

The Dark Side of Personality and Extreme Leader Behavior

Robert B. Kaiser*

Kaiser Leadership Solutions, USA

James M. LeBreton

The Pennsylvania State University, USA

Joyce Hogan†

Hogan Assessment Systems, USA

In this study, dark-side traits are conceptualised as extreme extensions of the “bright-side” traits of the Five-Factor Model that often have counterproductive effects. We predict which dark-side traits will be related to ratings of “too little” and “too much” of four leader behaviors and how low levels of Emotional Stability may accentuate the relationship between dark-side traits and excessive leader behavior. Analyses in a sample of 320 American and European managers and executives rated by 4,906 co-workers provided support for most predicted relationships, with medium-sized overall multivariate effects. Support for a moderating effect for Emotional Stability was also found. Scores near the normative mean on the dark-side traits were associated with optimal levels of the leader behaviors, whereas both high scores and, unexpectedly, low scores were associated with extreme, ineffective leader behaviors. Implications are considered for future research on the role of the dark side in leadership, re-conceptualising the interpretation of low scores on dark-side personality scales, and the coaching and development of managers.

INTRODUCTION

Estimates of the base rate of managerial failure average around 50 per cent (Aasland, Skogstad, Notelaers, Nielsen, & Einarsen, 2010; Hogan, Hogan, & Kaiser, 2010), which raises the question of how to account for such a high incidence of flawed management. Bentz (1967, 1985) pioneered research on

* Address for correspondence: Rob Kaiser, Kaiser Leadership Solutions, 1903-G Ashwood Ct., Greensboro, NC 27455, USA. Email: rob@kaiserleadership.com

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the subject with a 30-year study of failed executives at the US-based retail chain, Sears, Roebuck, and Company. Managers hired using assessment centers and standardised tests were bright and socially skilled, yet many were subsequently fired. Bentz noted several reasons given for the terminations, from being too tactical and reactive to having troubled relationships. But his in-depth analysis led him to conclude that, in every case, the underlying cause of failure was an *overriding personality defect*.

Bentz's findings inspired research on the causes of *derailment*, which happens when managers with a successful track record get fired, demoted, or stalled in their career progression (McCall & Lombardo, 1983). Derailment studies have used qualitative and quantitative methods as well as cross-sectional and longitudinal designs; considered differences between middle managers and executives, men and women, and ethnicities; and compared findings across industries and cultures spanning North America, Latin America, Europe, and Asia (e.g. Gentry & Chappelow, 2009; Leslie & Van Velsor, 1996; Lombardo, Ruderman, & McCauley, 1988; McCall & Hollenbeck, 2002; McCall & Lombardo, 1983; Morrison, White, & Van Velsor, 1987). The findings show that Bentz's original insight is generalisable. Although the precipitating events leading to derailment vary from poor business results to leadership issues and interpersonal problems, the underlying cause can usually be traced to an inability to manage one's behavior (Hogan et al., 2010; Vredenburg & Brender, 1998).

Explorations of managerial failure helped revitalise interest in the role of personality in leadership. The historical antipathy of leadership scholars toward personality (Mann, 1959; Stogdill, 1948) has dissipated as better theories and research methods have produced a sizable body of coherent empirical findings (DeRue, Nahrgang, Wellman, & Humphrey, 2011; Hoffman, Woehr, Maldagen-Youngjohn, & Lyons 2011; Judge, Colbert, & Ilies, 2004). However, this new research focuses on the *bright side* of personality as captured by the Big Five or Five-Factor Model (FFM): Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness. Some researchers recommend expanding the domain to include undesirable dispositions variously described as counterproductive, subclinical, and dysfunctional, that collectively are referred to as the *dark side* (Benson & Campbell, 2007; Hogan & Hogan, 2001; Hogan et al., 2010; Hogan & Kaiser, 2005; Judge, Piccolo, & Kosalka, 2009; LeBreton, Binning, & Adorno, 2006; LeBreton & Wu, 2009; Moscoso & Salgado, 2004; Paulhus & Williams, 2002; Wu & LeBreton, 2011). This aspect of personality concerns the troublesome tendencies that Bentz was referring to with the term, "overriding personality defects".

