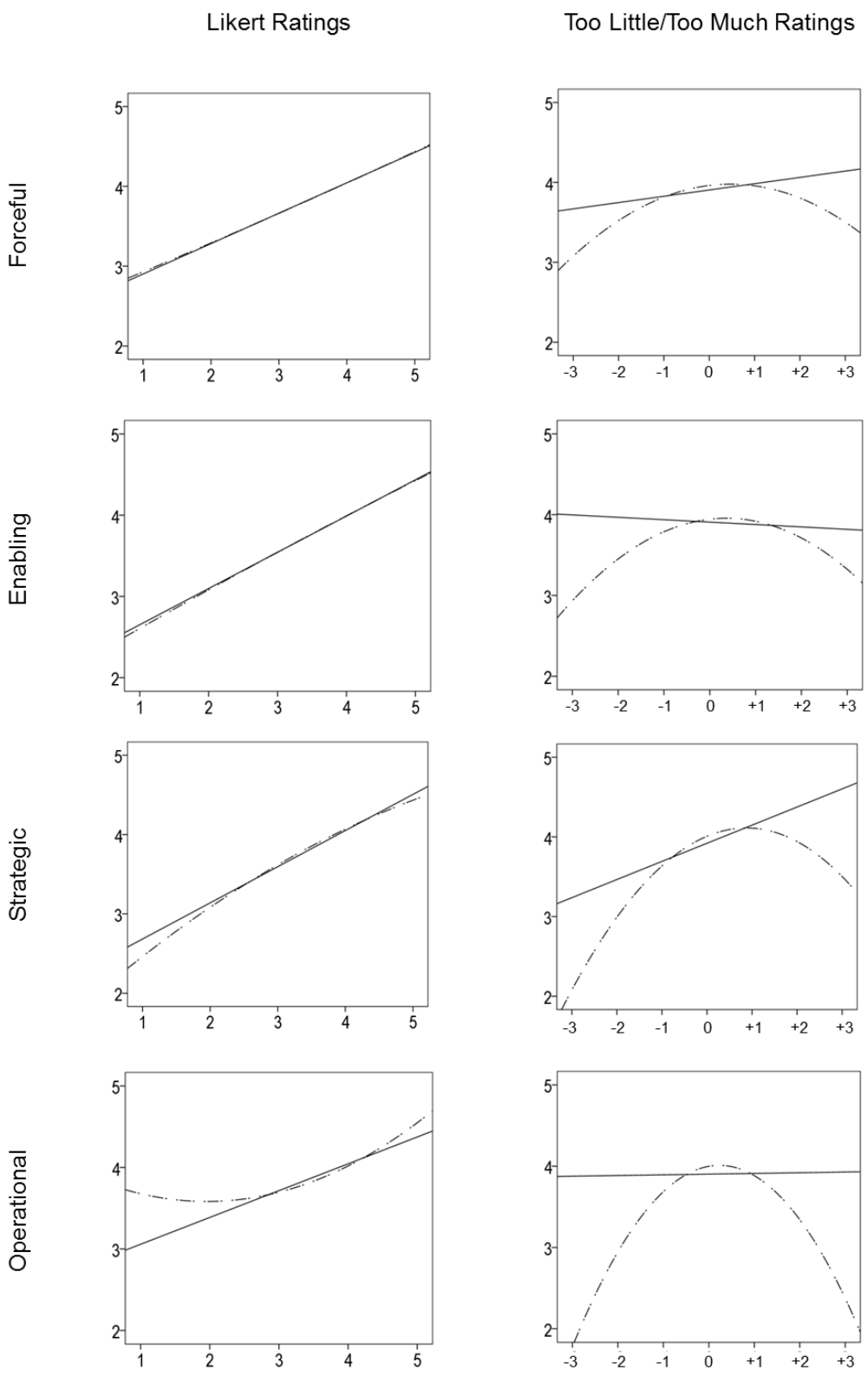

Figure 4. Linear (solid line) and quadratic (dotted line) relationships between Likert ratings and too little/too much (TLTM) ratings of leader behaviors (x-axis) and overall performance (y-axis) (Study 1).

Appendix

Performance Questionnaire: Full item set

Task performance

1. Constantly performs a large amount of work
2. Deals adequately with unexpected increases in workload
3. Increases work pace when necessary to meet a deadline
4. Performs duties thoroughly and to perfection
5. Sets high quality standards for work performance
6. Delivers work with a minimal number of errors and instances of carelessness

Contextual performance

7. Praises coworkers when they are successful
8. Supports or encourages a coworker with a personal problem
9. Talks to others before taking actions that might affect them
10. Says things to make people feel good about themselves or the work group
11. Encourages others to overcome their differences and get along
12. Treats others fairly
13. Helps someone without being asked
14. Puts in extra hours to get work done on time
15. Pays close attention to important details
16. Works harder than necessary
17. Asks for a challenging work assignment
18. Exercises personal discipline and self-control
19. Takes the initiative to solve a work problem
20. Persists in overcoming obstacles to complete a task
21. Tackles a difficult work assignment enthusiastically

Adaptive performance

22. Develops creative solutions to problems at work
23. Approaches a complex problem from different angles
24. Develops innovative methods when a known solution is inadequate
25. Deals with unpredictable and unexpected work situations appropriately
26. Takes effective action when necessary without having to know the total picture or have all the facts at hand
27. Effectively adjusts plans, actions, or priorities to deal with changing situations
28. Does what is necessary to keep knowledge and skills up-to-date
29. Anticipates changing work demands by seeking further training
30. Takes action to improve personal work performance deficiencies (e.g., training/education)
31. Responds adequately to the uniqueness of each individual
32. Is open to others' viewpoints and opinions
33. Develops effective work relationships with highly diverse personalities
34. Assimilates the values, customs, and culture of the organization well
35. Willingly adjusts behavior or appearance as necessary to comply with the prevailing values, norms, and customs within an organization or group
36. Takes action to build positive relationships with other groups, organizations, or cultures
37. Adjusts easily to challenging environmental conditions such as extreme heat, cold, humidity, dampness, or dirtiness
38. Undeterred by physically challenging activities
39. Frequently pushes him- or herself physically to complete strenuous or demanding tasks
40. Deals with difficult circumstances or a highly demanding workload or schedule adequately
41. Responds to unexpected news appropriately

42. Manages frustrations due to failure or a disappointing result appropriately
43. Maintains emotional control in crisis situations
44. Reacts with appropriate and proper urgency to life threatening, dangerous, or emergency situations
45. Analyzes options for dealing with danger or crises quickly

Chapter 5

General discussion

This final chapter integrates and discusses the major findings resulting from the different studies, expanding our knowledge on charisma, and highlighting the significance of rating scale effects in leadership assessment and beyond. In addition, we outline several theoretical and practical implications. At the end of this chapter, some limitations are discussed, as well as several promising directions for future research. Finally, we close with the main conclusion that stems from this doctoral dissertation.

Research Overview

The current dissertation is situated in the broad literature on two key areas of Organizational Behavior: Personality and Leadership. Three overarching research objectives reoccurred throughout the different chapters, although they were not equally addressed in each of the studies. First, we wanted to breathe new life into trait theory of leadership, by introducing and validating *trait-based measures of charisma* that can be assessed independently from the observer's perspective. Therefore, the FFM (Five-Factor Model) charisma compound was introduced in Chapter 2 and the HDS (Hogan Development Survey) charismatic cluster was introduced in Chapter 3. Moreover, the relationship between charismatic personality (both FFM charisma and HDS charisma) and leadership was examined, the latter covering a diverse set of criteria, including overall leadership effectiveness (Chapter 3), adaptive performance, and upward mobility indicators such as income, managerial level, and number of subordinates (Chapter 2). Special attention was given to the investigation of *curvilinear effects*, both between charismatic personality and leader effectiveness (Chapter 3), as well as between specific leader behaviors (i.e., forceful, enabling, strategic, operational) and leader performance (Chapter 4). Finally, this dissertation also made a *methodological contribution* to the assessment of personality and leadership. Related to our second objective –to investigate curvilinear effects–, Chapter 4 introduced the too little/too much (TLTM) scale as an innovation in rating scale methodology that may facilitate research on the too-much-of-a-good-thing effect (Pierce & Aguinis, 2013). Moreover, the development of the FFM charisma compound, as described in Chapter 2, can be considered as a promising way to operationalize organizationally relevant profiles from a trait-perspective. Below, we take a closer look at how these objectives

were realized and discuss the major findings from an overarching perspective.

Trait-Perspectives on Charisma

Although it may seem obvious that charisma represents a personal characteristic that someone can have to a bigger or lesser extent, and therefore, must have something to do with that person's personality, traditional models of charismatic leadership don't follow this reasoning (e.g., Bass's model, 1985; Conger and Kanungo's model, 1987). In contrast, they state that charisma is *attributed to* someone, and thus only exists "in the eye of the beholder".

But if people tend to agree in their perceptions of others' charisma levels, shouldn't there be a personality-based foundation underlying these perceptions of charisma? In line with these thoughts, the trait theory of leadership assumes that leadership depends on specific characteristics –or *traits*– of the leader (Kirkpatrick & Locke, 1991). However, despite several attempts to identify the dispositional building blocks of charismatic leadership (e.g., Bono & Judge, 2004), charisma was still very much a "black box". A first goal of this dissertation was to pin down the dispositional basis of charisma, which would result in concrete measures of *charismatic personality*. Together, Chapter 2 and 3 provided support for a trait-perspective on charisma, by showing that charisma is indeed substantially grounded in one's personality, and that it can be assessed independently from the observer's perspective.

Contemporary definitions of charisma specifically refer to *a constellation of personal characteristics* that allow an individual to influence other people by affecting their feelings, opinions, and behaviors (Riggio, 2009). Convinced by the idea that charisma is indeed a complex,

multifaceted construct, both of the proposed operationalizations of charismatic personality represent compound constructs. As Big Five domains showed only modest associations with charisma (e.g., Bono & Judge, 2004), we sought to extend the FFM understanding of charismatic leadership by focusing on facet-level information in Chapter 2, and by focusing on traits outside of the scope of the FFM in Chapter 3. Introducing compound constructs holds the advantage of representing meaningful configurations of traits, which are most relevant for understanding and predicting work-related and career outcomes (Shoss & Witt, 2013).

Chapter 2 introduced the FFM charisma compound as a first operationalization of charismatic personality. Through an expert consensus approach, twelve personality traits were selected as being prototypical for the charismatic leader, with these traits *forming* the charisma compound. The experts described the prototypical charismatic leader to be low on Neuroticism facets, indicating that they are in general relaxed, unconcerned, cool (N1); optimistic (N3); self-assured, glib, shameless (N4); clear-thinking, fearless, and unflappable (N6). Further, he or she scores typically high on Extraversion, meaning that they tend to be cordial, affectionate, attached (E1); sociable, outgoing (E2); dominant, forceful (E3); vigorous, energetic, active (E4); happy, cheerful, and joyous (E6). The charismatic leader is also perceived to score high on two Openness facets, indicating that they tend to be unconventional, eccentric (O4); permissive, and broad-minded (O6). Finally, the highly charismatic leader is characterized as an ambitious, achievement striving person (C4), while none of the Agreeableness facets came out as a relevant personality descriptor.

Chapter 3 introduced a second operationalization of charismatic personality through the HDS charismatic cluster. The four personality tendencies constituting this charismatic cluster—i.e., Bold, Mischievous, Colorful, and Imaginative—were selected based on their conceptual overlap with the construct of charisma and have previously been referred to as the "charismatic cluster" (Kaiser & Hogan, 2007; Kaiser, LeBreton, & Hogan, 2015; VanBroekhoven, 2011). Most charismatic leaders score high on these traits, which is reflected in their high self-confidence (Bold), their tendency to be expressive, energetic, and optimistic about the future, (Colorful), their tendency to explore the unknown, persuading themselves and others to keep on pushing the limits (Mischievous), and their expansive visionary thinking (Imaginative).

Consistent with earlier research on charismatic leadership (Bono & Judge, 2004; De Vries, 2008), the importance of the Extraversion domain in both operationalizations of charismatic personality is striking. Although both measures have not been investigated simultaneously, we did provide incremental validity evidence for HDS charisma, which accounted for an additional proportion of the variance in charismatic leadership beyond the Big Five domains.

The distinction between *formative* and *reflective* constructs (MacKenzie, Podsakoff, & Jarvis, 2005) was decisive for the specific validation process of the proposed measures of charismatic personality. Particularly, if the indicators represent defining characteristics that collectively explain the meaning of the construct, a formative indicator measurement model applies. If, however, the indicators are manifestations of the construct in the sense that they are each determined by it, a reflective indicator model is appropriate. As both FFM charisma as well as HDS charisma are compound constructs *formed* by components that are

conceptually distinct, that are likely to have different antecedents and/or consequences, and that are not interchangeable, charismatic personality was conceptualized as a *formative construct* throughout this dissertation.

Specifying charismatic personality as a formative construct had important implications for the validation process of the compound measures. For instance, whereas factor analysis is frequently used to test the factorial validity of reflective constructs, it is not really useful for formative constructs. The reason is that factor analysis focuses on shared variation between the indicators, and in formative constructs this assumption of shared variation is violated. Because of this reason, testing a common latent construct CFA model of charismatic personality makes no sense, as the indicators (i.e., the NEO facets, or the HDS dimensions) do not necessarily share common variance. Instead, each of the indicators captures a unique aspect of the conceptual domain. Rather than using factor-analysis, evidence regarding the construct validity of formative constructs should be based on nomological or criterion-related validity (MacKenzie et al., 2005), such as correlations with recognized measures of the same construct (e.g., Conger-Kanungo Scale of charismatic leadership), or correlations with valid criteria (e.g., career outcomes, leadership effectiveness). This is exactly what we did in Chapter 2 and 3.

With regard to the nomological validity, we showed that both FFM charisma as well as HDS charisma related significantly to charismatic leadership, as perceived by subordinates. So the ones who scored high on charismatic personality, were also *perceived* to be highly charismatic in their leadership style. For HDS charisma in specific (Chapter 3), we also provided evidence that charismatic personality tendencies could be predicted by (observer-rated) charismatic behaviors (e.g., being energetic, assertive, and generating enthusiasm) measured nine years earlier.

Next to nomological validity, evidence regarding the construct validity of charismatic personality should be based on criterion-related validity, which brings us to the next research objective in which we discuss the relationship between charismatic personality and leadership.

Linear versus Curvilinear

As we saw throughout this dissertation, the relationship between leader characteristics –both personality traits and leader behaviors– and leadership is a complex one, and the specific form of the relationship (i.e., linear or curvilinear) can strongly depend on the rater source (i.e., self-reports versus observer ratings), the criterion (e.g., upward mobility or leadership effectiveness), and the specific way in which constructs are measured (e.g., Likert scales or TLTM scales). In what follows, we elaborate on these boundary conditions.

Relationship between Charismatic Personality and Leadership

The relationship between charismatic personality and leadership was addressed in both Chapter 2 and Chapter 3. In contrast to Chapter 2, in which we found *positive and linear* relationships between charismatic personality and upward mobility indicators and leadership roles, we found a *curvilinear* (inverted U-shaped) relationship between charismatic personality and leader effectiveness in Chapter 3. Note that we tested for quadratic relationships on the data of Chapter 2 on exploratory grounds, but there were no indications of curvilinearity. Combined, what do these results mean? And are they compatible?

The results of Chapter 2 show that higher charismatic tendencies are associated with higher income levels, more subordinates, and higher managerial positions 15 years later. Moreover, highly charismatic individuals are more inclined to hold leadership roles (Director, Guide),

and charismatic leadership roles (Inspirator, Presenter) in their future careers, and score higher on adaptive performance. The results of Chapter 3, on the other hand, show that as charisma increased, so did perceived effectiveness, but only up to a certain point. As charisma scores continued to increase, perceived effectiveness started to decline. This trend was found in two independent studies, and was consistent across the three observer groups (i.e., subordinates, peers, and supervisors). Combined, more charisma seems to boost career success, while its seems to hurt leaders' effectiveness from a certain point onwards.

Bluntly, finding positive linear effects of charismatic personality in one chapter and curvilinear effects in the other seems to be inconsistent. However, although Chapter 2 and 3 are clearly connected, there are at least three differences worth discussing here, as they could explain these divergent research findings. A first potential explanation is that two new and different conceptualizations were used to measure charismatic personality: the FFM charisma compound and HDS charisma. Although both chapters provide evidence for their construct validity, they still are *different* operationalizations of charismatic personality, that were established in different ways. While FFM charisma was developed by an expert consensus approach, HDS charisma was chosen based on conceptual grounds. It is, for instance, possible that the generally adaptive content of the NEO PI-R makes that more FFM charisma is indeed better. Besides this adaptive content, the HDS also taps into potential weaknesses or "dark sides" associated with each of the defining personality characteristics (Kaiser & Hogan, 2007), which could drive curvilinearity at high levels of HDS charismatic personality. However, we have reasons to believe otherwise. In Chapter 2, several experts explicitly noted that they kept in mind the potential "dark side" of charisma (Conger, 1990),

including narcissistic, exploitative, and non-egalitarian tendencies (Judge, Piccolo, & Kosalka, 2009) when rating the prototypical profile for a charismatic leader. As none of the Agreeableness facets came out as a relevant personality-related descriptor, we expect the overlap between both measures of charismatic personality to be substantial. Moreover, "dark" side measures have also been developed using the NEO PI-R facets, namely the FFM aberrant compounds (e.g., Wille, De Fruyt, & De Clercq, 2013) that each represent subclinical versions of the DSM personality disorders. At the same time, HDS traits essentially capture positive features ("*too much will get you fired, but too little will get you ignored"*, Hogan, 2016), resulting in inverted U-shaped associations with performance criteria (e.g., Grijalva, Harms, Newman, Gaddis, & Fraley, 2015)—very much like general trait dimensions, such as Conscientiousness (Le et al., 2011), Extraversion (Grant, 2013), and Neuroticism (Debusscher, Hofmans, & De Fruyt, 2014). In this regard, recent developments in personality psychology indicate that both "bright" and "dark" personality traits can be subsumed under a unifying FFM framework (De Fruyt et al., 2013; Gore & Widiger, 2013; Thomas et al., 2012).