Research on the effects of the dark side of personality has produced conflicting results. For instance, some studies find the expected negative relationships between dark traits and job performance (e.g. Moscoso &

Salgado, 2004; Resick, Whitman, Weingarden, & Hiller, 2009) and positive relationships with counterproductive work behavior (O'Boyle, Forsyth, Banks, & McDaniel, 2012; Scherer, Baysinger, Zolynsky, & LeBreton, in press). Other studies find complex nonlinear relationships where low to moderate scores on dark-side measures are unrelated to managerial performance but high scores are associated with lower performance (Benson & Campbell, 2007). And some studies report positive relationships between certain dark-side traits and leadership ratings (Harms, Spain, & Hannah, 2011a; Robie, Brown, & Bly, 2008). Reflecting on these inconsistent and sometimes counterintuitive findings, Harms et al. (2011a, p. 508) noted that the nature of the dark side appears "far more complex than originally thought" and suggested that "there is a great deal of research to be done" to understand how it affects leadership. Studies of the dark side may lead to a better understanding of leadership by complementing the traditional positive emphasis on the subject (Kaiser & Craig, in press; Kellerman, 2004). This is particularly true because research across a number of domains shows that negative information, experiences, and people have a stronger effect than positive ones, suggesting that "bad is stronger than good" is a robust psychological principle (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001).

The present study explores the links between the dark side of personality and leadership. We begin by defining the dark-side domain, distinguish dark-side characteristics from bright-side characteristics, and then analyze conditions under which the dark side is likely to have counterproductive effects. We conclude that managers who are low on FFM Emotional Stability are more likely to feel threatened and less likely to regulate the negative aspects of their dark side. Next, considering two general forms of counterproductive leadership (Kaiser & Hogan, 2011; Kaiser & Kaplan, 2005), we use theory to align dark-side traits with doing too little and doing too much of four leader behaviors. We test these links empirically in terms of main effects for the dark-side traits as well as a moderating role for FFM Emotional Stability. We discuss the implications of the findings for research to further illuminate the dark side in leadership, the interpretation of dark-side personality scales, and the coaching and development of managers.

THE DARK SIDE OF PERSONALITY

Personality represents characteristic ways of responding to the environment and involves dispositions to think, feel, and behave in a particular manner (Roberts, 2006). The distinction between the *bright side* and the *dark side* is a recent advance in applying personality to organisational behavior (Hogan, Curphy, & Hogan, 1994; Hogan & Hogan, 2001; Judge et al., 2009; Paulhus & Williams, 2002). The bright side is concerned with the dispositional qualities observers view during social interaction when people are doing their best

to get along and get ahead, such as in a job interview (Hogan & Kaiser, 2005). The FFM is a taxonomy of bright-side characteristics and reflects themes observers use to describe others, especially in the early stages of a relationship (McAdams, 1995): outgoing and assertive (Extraversion); congenial and cooperative (Agreeableness); reliable and rule-abiding (Conscientiousness); calm and steady (Emotional Stability); curious and worldly (Openness). Over the last several decades, the overwhelming majority of applied personality research has been based on the FFM, and therefore concerns the bright side.

The dark side refers to the impression people make when they let down their guard—when they are stressed, tired, or otherwise less vigilant about how they are being perceived. It often takes repeated exposure for observers to recognise these dispositions. Dark-side tendencies originate in efforts to get along and get ahead but rest on flawed assumptions about how one expects to be treated or how best to serve one's personal interests (Elliot & Thrash, 2002; Hogan & Hogan, 2001; Hogan et al., 2010; Kaiser & Kaplan, 2006). These strategies neglect the needs of other people and lead to self-defeating behavior that may secure minor short-term benefits but at the expense of significant long-term costs (Baumeister & Scher, 1988). For example, talking up one's accomplishments may impress others at the moment but over time it leads to a reputation for boastfulness and excessive self-promotion. Good social skills can compensate for dark-side tendencies, but if they manifest repeatedly they can disrupt relationships and corrupt judgment.

Classifying Dark-Side Traits

There is no universally accepted taxonomy of dark-side traits in organisational research. For instance, Wu and LeBreton (2011) and O'Boyle et al. (2012) studied “the Dark Triad” of narcissism, Machiavellianism, and psychopathy (cf. Paulhus & Williams, 2002), whereas Moscoso and Salgado (2004) identified 14 “dysfunctional personality styles”. Hogan and Hogan (2001) proposed a taxonomy with 11 dimensions that parallel the Axis II personality disorders defined in the *Diagnostic and Statistical Manual of Mental Disorders IV* (American Psychiatric Association [DSM-IV-TR], 2000). However, these theorists were clear that they used the Axis II dimensions as a heuristic to identify ordinary patterns of counterproductive tendencies. Dark-side traits are not clinical personality disorders because they do not impair significant life functioning as required for a clinical diagnosis (Furnham, Trickey, & Hyde, 2012; Harms et al., 2011a; LeBreton et al., 2006; Wu & LeBreton, 2011). Rather, dark-side traits are part of normal personality, although they can interfere with relationships and judgment (Hogan et al., 2010; Hogan & Kaiser, 2005; O'Boyle et al., 2012).