Further, we have other reasons to believe that the different measurement of charismatic personality did not drive these divergent conclusions. The linear effects in Chapter 2 were, for instance, found with longitudinal though *self-reported* criteria. In that sense, the results of Chapter 3 using self-reports were actually similar, as we also found positive and linear effects of charismatic personality on leader effectiveness when effectiveness was self-rated. The only exception here is adaptive performance, which was observer-rated in a small sample of leaders, but was linearly related to charismatic personality in Chapter 2.

Finally, a third explanation is that the chapters focused on different types of outcomes. In this regard, the distinction between leadership emergence and leadership effectiveness is highly relevant. One could state that except for the performance criterion, the career success indicators used in Chapter 2 all reflect or relate to leadership *emergence*. Although leadership emergence –or whether one emerges as a leader or not– was not directly measured, one can expect that the employees who climb the career ladder (cf. higher income, more subordinates, higher managerial positions) and who hold (charismatic) leadership roles, are also the ones that will actually emerge as leaders. On the other hand, Chapter 3 focused on leadership *effectiveness* –or how effective the leader is perceived to be.

Interestingly, regarding this distinction, research on subclinical narcissism has shown that the construct is positively related to leadership emergence, whereas it is curvilinearly (inverted U-shaped) related to leadership effectiveness (Grijalva et al., 2015). Although subclinical narcissism and charisma are not identical, the leadership literature has demonstrated an extensive overlap between charismatic leadership and narcissistic tendencies (e.g., Deluga, 1997; Galvin, Waldman, & Balthazard, 2010; Howell, 1988; Sankowsky, 1995), and the specific operationalization of subclinical narcissism in Grijalva et al. (2015), i.e., the Bold scale, contributes to the HDS charismatic cluster we used to measure charismatic personality.

Similar to Grijalva et al. (2015), our research suggests that climbing towards higher managerial positions, and holding (charismatic) leadership roles, such as the Director and the Inspirator (cf. leader emergence) is not the same as leadership effectiveness, or how good one *performs* as a leader. In this regard, implicit leadership theory suggests that we choose our leaders based on how well people's characteristics match our

conception of the prototypical leader (Lord, Foti, & DeVader, 1984; Shondrick, Dinh, & Lord, 2010). Consistent with this, many of the charismatic personality tendencies are "leaderlike," such as being socially dominant, extraverted, and having high self-esteem, which makes it more likely to hold leadership roles (cf. positive *linear* relations in Chapter 2). However, as Chapter 3 demonstrates, that does not necessarily make them more effective leaders. In line with the TMGT principle (Pierce & Aguinis, 2013), leaders with moderate levels of charismatic personality were found to be the most effective ones (cf. *curvilinear* relations in Chapter 3).

In sum, although Chapter 2 and 3 are clearly connected, there are reasons to *expect* the research conclusions to diverge, among which the different type of leadership criteria is probably the most important one (cf. Grijalva et al., 2015).

Relationship between Leader Behavior and Performance

In Chapter 3, leader behaviors (i.e., forceful, enabling, strategic, operational) were theorized as mediating mechanisms in the relationship between charismatic personality and leader effectiveness. To test this idea, we investigated the relationships between charismatic personality and each of the leader behaviors (i.e., the *a*-paths), and the relationships between the leader behaviors and leader effectiveness (i.e., the *b*-paths). With respect to the *a*-paths, we found charismatic personality to be positively associated with strategic leadership and negatively with operational leadership, indicating that high charisma levels are associated with higher strategic behaviors (but not too much) and a lack of operational behaviors (i.e., too little). Regarding the *b*-paths, we found curvilinear relationships between strategic and operational leader behavior on the one hand and leader effectiveness on the other hand. The specific form of these relationships

(i.e., positive flattening curves) suggested that higher levels of strategic and operational behavior positively relate to perceived effectiveness but only up to a point that there is no additional benefit of more strategic and operational behaviors.

Although Kaiser and Kaplan (2009) have theorized and empirically demonstrated that a deficiency as well as an excess of these behaviors could indeed have detrimental effects –much in line with the TMGT principle–, we were fascinated by the specific way in which the leader behaviors were measured, namely by means of the too little/too much (TLTM) response format (Kaiser, Overfield, & Kaplan, 2010). In this regard, we wondered whether nonlinear relationships would have been identified in case leader behaviors were measured with a traditional Likert scale.

Corroborating Chapter 3, Chapter 4 investigated the relationship between leader behaviors and leader performance by means of two different response formats: traditional Likert scales and TLTM scales. Interestingly, only positive and *linear* relationships were found when leader behaviors were measured using Likert scales, whereas *curvilinear* (inverted U-shaped) relationships were found with performance when the behaviors were measured using TLTM scales. As a result, divergent research conclusions were obtained when using these different rating formats. When only the results from the Likert ratings are considered, the empirical results lead to the conclusion that more forceful, enabling, strategic, and operational leader behavior is better. Conversely, the results obtained with the TLTM scale support a very different conclusion: Leaders displaying both low and extremely high levels of these behaviors perform worse compared to leaders who display more moderate levels.

With regard to the relationship between leader behaviors and performance, Chapter 4 showed that the functional form of this relationship depends on the rating format used for measuring leader behavior. Having concrete conceptual reasons to expect a TMGT-effect for these leader behaviors (e.g., Gentry & Chappelow, 2009; Hogan, Hogan, & Kaiser, 2010; Kaiser et al., 2015; McCall & Hollenbeck, 2002; McCall & Lombardo, 1983), we concluded that the TLTM rating format facilitated the detection of curvilinear effects. This brings us to the third and final research objective, being the innovative methodological contribution of this dissertation.

Measurement Innovations

Chapter 2 and 4 have in common that they contributed to the assessment domain within personality and leadership research in an innovative way. The longer one does research, the more one understands that a lot depends on *how a construct is specifically measured*. Although there is now increasing attention to the field of psychometrics, such as the effect of the response format (e.g., Ackerman, Donnellan , Roberts, & Fraley, 2016; Rammstedt & Krebs, 2007), and the response scale options (e.g., Dalal, Carter, & Lake, 2014; Kulas & Stachowski, 2013) on study results, this line of research is still underdeveloped – as, for instance, demonstrated by Chapter 4.

Chapter 4 described and investigated the *too little/too much* (TLTM) scale as an innovation in rating scale methodology. Different than the traditional Likert scale ranging from 1 (*totally disagree*) to 5 (*totally agree*), the TLTM response format ranges between -4 (*much too little*), 0 (*the right amount*) and +4 (*much too much*). The influence of these different response formats was investigated in the context of leadership research. As noted above, divergent research conclusions were obtained

depending on the specific response format that was used: Using the *Likert response scales*, positive linear relationships were found between each of the investigated leader behaviors and performance, supporting the "more is better" assumption. Using the *TLTM response scales*, curvilinear relationships were consistently found, supporting the TMGT principle (Pierce & Aguinis, 2013). Further, segmented or "piecewise" regressions revealed that the two rating formats are positively related up until a point–hovering around *the right amount* on the TLTM scale–after which they become unrelated. Thus, Likert ratings captured variance associated with the "too little" range of the TLTM scale, but not with the "too much" range. Further, we provided incremental validity evidence for the TLTM ratings, as they accounted for an additional proportion of the variance in leader performance beyond Likert ratings. More specifically, the scale's ability to capture excess with ratings of "too much" behavior accounted for the unique explained variance in leader performance. Capturing excess, or differentiating between "a lot" of a certain (desirable) behavior and "too much" accounted for the scale's incremental value. A second study replicated these findings using a more fine-grained, 9-point Likert scale, ruling out differences in scale coarseness as an explanation for why the TLTM scale was better at detecting curvilinear effects.

On a different level, Chapter 2 also added to the assessment domain, by introducing the *FFM charisma compound* as an organizationally-relevant, trait-based measure of charisma. In the applied field, FFM profiles have been generated for organizationally relevant profiles, for instance for the entrepreneur (Obschonka, Schmitt-Rodermund, Silbereisen, Gosling, & Potter, 2013). The latter profile development, however, was limited to FFM domains instead of a differentiated profile relying on facet descriptions. Inspired by creative approaches in the

clinical literature on personality disorders (Lynam & Widiger, 2001; Miller, Bagby, Pilkonis, Reynolds, & Lynam, 2005), a FFM prototype for the charismatic leader was obtained by using an expert consensus approach. For each of the 30 NEO PI-R facets, experts in the field of leadership and personality rated the prototypic case of a successful charismatic leader on a scale ranging between 1 (*extremely low*) and 9 (*extremely high*) (cf. Lynam & Widiger, 2001). Eventually, twelve personality traits were rated as being prototypically high (≥ 7) or low (≤ 3), and thus formed the charisma compound. After reversing the scores on the Neuroticism facets, a simple sum of these 12 traits represents the FFM charisma score.

Research Implications

In this dissertation, three empirical chapters were presented, each contributing in its own way to the broad literatures of personality and leadership. Below, we discuss the most important theoretical and practical implications that originated from our work.

Theoretical Implications

Without undermining the attributional perspective on charismatic leadership, the results of the current dissertation support the trait theory of leadership (e.g., Judge et al., 2009; Kirkpatrick & Locke, 1991; Zaccaro, 2007, 2012). If consistency exists in the eye of the beholder, there must be something in that leader that *makes* charismatic judgements consistent. Zaccaro (2007) argued that combinations of traits, integrated in conceptually meaningful ways, would be more likely to predict leadership than independent contributions of several single traits. The current dissertation was the first to propose such personality-based operationalizations of charisma, and provided evidence that charisma is

substantially grounded in one's personality, that it can be assessed independently from the observer's perspective, and that it meaningfully predicts leadership effectiveness, and other career-relevant outcomes.

Departing from a trait-perspective on charisma, however, did not rule out the importance of behavioral influences on leader effectiveness. Chapter 4, for instance, centralized leader behaviors as important predictors of leadership effectiveness. Leader behaviors that conceptually and empirically overlap with the classic two-factor model that established the leader behavior paradigm (Stogdill & Coons, 1957): initiating structure and consideration. However, as properly noted by DeRue, Nahrgang, Wellman, and Humphrey (2011), the theoretical and applied value of studies supporting the leader trait paradigm (e.g., Chapter 2; Judge, Bono, Ilies, & Gerhardt, 2002), as well as the leader behavior paradigm (e.g., Chapter 4; Podsakoff, MacKenzie, Moorman, & Fetter, 1990) is enormous, but leadership research is plagued by a lack of integration between both. In line with recent calls to integrate trait and behavioral leadership theories into process-type models which aim to clarify the effects of distal individual differences (e.g., traits and styles) on leader outcomes through more proximal leader behaviors (Antonakis, Day, & Schyns, 2012; DeRue, et al., 2011; Dinh & Lord, 2012; Zaccaro, 2012), one of the studies in this work (Chapter 3) tested a process model describing the association between charismatic personality and perceived leader effectiveness, as mediated through leader behaviors. Investigating such an integrative process model allowed us to shed light on the underlying mechanisms of the charisma-effectiveness relationship, and clarified *why* there exists a curvilinear relationship. In sum, this kind of overarching frameworks may help to structure this field of study and, eventually, facilitate the accumulation of knowledge in this domain.

Further, the results of the current dissertation support and expand the idea of the TMGT effect (Grant & Schwartz, 2011; Pierce & Aguinis, 2013) as a meta-theoretical principle. Specifically, we found that the seemingly monotonic positive relation between charismatic personality and leader effectiveness ultimately reaches an inflection point after which the relation turns asymptotic and negative. Moreover, in line with one of the central tenets in the TMGT principle—that the inflection point depends on specific boundary conditions— we found leader adjustment to play an important moderating role: When the leader's level of adjustment is high, the inflection point after which the relation with effectiveness turns asymptotic and negative occurs at higher levels of charisma. This means that a high level of adjustment can buffer the negative effects associated with high charisma levels. Besides charismatic personality, the TMGT effect was also applicable to leader behaviors. In Chapter 3, the positive relations between strategic and operational behavior, and overall leader effectiveness both turned asymptotic at a certain point, after which there was no added value of additional strategic and operational efforts. Chapter 4 also found curvilinear (inverted U-shaped) relationships between the leader behaviors and performance, at least when the behaviors were measured using the TLTM scale.

However, whereas the TMGT principle offers a prediction about the functional form of the association between charisma and effectiveness, it does not *explain* the curvilinear relationship. In addition to supporting the TMGT principle, we provided an explanation of how it works for charismatic personality from a cost-and-benefit perspective. The Antecedent-Benefit-Cost (ABC) model (Busse, Mahlendorf, & Bode, 2016) is a competitive mediation framework that links antecedents, benefits, and costs, prescribing that a decrease in effectiveness occurs

when the costs associated with a desirable predictor variable outweigh its benefits. From an ABC perspective, we demonstrated that two competing mediators –strategic and operational– can be understood as benefits and costs of charismatic personality. Highly charismatic leaders may be strategically ambitious (i.e., strategic behavior: benefit variable), but at the expense of getting day-to-day work activities executed in a proper manner (i.e., operational behavior: cost variable), with detrimental effects on perceived effectiveness. As the nature of the meta-theoretical TMGT principle is indeed more descriptive than exploratory, we expect explanatory frameworks underlying the TMGT effect, such as the ABC framework (Busse et al., 2016), to become increasingly important. From a statistical point of view, testing instantaneous indirect effects (Hayes & Preacher, 2010) aligns with this competitive mediation framework.

Finally, although empirical evidence supporting the TMGT effect continues to grow, demonstrating curvilinear effects still remains a challenge. The TLTM rating format presented in this dissertation (Chapter 4) may be one valuable way to advance theory building in applied research, by facilitating the detection of curvilinear effects between predictors (e.g., leader behaviors, personality) and criteria (e.g., leadership effectiveness).

Practical Implications

A first practical implication that originates from this doctoral research is the availability of two newly developed measures of charismatic personality. As both the NEO PI-R and the HDS are widely used instruments in selection and developmental contexts, charismatic personality scores can be computed in a time- and resource-friendly way, whenever these instruments are administered. The proposed measures of

charismatic personality are not meant to relate exclusively to charismatic leaders, but to reflect a constellation of traits that makes charismatic leadership more likely.

Throughout history, applied researchers have been interested in the predictive validity of traits for various leadership outcomes, including both leadership effectiveness as well as leadership derailment (e.g., Judge et al., 2002; McCall & Lombardo, 1983) because of the implications that such findings have for practice, such as the selection, training, and development of leaders. The present dissertation further substantiated these applied implications of personality testing, for instance by showing meaningful and longitudinal associations between charismatic personality and different career outcomes, such as climbing towards higher managerial positions, and displaying higher adaptive performance levels (Chapter 2). The latter finding could need some nuance, however, as we found curvilinear (inverted U-shaped) relationships with leader effectiveness in two other large and observer-rated samples (Chapter 3), indicating that organizations may want to consider selecting applicants with midrange levels of charisma into leadership roles, instead of extremely charismatic leaders. Besides their moderate charisma score, applicants preferably should score high on adjustment. Moreover, knowledge of charismatic personality tendencies may be used for coaching and development purposes. The highly charismatic leaders could, for instance, be confronted with the gap between their own perception of effectiveness (i.e., being very effective), and the perceptions of their coworkers (i.e., being not so effective), along with the most prevalent pitfalls that go along with their leadership style: Highly charismatic leaders probably gain the most from a training program focused on their operational deficiency. Insufficient operational leader behaviors may refer to an inability to attend

day-to-day operations, and a lack of discipline to manage an orderly workflow. In contrast, coaching programs for leaders low on charisma better focus on increasing strategic behavior. These leaders could, for instance, focus on taking a broader perspective on the business as a whole, spending more time and energy on long-term planning, questioning the status quo, and creating a safe environment for trying new things (Kaiser et al., 2010).

Finally, providing a way for raters to indicate whether a certain behavior is used too little, the right amount, or too much (Chapter 4) has clear implications for practice. In a leadership assessment context, for instance, one can directly pinpoint under- or overdoing of certain leader behaviors, and the feedback following from this assessment can be very straightforward (e.g., “to step up”, “tone down”, or “keep it up with more of the same”). This dissertation includes a practical guide for scale development, when one considers the TLTM scale appropriate to assess a specific construct.

Limitations and Future Research Directions

To close this general discussion, an overview is provided of the most important limitations of our studies. Against this backdrop, several suggestions for future research are delineated.

Two new and different operationalizations of charismatic personality were introduced in the current dissertation. However, it remains an open question how these two measures are empirically related and if they can be integrated in a certain way to more fully understand the dispositional building blocks of charisma in all its complexity. Despite this lack of direct comparability, it can be considered a strength of the current dissertation that attempts have been made to uncover the personality-based

foundation underlying perceptions of charisma. At the same time, this is a call for future researchers to replicate our findings (e.g., the expert generated FFM prototype of the charismatic leader; the –curvilinear (?)– relationship between FFM charisma and leader effectiveness), to investigate the proposed measures of charismatic personality simultaneously, and to further investigate their nomological network and predictive validity. Additional research could, for instance, focus on the impact on subordinates' performance levels, and on objective outcomes of leadership, such as firm performance.

A second limitation of this dissertation is that no actual situational characteristics were included as moderators of the relationship between charismatic personality and effectiveness. There are, for instance, indications that charismatic leaders might especially be effective in situations of uncertainty, whereas they thrive less in more stable and predictable conditions (e.g., De Hoogh, Den Hartog, & Koopman, 2005; House & Aditya, 1997; Waldman, Ramirez, House, & Puranam, 2001). Other potential moderators are culture, and managerial level. That is, charisma might be perceived differently across cultures (e.g., Mittal, 2015)—both national cultures as well as corporate cultures— and its relationship with effectiveness might vary across managerial levels, as strategic behaviors become more critical at higher managerial levels, while the reverse is true for operational behaviors. Taking these examples together, it is possible that (a) under conditions of high environmental uncertainty, (b) in individualistic cultures, and (c) at higher managerial levels, the inflection point after which the relationship turns asymptotic is located at higher levels of charisma than under conditions of environmental certainty, in collectivistic cultures, and at lower managerial levels. In fact, higher charisma scores may not always lead to derailment.