Three published omnibus inventories of dark-side traits designed to assess counterproductive aspects of normal personality in the workplace have been described in the research literature (Hogan & Hogan, 2001, 2009; Moscoso & Salgado, 2004; Schmit, Kihm, & Robie, 2000). As shown in Table 1, the content of the inventories overlaps and the relations among them can be organised using themes from the 11 Axis II personality disorders (Hogan & Hogan, 2001; Hogan et al., 2010).

Extreme Extensions of Bright-Side Traits

The bright and dark sides of personality are neither conceptually nor empirically independent. For instance, conceptual research suggests linkages between the FFM dimensions and the 11 Axis II dimensions (Widiger, Trull, Clarkin, Sanderson, & Costa, 2002), and meta-analytic research shows a consistent pattern of correlations between scales that measure the two domains (Samuel & Widiger, 2008; Saulsman & Page, 2004). The Axis II dimensions are most strongly related to low levels of FFM Emotional Stability and FFM Agreeableness, reflecting their tendency to disrupt relationships. However, all dimensions of the FFM have been mapped into one or more Axis II dimensions (e.g. FFM Conscientiousness and Axis II Obsessive-Compulsive). Nonetheless, bright-side and dark-side traits are not redundant (Hogan & Hogan, 2009; Paulhus & Williams, 2002) and dark-side traits provide incremental validity over the bright-side traits of the FFM in predicting leadership behavior and performance criteria (Harms, Spain, Hannah, Hogan, & Foster, 2011b).

Some models of the dark side describe these factors as extreme versions of the FFM dimensions (Hogan, Hogan, & Warrenfeltz, 2007; Paulhus & Williams, 2002). That is, the related bright-side and dark-side traits do not fully overlap; rather, the dysfunctional ranges of dark-side dimensions pick up at the ends of bright-side dimensions and extend the continuum beyond the scope of the bright side (Benson & Campbell, 2007). For example, the perfectionistic tendencies of the dark-side trait Diligent seem to be an extreme version of the attention to detail associated with high Conscientiousness. However, bright-side and dark-side tendencies do overlap to some degree, and so dark-side traits may have similar positive effects as their bright-side cousins, especially for the overlapping range of individual differences covered by both domains.

According to Hogan and Hogan (2001), dark-side traits coexist with well-developed social skills that can conceal their counterproductive nature and make them appear desirable. Flawed dark-side strategies persist because they can be used to manipulate others to produce short-term benefits. Consider the intimidating manager who uses volatile behavior to discourage disagreement or the obedient manager who uses compliant behavior to avoid conflict.

TABLE 1
A Taxonomy of the Dark Side of Personality and Related Measurement Scales

Axis II Dimension	<i>Analogous dark side tendencies among normal adults</i>	Measurement Scales			
		Hogan & Hogan (2009)	Moscoso & Salgado (2004)	Schmit, Kihm, & Robie (2000)	
Borderline	Moody; intense but short-lived enthusiasm for people, projects, and things; hard to please	Excitable	Ambivalent		
Avoidant	Reluctant to take risks for fear of being rejected or negatively evaluated	Cautious	Shy		
Paranoid Schizoid	Cynical, distrustful, and doubtful of others' true intentions	Skeptical	Suspicious	Intimidating [†]	
	Aloof, and uncommunicative; lacking awareness and care for others' feelings	Reserved	Lone	Intimidating [†]	
Passive-Aggressive	Casual; ignoring people's requests and becoming irritated or excusive if they persist	Leisurely	Pessimistic	Passive Aggressive	
Narcissism	Extraordinarily self-confident; grandiosity and entitlement; over-estimation of capabilities	Bold	Egocentric	Ego-centered	
Antisocial	Enjoy taking risks and testing limits; manipulative, deceitful, cunning, and exploitive	Mischievous	Risky	Manipulation	
Histrionic	Expressive, animated, and dramatic; wanting to be noticed and the center of attention	Colorful	Cheerful		
Schizotypal	Acting and thinking in creative but sometimes odd or unusual ways	Imaginative	Eccentric		
Obsessive-Compulsive	Meticulous, precise, and perfectionistic; inflexible about rules and procedures	Diligent	Reliable	Micro-managing	
Dependent	Eager to please; dependent on the support and approval of others; reluctant to disagree with others, especially authority figures	Dutiful	Submitted		

Note: Analogous dark-side tendencies based on Hogan and Hogan (2001, 2009) and Hogan and Kaiser (2005). Scales presented in the same row are measures of the same dark-side trait.

[†] The Intimidating scale from Schmit, Kihm, & Robie (2000) blends elements of the Skeptical and Reserved dimensions from Hogan & Hogan (2009).

However, when dark-side strategies are used frequently, they become offensive. Judge et al. (2009) point out that leadership conditions change quickly, creating challenges for leaders as the positive effects of a trait in one context can be a disadvantage in another. Table 2 presents the links between the bright-side dimensions of the FFM and the 11 dark-side dimensions as defined by Hogan and Hogan (2001) and contrasts the strengths, associated with short-term benefits, and weaknesses, associated with long-term costs, for each dark-side dimension.

Dark-Side Dynamics

The conflicting findings of negative, null, and positive effects for dark-side traits in leadership may be because they are associated with both strengths and weaknesses (Furnham et al., 2012; Hogan & Kaiser, 2005; Judge et al., 2009). This raises the question of what determines which aspect of dark-side traits is expressed, and there are three considerations here. First, the higher the dark-side score, the more likely the extreme, counterproductive behavior (Schuman & Presser, 1981). Second, the experience of psychological threat triggers the defensive behaviors that can be offensive to others (Kaiser & Kaplan, 2006). Finally is the consideration of an individual's ability to self-regulate: managers who are aware of their dark sides, who have techniques for managing their disruptive effects, and who are motivated to do so are more likely to express these traits positively (Davies, 2009; Kaiser & Kaplan, 2006; Mansi, 2007; Nelson & Hogan, 2009).

This perspective has idiographic and nomothetic components. From the idiographic perspective, there is intraindividual variability in the ability to manage one's dark side. For instance, self-regulation requires will-power, which draws from a finite, energy-based resource (Baumeister & Vohs, 2007; Muraven & Baumeister, 2000). It is harder to self-regulate when one is under heavy cognitive load, coping with stress, exhausted, threatened, or hungry. Self-regulation also requires motivation (Baumeister & Vohs, 2007; Carver & Scheier, 1998); for instance, one is more likely to suppress negative tendencies in a job interview or in the presence of one's boss. In more comfortable and familiar surroundings, one may be less motivated to manage one's impression (Hogan & Hogan, 2001).

From the nomothetic perspective, there is also interindividual variability in the ability and motivation to manage dark-side traits. Self-awareness is one relevant individual difference. Managers who lack insight about their counterproductive tendencies are less likely to manage them (Baumeister & Scher, 1988), whereas self-aware managers are more effective (Church, 1997). Moreover, some managers are also more prone to experience negative emotions, overreact to stress, and feel threatened. The increased reactivity to difficult circumstances saps the resources needed to self-regulate, and the

TABLE 2
Strengths and Weaknesses Associated with Dark-Side Dimensions

<i>Axis II Analog</i>	<i>Dark-Side Dimension</i>	<i>Related Bright-Side Dimension</i>	<i>Strengths</i>	<i>Weaknesses</i>
Borderline Avoidant	Excitable Cautious	Low Emotional Stability High Conscientiousness	Passion and enthusiasm Careful and precise	Outbursts and volatility Indecisiveness and risk-averse
Paranoid	Skeptical	Low Agreeableness	Politically astute and hard to fool	Mistrustful and quarrelsome
Schizoid	Reserved	Low Extraversion	Stoic and calm under pressure	Uncommunicative and insensitive
Passive-Aggressive	Leisurely	High Agreeableness	Relaxed and easy going	Indirect and noncommittal
Narcissism	Bold	High Emotional Stability	Confidence and charisma	Arrogance and entitlement
Antisocial	Mischievous	Low Conscientiousness	Risk tolerant and persuasive	Impulsive and manipulative
Histrionic	Colorful	High Extraversion	Entertaining and engaging	Melodramatic and attention-seeking
Schizotypal	Imaginative	High Openness	Creative and visionary	Eccentric and fanciful thinking
Obsessive-Compulsive	Diligent	High Conscientiousness	Hard working and high standards	Perfectionistic and micromanaging
Dependent	Dutiful	High Agreeableness	Compliant and deferential	Submissive and conflict avoidant