In certain conditions, such as low-stress situations, the charisma-effectiveness relationship may be linear, rather than curvilinear. However, we believe that high-stress and pressure situations are fairly typical for a "normal" leadership context, enhancing the likelihood of a curvilinear relationship. Nevertheless, situational influences remained largely unaddressed in our studies, so additional studies will be important to further investigate the specific conditions under which charismatic personality is desirable.

Third, it remains unclear whether certain types of employees tend to experience more satisfying working relationships with charismatic leaders. It would, for instance, be interesting to investigate which types of employees charismatic leaders prefer (e.g., subordinates who offer their blind loyalty and passive compliance with the leader's vision or confident subordinates who have similar scores on charismatic personality), and which type of subordinates make charismatic leaders excel. Future research could explore the different dyadic relationships that develop between charismatic leaders and their subordinates, integrating interpersonal theories such as leader-member exchange (Ferris, Liden, Munyon, Summers, Basik, & Buckley, 2009) into the current charismatic leadership literature.

Further, we decided to investigate this topic by relying on samples of business leaders. Although this is a major strength, we do not know whether the findings stemming from this dissertation can be generalized across other relevant samples. There is, for instance, research showing that politicians' charisma explains a substantial amount of variance in their (presidential) performance (e.g., Deluga, 1997). We are not aware of any studies that examined curvilinear effects in this context, so future research could focus on replicating our findings in political samples.

Also, although we included longitudinal data in this dissertation, the actual business leader samples were investigated using cross-sectional designs. In this way, we were not able to investigate causal relations between some of the constructs of interest, such as for instance the relationship between charismatic personality and leader effectiveness. We found evidence that charismatic personality positively relates to managerial positions and leadership roles 15 years later (Chapter 2). Corroborating evidence that charismatic people are more inclined to hold leadership roles, a relevant question is: Once holding that leadership position, how do effectiveness perceptions evolve over time? As charismatic leaders are charming, self-confident, and inspiring, it is reasonable to assume that they make positive first impressions. However, over time, weaknesses associated with their personality profile, such as narcissistic tendencies, but also additional dysfunctional work styles, may come to the surface and could change effectiveness perceptions (cf. Paulhus, 1998). Therefore, future research should examine how the charisma-effectiveness relationship evolves across different time points.

Finally, the current dissertation provided a proof of concept for the viability of a relatively simple adjustment in measurement methodology to facilitate the detection of curvilinear effects. Of course, much remains to be learned about this innovation. Importantly, research is needed to identify the scope of applicability and boundary conditions for the TLTM rating format. It remains an open question whether the TLTM rating format works with leader behaviors other than those covered by the versatile leadership model (Kaiser et al., 2010), and with constructs beyond the context of leader assessment. In Chapter 4, we discussed two general classes of variables to illustrate some of the considerations: (a) different forms of discrepancy such as person-organization fit, and (b)

individual differences such as personality constructs. In a clinical setting, for instance, TLTM ratings of maladaptive tendencies could allow clinicians to directly indicate the level and direction of inappropriate (personality) tendencies in their clients. As such, TLTM assessments could aid in both diagnosing pathological tendencies as well as indicating the types of behavioral adjustments needed (i.e., what to do more, less, or the same). Although we see a lot of potential in this innovative rating format, future research should clarify the scope of applicability and boundary conditions for the TLTM rating format.

Conclusion

The three empirical chapters that were presented in this doctoral dissertation contributed in several ways to the broad literatures on two key areas of Organizational Behavior: Personality and Leadership. More specifically, (1) new trait-based measures of charisma were introduced and validated, and (2) it was demonstrated that charismatic personality predicts career success 15 years later, such that highly charismatic personalities are, for instance, inclined to have higher managerial positions, and hold leadership roles in their future careers. However, (3) too much charisma may actually hurt leaders' effectiveness, as we found an inverted U-shaped relationship between charismatic personality and observer-rated leader effectiveness. Moreover, (4) this TMGT-effect could be explained by specific leader behaviors: Leaders low on charisma are less effective because they lack strategic behavior, while highly charismatic leaders are less effective because they lack operational behavior. However, (5) a high level of adjustment may buffer the negative effects associated with high charisma levels. Finally, (6) the *too little/too much* scale was described as an innovation in rating scale methodology that may facilitate the identification of curvilinear effects. Compared to the TLTM scale, the

Likert scale does not seem to capture the full continuum of leader behavior (i.e., there is a ceiling effect), and therefore, it is much harder to detect curvilinear relationships with this scale. In contrast, by giving raters the option to report overdoing, or “too much”, the bandwidth of the underlying behaviors is effectively increased, allowing researchers to detect the TMGT-effect more easily. It is concluded that the findings presented in this dissertation expand our knowledge on charisma, and highlight the significance of rating scale effects in leadership assessment and beyond.

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Nederlandstalige samenvatting

Persoonlijkheid en leiderschap: Trekperspectieven op charisma, curvilineaire relaties, en meetinnovaties

Hoofdstuk 1: Introductie

Volgens de "great man" theorie (Carlyle, 1841; Galton, 1869) wordt leiderschap bepaald door specifieke kwaliteiten van mensen zoals uitzonderlijke intelligentie, overtuigingskracht, zelfvertrouwen, charme, moed, dominantie en doelgerichtheid die allen van die aard zijn dat ze niet aangeleerd kunnen worden. Grote leiders worden dus geboren, niet gemaakt (Kirkpatrick & Locke, 1991). In de 20ste eeuw evolueerde de great man theorie in de trektheorie van leiderschap. Net als de great man theorie gaat de trekbenadering ervan uit dat leiderschap bepaald wordt door specifieke kenmerken –of *trekken*– van de leider, maar die kenmerken hoeven daarom niet aangeboren te zijn. Leiders zijn gewoon "anders" en te differentiëren van niet-leiders.

De zoektocht naar trekken die leiderschap zouden voorspellen gaat terug naar de beginstadia van leiderschapsonderzoek (Zaccaro, 2007). Bijna elke mogelijke trek is al in verband gebracht met leiderschap, gaande van fysieke trekken (e.g., gewicht, grootte, leeftijd), tot cognitief functioneren (e.g., intelligentie) en persoonlijkheidstrekken (e.g., extraversie, dominantie, ambitie) (Bass & Bass, 2008; Reichard et al., 2011), op zoek naar trekken die garantie zouden bieden voor succes. Omdat de resultaten van dergelijk onderzoek vaak inconsistent en

teleurstellend waren, concludeerde men dat trekbenaderingen onvoldoende waren om leiderschapseffectiviteit te verklaren (Stogdill, 1948). Immers, personen die leiders zijn in één situatie zijn niet noodzakelijk leiders in andere situaties. Eind jaren 1940 maakte de trektheorie plaats voor situationele theorieën, en de zoektocht naar trekken werd stopgezet voor de komende 30 à 40 jaar. Conceptuele, methodologische, en statistische vooruitgang in onderzoek bracht het woord 'trekken' terug in het wetenschappelijk lexicon op het einde van de 20ste eeuw (e.g., House, 1988; Lord, De Vader, & Alliger, 1986).

Ondanks de turbulente onderzoeksgeschiedenis is het vandaag de dag een wijdverspreid idee dat trekken er wel degelijk toe doen in de voorspelling van leiderschap (zie Zaccaro, Kemp, & Bader, 2004, voor een overzicht). Meer nog, persoonlijkheid neemt zelfs een centrale positie in binnen het hedendaags leiderschapsonderzoek (e.g., Dinh & Lord, 2012; Zaccaro, 2012). Zoals in dit doctoraat besproken werd, is de relatie tussen eigenschappen van leidinggevenden –zowel persoonlijkheidstrekken als leiderschapsgedrag– en leiderschap erg complex, en hangt de vorm van de relatie (i.e., lineair versus curvilineair) sterk af van de beoordelaar (i.e., zelf versus anderen), het criterium (e.g., loopbaansucces of leiderschapseffectiviteit), en de specifieke manier waarop constructen werden gemeten (e.g., Likert schalen or alternatieve schalen). Ondanks deze complexiteit is geavanceerde kennis over dit topic onmisbaar, gezien trekken bijna standaard in kaart worden gebracht bij selectieprocedures en development centers – om de beste leiders te selecteren, of om hen te trainen tot de beste leiders.

Het huidige doctoraat kan gesitueerd worden in de brede literatuur rond persoonlijkheid en leiderschap, en stelde drie objectieven voorop. Eerst en vooral wilden we de trektheorie van leiderschap terug nieuw

leven inblazen, door het introduceren en valideren van *persoonlijkheids-gebaseerde metingen van charisma* (Hoofdstuk 2 en 3). Bovendien werd de relatie tussen charismatische persoonlijkheid en leiderschap onderzocht aan de hand van diverse indicatoren zoals leiderschapseffectiviteit (Hoofdstuk 3), adaptieve jobprestatie, en loopbaanuitkomsten zoals inkomen, managementniveau en aantal ondergeschikte medewerkers (Hoofdstuk 2). Speciale aandacht werd gegeven aan het onderzoeken van *curvilineaire effecten*, zowel tussen charismatische persoonlijkheid en leiderschapseffectiviteit (Hoofdstuk 3), als tussen specifieke leiderschapsgedragingen (i.e., krachtig, ondersteunend, strategisch, en operationeel) en prestaties van bedrijfsleiders (Hoofstuk 4). Tenslotte maakte dit doctoraat ook een sterke *methodologische contributie*. De "te weinig/te veel" schaal werd voorgesteld als een innovatie in meetschaalonderzoek, die het identificeren van curvilineaire effecten faciliteert (Hoofdstuk 4). Bovendien kan de ontwikkeling van de charisma compound (Hoofdstuk 2) ook beschouwd worden als een veelbelovende, innovatieve manier om persoonlijkheidsprofielen in kaart te brengen die een meerwaarde kunnen bieden voor organisaties. Hieronder volgt een samenvatting van de belangrijkste bevindingen per hoofdstuk.

Hoofdstuk 2: De ontwikkeling van een Vijf-Factoren Model (VFM) charisma compound en zijn relaties met loopbaanuitkomsten

In dit doctoraatsproefschrift werden twee alternatieve manieren voorgesteld om charisma te meten vanuit een persoonlijkheidsperspectief. Het tweede hoofdstuk (Vergauwe, Wille, Hofmans, & De Fruyt, 2017) introduceerde een Vijf-Factoren Model (VFM) charisma compound als één van deze alternatieven. Een eerste studie in dit hoofdstuk besprak de constructie van de VFM charisma compound aan de hand van een expert consensus benadering (Lynam & Widiger, 2001) en de VFM opteltechniek

(Miller Bagby, Pilkonis, Reynolds, & Lynam, 2005). Om zicht te krijgen op de prototypische persoonlijkheidskenmerken van een charismatische leider werden experten binnen leiderschap en persoonlijkheid uitgenodigd om deel te nemen aan een expert panel. De experten werden gevraagd om voor elk van de 30 NEO PI-R facetten (e.g., angst, impulsiviteit, assertiviteit, vertrouwen, zelfdiscipline) de prototypische score aan te duiden van "de succesvolle charismatische leider" op een schaal van 1 (= *extreem laag*) tot 9 (= *extreem hoog*). Twaalf persoonlijkheidskenmerken die als prototypisch hoog (≥ 7) en prototypisch laag (≤ 3) werden beoordeeld door de experten, werden uiteindelijk geselecteerd om charismatische persoonlijkheid te gaan meten: vier Neuroticisme facetten (i.e., angst (-), depressie (-), schaamte (-) en kwetsbaarheid (-)), vijf Extraversie facetten (i.e., hartelijkheid, sociabiliteit, dominantie, energie en vrolijkheid), twee facetten van Openheid voor ervaringen (i.e., verandering en waarden), en een facet van Consciëntieusheid (i.e., ambitie). Na het ompolen van de score op de prototypisch lage Neuroticisme facetten, kan de score op de VFM charisma compound verkregen worden door de score op de 12 facetten simpelweg op te tellen.

In een tweede studie in dit hoofdstuk werd de convergente validiteit, de test-hertest betrouwbaarheid en de predictieve validiteit op vlak van carrière-relevante uitkomsten (i.e., extrinsiek carrière succes, carrière rollen, en jobprestaties) onderzocht voor de VFM charisma compound. Wat de convergente validiteit betreft, toonden de resultaten aan dat charismatische persoonlijkheid wel degelijk gereflecteerd wordt "in the eye of the beholder", gezien we een positieve relatie vonden tussen charismatische persoonlijkheid (de VFM charisma compound) en charismatisch leiderschap (Conger-Kanungo Schaal; Conger, Kanungo, Menon, & Mathur, 1997), zoals gepercipieerd door ondergeschikte

medewerkers. Verder vonden we dat charismatische persoonlijkheid vrij stabiel is overheen de tijd: Mensen die hoog scoren op de VFM charisma compound, scoren 15 jaar later ook eerder hoog. Tenslotte werd de predictieve validiteit in termen van carrière uitkomsten onderzocht. Hier vonden we dat VFM charisma positief gerelateerd was met extrinsieke carrière uitkomsten 15 jaar later, waaronder netto inkomen, aantal ondergeschikte medewerkers, en management niveau. Verder vonden we een positieve relatie met adaptieve jobprestatie, wat erop wijst dat charismatische persoonlijkheden goed zouden kunnen omgaan met onzekere, onvoorspelbare en crisissituaties op het werk. Charismatische persoonlijkheden zouden ook eerder geneigd zijn carrière rollen in te nemen die gerelateerd zijn aan leiderschap in het algemeen (i.e., Bestuurder, Adviseur) en charismatisch leiderschap in het bijzonder (i.e., Inspirator, Presentator).

Hoofdstuk 3: Charisma als tweesnijdend zwaard: Het begrijpen van de curvilineaire relatie tussen charismatische persoonlijkheid en leiderschapseffectiviteit

Het derde hoofdstuk (Vergauwe, Wille, Hofmans, Kaiser, & De Fruyt, in press) ging verder in op het construct "charisma" dat hier benaderd werd vanuit een persoonlijkheidsperspectief. Terwijl in Hoofdstuk 2 de predictieve validiteit van charismatische persoonlijkheid voor loopbaanuitkomsten onderzocht werd, werd in Hoofdstuk 3 naar de predictieve validiteit voor leiderschapseffectiviteit gekeken. Meer bepaald trachtte Hoofdstuk 3 een antwoord te vinden op de volgende vragen: "Kunnen bedrijfsleiders ook té charismatisch zijn? En zo ja, waarom?". Naast het feit dat charismatische trekken je carrière ten goede zouden komen (Vergauwe et al., 2017), toonden meerdere studies in het verleden aan dat meer charisma beter zou zijn in termen van

leiderschapseffectiviteit (e.g., Amirul & Daud, 2012; Lowe, Kroeck, & Sivasubramaniam, 1996). Maar wat als meer charisma enkel beter is tot op een bepaald punt dat nóg meer charisma de leiderschapseffectiviteit in het gedrang brengt?

Om deze vragen te beantwoorden introduceerden we de charismatische cluster van de HDS (Hogan Development Survey; Hogan & Hogan, 2009) als tweede manier om charisma te meten vanuit een persoonlijkheidsperspectief. Een eerste studie in dit hoofdstuk bood evidentie voor haar construct validiteit. Scores van leidinggevenden op de HDS charismatische cluster, bestaande uit de vier persoonlijkheidstrekken *vrijpostig*, *gewaagd*, *kleurrijk* en *innovatief*, bleken ook positief samen te hangen met charismatisch leiderschap (Conger-Kanungo Schaal; Conger et al., 1997) zoals geattribueerd door ondergeschikte medewerkers. Leidinggevenden met een sterke charismatische persoonlijkheid werden gewoonlijk dus ook als charismatisch gepercipieerd in hun leiderschapsstijl. Verder toonden we aan dat charismatische persoonlijkheid voorspeld kon worden door gedragsmatige indicatoren van charisma die negen jaar eerder werden beoordeeld door anderen. Uit de resultaten bleek dat mensen die hoog scoren op de charismatisch cluster gewoonlijk omschreven werden als energetische, assertieve, en spraakzame mensen die anderen inspireren en enthousiasmeren. Bovendien werden hun creatieve geesten gereflecteerd in beschrijvingen als “inventief, fantasierijk, en origineel”, terwijl beschrijvingen als “onbezorgd” typerend kunnen zijn voor het risicovolle gedrag dat charismatische persoonlijkheden kunnen stellen. Kortom, mensen die door anderen omschreven werden aan de hand van typisch charismatische kenmerken scoorden negen jaar later ook hoog op de charismatische persoonlijkheidscluster.

Nadat we concrete evidentie vonden voor de constructvaliditeit van de HDS charismatische cluster, onderzochten we in een tweede en een derde studie of de relatie tussen charismatische persoonlijkheid en leiderschapseffectiviteit lineair (i.e., "*meer is beter*") of eerder curvilineair van aard was (i.e., "*te-veel-van-het-goede*" effect). Om dit te onderzoeken lieten we bedrijfsleiders hun charismatische persoonlijkheid beoordelen, en werd hun effectiviteit als leidinggevende door andere bedrijfsmedewerkers beoordeeld. In twee grote, onafhankelijke steekproeven van bedrijfsleiders toonden we aan dat de relatie best omschreven wordt als een omgekeerd U-vormig verband: Leiders met weinig charisma én heel veel charisma werden door anderen als minder effectief beschouwd dan leiders met een gemiddelde mate van charisma. Deze resultaten werden bovendien consistent overheen de verschillende beoordelaarsgroepen (i.e., ondergeschikten, collega-leidinggevenden, en bovengeschikten) terug gevonden. Hoofdstuk 3 bood dus verdere evidentie voor het te-veel-van-het-goede effect (Pierce & Aguinis, 2013) als meta-theoretisch principe. De leidinggevende zijn/haar aanpassingsvermogen zou dit curvilineair verband wel modereren, in die zin dat een hoge mate van aanpassingsvermogen het negatieve effect van een hoge mate van charisma een stuk kan bufferen. Tenslotte vonden we ook de reden waarom leiders met weinig charisma én heel veel charisma als minder effectief beschouwd worden: Leiders met weinig charisma werden als minder effectief beschouwd omdat ze tekort schoten op vlak van strategisch leiderschapsgedrag; leiders met veel charisma omdat ze te weinig operationeel gedrag stelden.