Note: Based on "What we know about leadership", by R. Hogan and R. Kaiser, 2005, *Review of General Psychology*, 9, 169-180, and *The Hogan Guide*, by R. Hogan, J. Hogan, and R. Warrenfeltz, Author, 2007, Hogan Press, Tulsa, OK. Adapted with permission from the publisher.

increased experience of threat triggers the self-protective strategies that are at the heart of dark-side traits. These dispositions are represented by low standing on the FFM trait, Emotional Stability (Ozer & Benet-Martinez, 2006; Steel, Schmidt, & Schultz, 2008). Therefore, we propose that managers who are low on FFM Emotional Stability are more likely to express the counter-productive aspects of their dark sides.

INEFFECTIVE LEADER BEHAVIOR

The effectiveness of leader behavior is typically conceptualised in a linear way where, for instance, more consideration, initiation, or transformational leadership is assumed to be “better”. This ignores a key finding in the early derailment research that strengths can become weaknesses through overuse (McCall & Lombardo, 1983; see also McCall, 2009). For instance, an intense drive can seem abrasive and inconsiderate; deep technical expertise can lead to tunnel vision. More is not always better, and research shows how extreme leadership behaviors can be counterproductive (Ames & Flynn, 2007; Kaiser & Kaplan, 2009; Kaplan & Kaiser, 2009).

Although the concept of strengths overused is acknowledged, it is seldom applied in the measurement of leader behavior. The standard method relies on Likert-type rating scales where higher scores indicate more frequent or more effective behavior (Schriesheim & Schriesheim, 1974; Shipper, 1991). This method confounds doing a lot with doing too much; it also blurs the distinction between deficiency and excess as two distinct sources of *ineffectiveness* (Kaiser & Kaplan, 2005). This may be one reason why leadership research on dark-side traits has produced inconsistent findings. In the present study, we used a measurement methodology that allowed raters to distinguish when managers do too little or too much of specific leader behaviors.

Our study used the four dimensions of the versatile leadership model: Forceful, Enabling, Strategic, and Operational (Kaiser, Overfield, & Kaplan, 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 moves, 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.

Forceful and Enabling behaviors represent *how* one leads, or one’s leadership style, and Strategic and Operational behaviors represent *what* one leads, or the organisational issues on which a leader focuses (Kaiser, Lindberg, & Craig, 2007; Kaiser & Overfield, 2010). *How* one leads reflects interpersonal behavior, which can be conceptualised in terms of two dimensions: an agentic

drive to get ahead (power, mastery, and assertion) and a communal drive to get along (intimacy, union, and relatedness) (Hogan, 2007; Wiggins, 1991). *What* one leads includes the changes required for a team or organisation to adapt to its environment and the stability needed to execute tasks. In terms of Yukl's (2006) taxonomy of leader behavior, Forceful and Enabling map the interpersonally oriented category, Strategic belongs in the change-oriented category, and Operational belongs in the task-oriented category.

Managers can do too little or too much of each behavior. Too little Forceful leadership lacks drive and accountability, but too much Forceful leadership can be overbearing and abrasive. Too little Enabling leadership can be disempowering and not sufficiently participative, but too much Enabling leadership can be an abdication of authority and overly accommodating. Too little Strategic leadership fails to provide vision or promote change, whereas too much Strategic leadership can involve grandiose plans that stretch resources and defy implementation. Finally, too little Operational leadership provides insufficient detail and focus, but too much Operational leadership can be rigid and stifling. Each of the foregoing behavioral descriptions has appeared as a theme in prior derailment research (Gentry & Chappelow, 2009; Hogan et al., 2010; McCall & Hollenbeck, 2002; McCall & Lombardo, 1983).

PREDICTIONS

Much previous research on the dark side lacks theory; researchers rarely specify a priori relations between dark traits and leader behaviors and outcomes. However, research that has used theory to align the bright-side dimensions of the FFM with relevant leader behaviors and other performance criteria has found more consistent and interpretable effects (Hogan & Holland, 2003; DeRue et al., 2011). We took a theory-driven approach by specifying relationships between dark-side