Wanneer we naar de relatie keken tussen charismatische persoonlijkheid en de *zelfbeoordelingen* van effectiviteit, vonden we echter een positief en lineair verband: Bedrijfsleiders met een sterke

charismatisch persoonlijkheid achtten zichzelf effectiever als leidinggevende, waarbij de hoogste scores van charismatische persoonlijkheid geassocieerd waren met de hoogste effectiviteitsbeoordelingen. Deze bevindingen sluiten aan bij *self-enhancement* theorieën (e.g., Alicke & Govorun, 2005; Leary, 2007), en liggen ook in lijn met ander onderzoek dat aantoonde dat leidinggevenden met veel zelfvertrouwen hun prestaties op tal van criteria overschatten (e.g., Judge, LePine, & Rich, 2006).

Hoofdstuk 4: De "te weinig/te veel" schaal: Een nieuwe meetschaal voor het detecteren van curvilineaire effecten

Hoofdstuk 4 (Vergauwe, Wille, Hofmans, Kaiser, & De Fruyt, 2017) bouwde verder op het belang van het onderzoeken van curvilineaire effecten. Terwijl curvilineariteit inhoudelijk een centrale contributie bood in Hoofdstuk 3, lag de focus eerder op het methodologische gedeelte ervan in Hoofdstuk 4. In het kader van de introductie van de "te weinig/te veel" meetschaal onderzochten we of het specifieke antwoordformat dat aangeboden werd om leiderschapsgedrag te meten een verschil maakt voor het beschrijven van de relatie tussen leiderschapsgedrag en prestaties van leidinggevenden. Ondergeschikte medewerkers beoordeelden de prestaties van hun respectievelijke leidinggevenden, en beoordeelden hun leiderschapsgedrag twee maal: Een keer op een traditionele Likert schaal gaande van *helemaal niet akkoord* tot *helemaal akkoord*, en een keer op de "te weinig/te veel" antwoordschaal gaande van *veel te weinig*, over *juist gepast/optimaal*, naar *veel te veel*. Over verschillende samples heen toonden de resultaten aan dat louter het antwoordformat een verschil maakte voor de onderzoeksconclusies. Indien ondergeschikte medewerkers gebruik maakten van de Likert schaal om leiderschapsgedrag te beoordelen, vonden we strikt positief lineaire

verbanden met leiderschapsprestaties. Indien ze daarentegen gebruik maakten van de "te weinig/te veel" schaal vonden we curvilineaire verbanden met leiderschapsprestaties, in de vorm van een omgekeerde U. Aan de hand van Likert schalen kon dus geconcludeerd worden dat hoe meer een leidinggevende elk van de onderzochte gedragingen (i.e., krachtig, ondersteunend, strategisch, en operationeel) stelde, hoe beter de prestaties beoordeeld werden (cf. "*meer is beter"* assumptie). Aan de hand van de "te weinig/te veel" schaal, daarentegen, kon geconcludeerd worden dat te veel van elk van de onderzochte gedragingen ook niet goed was, gezien dit met minder goede prestatiebeoordelingen samenhing (cf. *"te-veel-van-het-goede"* effect).

Verder konden we via gesegmenteerde regressie-analyses aantonen dat de twee antwoordschalen positief gerelateerd zijn tot op een bepaald punt, ergens rond *juist gepast/optimaal* op de "te weinig/te veel" schaal, dat ze niet meer met elkaar samen hangen. Het lijkt er dus op dat de Likert schalen variantie delen met de "te weinig" range van de "te weinig/te veel" schaal, maar niet met de "te veel" range. Tenslotte vonden we ook evidentie voor de incrementele validiteit van de "te weinig/te veel" schaal: De "te weinig/te veel" beoordelingen zorgden voor extra verklaarde variantie in de voorspelling van leiderschapsprestaties, bovenop de Likert beoordelingen van leiderschapsgedrag. De mogelijkheid van de schaal om overdaad op te pikken aan de hand van de "te veel" range stond specifiek in voor de unieke verklaarde variantie in leiderschapsprestaties. Het lijkt erop dat Likert schalen minder goed in staat zijn om het volledige continuüm aan leiderschapsgedrag op te pikken, waardoor het veel moeilijker wordt om curvilineaire relaties te ontdekken. Gezien we voor elk van de leiderschapsgedragingen curvilineaire relaties konden verwachten, concludeerden we dat de "te weinig/te veel" schaal een

innovatie is in meetschaalonderzoek, die het identificeren van curvilineaire effecten faciliteert, en mogelijks kan helpen om de typische methodologische obstakels te overwinnen die onderzoek rond het *te-veel-van-het-goede* effect hinderen.

Hoofdstuk 5: Algemene discussie

Het laatste hoofdstuk, Hoofdstuk 5, integreerde de belangrijkste bevindingen die voortvloeiden uit de verschillende studies van dit doctoraat. Verder werden de belangrijkste theoretische en praktische implicaties van het onderzoek besproken, alsook verschillende beperkingen en suggesties voor toekomstig onderzoek.

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Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (2017). The "too little/too much" scale: A new rating format for detecting curvilinear effects. *Organizational Research Methods, 20*, 518-544. DOI: 10.1177/1094428117706534

Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (in press). The double-edged sword of leader charisma: Understanding the curvilinear relationship between charismatic personality and leader effectiveness. *Journal of Personality and Social Psychology.* DOI: 10.1037/pspp0000147

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Data Storage Fact Sheets

Data Storage Fact Sheet 1

Name/identifier study: FFM charisma compound: The expert panel in Study 1 and Sample 1 of Study 2 (Chapter 1 PhD Jasmine Vergauwe)
Author: Jasmine Vergauwe
Date: 24/05/2017

1. Contact details
==========

1a. Main researcher

- name: Jasmine Vergauwe
- address: Henri Dunantlaan 2, 9000 Gent
- e-mail: jasmine.vergauwe@ugent.be

1b. Responsible Staff Member (ZAP)

- name: Filip De Fruyt
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- e-mail: filip.defruyt@ugent.be

If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

==========

* Reference of the publication in which the datasets are reported: Vergauwe, J., Wille, B., Hofmans, J., & De Fruyt, F. (2017). Development of a Five-Factor Model charisma compound and its relations to career outcomes. *Journal of Vocational Behavior*, *99*, 24-39. DOI:10.1016/j.jvb.2016.12.005

* Which datasets in that publication does this sheet apply to?: The expert panel in Study 1 and Sample 1 of Study 2

3. Information about the files that have been stored

==========

3a. Raw data

---

* Have the raw data been stored by the main researcher? [x] YES / [ ] NO

If NO, please justify:

* On which platform are the raw data stored?

- [x] researcher PC
- [x] research group file server
- [ ] other (specify):

* Who has direct access to the raw data (i.e., without intervention of another person)?

- [x] main researcher
- [ ] responsible ZAP
- [ ] all members of the research group
- [ ] all members of UGent

- [x] other (specify): IT worker Steven Vandenhole

3b. Other files

---

* Which other files have been stored?

- [ ] file(s) describing the transition from raw data to reported results. Specify: ...
- [x] file(s) containing processed data. Specify: Data file containing scale scores are
- [x] file(s) containing analyses. Specify: Input and output files (Mplus) and SPSS Syntaxes
- [x] files(s) containing information about informed consent
- [x] a file specifying legal and ethical provisions
- [ ] file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...
- [x] other files. Specify: SPSS syntaxes describing the transition from the raw data to the processed data.

* On which platform are these other files stored?

- [x] individual PC
- [ ] research group file server
- [ ] other: ...

* Who has direct access to these other files (i.e., without intervention of another person)?

- [x] main researcher
- [ ] responsible ZAP
- [ ] all members of the research group
- [ ] all members of UGent

- [ ] other (specify): ...

4. Reproduction

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* Have the results been reproduced independently?: [ ] YES / [x] NO

* If yes, by whom (add if multiple):
    - name:
    - address:
    - affiliation:
    - e-mail:

Data Storage Fact Sheet 2

Name/identifier study: FFM charisma compound: Sample 2 of Study 2: the "1994 Ghent alumni sample" (Chapter 1 PhD Jasmine Vergauwe)
Author: Jasmine Vergauwe
Date: 24/05/2017

1. Contact details

==========

1a. Main researcher

- name: Jasmine Vergauwe
- address: Henri Dunantlaan 2, 9000 Gent
- e-mail: jasmine.vergauwe@ugent.be

1b. Responsible Staff Member (ZAP)

- name: Filip De Fruyt
- address: Henri Dunantlaan 2, 9000 Gent
- e-mail: filip.defruyt@ugent.be

If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

==========

* Reference of the publication in which the datasets are reported: Vergauwe, J., Wille, B., Hofmans, J., & De Fruyt, F. (2017). Development of a Five-Factor Model charisma compound and its relations to career outcomes. *Journal of Vocational Behavior*, *99*, 24-39. DOI:10.1016/j.jvb.2016.12.005

* Which datasets in that publication does this sheet apply to?: Sample 2 of Study 2: the "1994 Ghent alumni sample"

3. Information about the files that have been stored

==========

3a. Raw data

---

* Have the raw data been stored by the main researcher? [ ] YES / [x] NO
If NO, please justify:

* On which platform are the raw data stored?
- [ ] researcher PC
- [ ] research group file server
- [x] other (specify): responsible ZAP PC

* Who has direct access to the raw data (i.e., without intervention of another person)?
- [ ] main researcher
- [x] responsible ZAP
- [ ] all members of the research group
- [ ] all members of UGent
- [x] other (specify): Bart Wille

3b. Other files

---

* Which other files have been stored?
  - [ ] file(s) describing the transition from raw data to reported results. Specify: ...
  - [x] file(s) containing processed data. Specify: Data file containing scale scores
  - [x] file(s) containing analyses. Specify: Input and output files (Mplus) and SPSS Syntaxes
  - [x] files(s) containing information about informed consent
  - [ ] a file specifying legal and ethical provisions
  - [ ] file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...
  - [ ] other files. Specify: ...

* On which platform are these other files stored?
  - [x] individual PC
  - [ ] research group file server
  - [x] other: responsible ZAP PC

* Who has direct access to these other files (i.e., without intervention of another person)?
  - [x] main researcher
  - [x] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [x] other (specify): Bart Wille

4. Reproduction

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* Have the results been reproduced independently?: [ ] YES / [x] NO

* If yes, by whom (add if multiple):

  - name:

  - address:

  - affiliation:

  - e-mail:

Data Storage Fact Sheet 3

Name/identifier study: The double-edged sword of leader charisma: Sample 2 in Study 1 (Chapter 2 PhD Jasmine Vergauwe)
Author: Jasmine Vergauwe
Date: 24/05/2017

1. Contact details
==========

1a. Main researcher

- name: Jasmine Vergauwe
- address: Henri Dunantlaan 2, 9000 Gent
- e-mail: jasmine.vergauwe@ugent.be

1b. Responsible Staff Member (ZAP)

- name: Filip De Fruyt
- address: Henri Dunantlaan 2, 9000 Gent
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If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

==========

* Reference of the publication in which the datasets are reported: Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (in press). The double-edged sword of leader charisma: Understanding the curvilinear relationship between charismatic personality and leader effectiveness. *Journal of Personality and Social Psychology.*

* Which datasets in that publication does this sheet apply to?: Sample 2 in Study 1

3. Information about the files that have been stored

==========

3a. Raw data

---

* Have the raw data been stored by the main researcher? [x] YES / [ ] NO

If NO, please justify:

* On which platform are the raw data stored?

- [x] researcher PC
- [ ] research group file server
- [ ] other (specify):

* Who has direct access to the raw data (i.e., without intervention of another person)?

- [x] main researcher
- [ ] responsible ZAP
- [ ] all members of the research group
- [ ] all members of UGent
- [x] other (specify): IT worker Steven Vandenhole and Mieke Decuyper

3b. Other files

---

* Which other files have been stored?
  - [ ] file(s) describing the transition from raw data to reported results. Specify: ...
  - [x] file(s) containing processed data. Specify: Data file containing scale scores
  - [x] file(s) containing analyses. Specify: SPSS Syntaxes
  - [x] files(s) containing information about informed consent
  - [x] a file specifying legal and ethical provisions
  - [ ] file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...
  - [x] other files. Specify: SPSS syntaxes describing the transition from the raw data to the
processed data.

* On which platform are these other files stored?
  - [x] individual PC
  - [ ] research group file server
  - [ ] other: ...

* Who has direct access to these other files (i.e., without intervention of another person)?
  - [x] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [ ] other (specify): ...

4. Reproduction

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* Have the results been reproduced independently?: [ ] YES / [x] NO

* If yes, by whom (add if multiple):
  - name:
  - address:
  - affiliation:
  - e-mail:

Data Storage Fact Sheet 4

Name/identifier study: The double-edged sword of leader charisma: Study 2 and Study 3 (Chapter 2 in PhD Jasmine Vergauwe)
Author: Jasmine Vergauwe
Date: 24/05/2017

1. Contact details
==========

1a. Main researcher

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- e-mail: jasmine.vergauwe@ugent.be

1b. Responsible Staff Member (ZAP)

- name: Filip De Fruyt
- address: Henri Dunantlaan 2, 9000 Gent
- e-mail: filip.defruyt@ugent.be

If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

==========

* Reference of the publication in which the datasets are reported: Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (in press). The double-edged sword of leader charisma: Understanding the curvilinear relationship between charismatic personality and leader effectiveness. *Journal of Personality and Social Psychology*.
* Which datasets in that publication does this sheet apply to?: data in Study 2 and Study 3

3. Information about the files that have been stored

==========

3a. Raw data

---

* Have the raw data been stored by the main researcher? [ ] YES / [x] NO
If NO, please justify:

* On which platform are the raw data stored?
- [ ] researcher PC
- [ ] research group file server
- [x] other (specify): Property of Hogan Assessment Systems

* Who has direct access to the raw data (i.e., without intervention of another person)?
- [ ] main researcher
- [ ] responsible ZAP
- [ ] all members of the research group
- [ ] all members of UGent

- [x] other (specify): Jeff Foster, R&D Director Hogan Assessment Systems

3b. Other files

---

* Which other files have been stored?
- [ ] file(s) describing the transition from raw data to reported results. Specify: ...
- [x] file(s) containing processed data. Specify: Data file containing scale scores are available
- [x] file(s) containing analyses. Specify: Input and output files (Mplus) and SPSS Syntaxes
- [x] files(s) containing information about informed consent
- [x] a file specifying legal and ethical provisions
- [ ] file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...
- [ ] other files. Specify: ...

* On which platform are these other files stored?
- [x] individual PC
- [ ] research group file server
- [x] other: Joeri Hofmans

* Who has direct access to these other files (i.e., without intervention of another person)?
- [x] main researcher
- [ ] responsible ZAP
- [ ] all members of the research group
- [ ] all members of UGent

- [x] other (specify): Joeri Hofmans

4. Reproduction

==========

* Have the results been reproduced independently?: [x] YES / [ ] NO

* If yes, by whom (add if multiple):
  - name: Joeri Hofmans
  - address: Pleinlaan 2, 1050 Brussel
  - affiliation: VUB
  - e-mail: joeri.hofmans@vub.ac.be

Data Storage Fact Sheet 5

Name/identifier study: The “too little/too much” scale: A new rating format for detecting curvilinear effects (Chapter 3 PhD Jasmine Vergauwe)
Author: Jasmine Vergauwe
Date: 24/05/2017

1. Contact details

==========

1a. Main researcher

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- e-mail: jasmine.vergauwe@ugent.be

1b. Responsible Staff Member (ZAP)

- name: Filip De Fruyt
- address: Henri Dunantlaan 2, 9000 Gent
- e-mail: filip.defruyt@ugent.be

If a response is not received when using the above contact details, please send an email to data.pp@ugent.be or contact Data Management, Faculty of Psychology and Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium.

2. Information about the datasets to which this sheet applies

==========

* Reference of the publication in which the datasets are reported: Vergauwe, J., Wille, B., Hofmans, J., Kaiser, R. B., & De Fruyt, F. (2017). The "too little/too much" scale: A new rating format for detecting curvilinear effects. *Organizational Research Methods, 20,* 518-544. DOI: 10.1177/1094428117706534

* Which datasets in that publication does this sheet apply to?: the sheet applies to all the data used in the publication

3. Information about the files that have been stored

==========

3a. Raw data

---

* Have the raw data been stored by the main researcher? [x] YES / [ ] NO
If NO, please justify:

* On which platform are the raw data stored?
  - [x] researcher PC
  - [ ] research group file server
  - [ ] other (specify):

* Who has direct access to the raw data (i.e., without intervention of another person)?
  - [x] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [x] other (specify): IT worker Steven Vandenhole

3b. Other files

---

* Which other files have been stored?
  - [ ] file(s) describing the transition from raw data to reported results. Specify: Multiple SPSS Syntaxes
  - [x] file(s) containing processed data. Specify: Data file containing scale scores
  - [x] file(s) containing analyses. Specify: command in R for segmented regressions and SPSS Syntaxes
  - [x] files(s) containing information about informed consent
  - [ ] a file specifying legal and ethical provisions
  - [ ] file(s) that describe the content of the stored files and how this content should be interpreted. Specify: ...
  - [x] other files. Specify: SPSS syntaxes describing the transition from the raw data to the
processed data.

* On which platform are these other files stored?
  - [x] individual PC
  - [ ] research group file server
  - [ ] other:

* Who has direct access to these other files (i.e., without intervention of another person)?
  - [x] main researcher
  - [ ] responsible ZAP
  - [ ] all members of the research group
  - [ ] all members of UGent
  - [ ] other (specify):

4. Reproduction

==========

* Have the results been reproduced independently?: [ ] YES / [x] NO

* If yes, by whom (add if multiple):
  - name:
  - address:
  - affiliation:
  - e-mail: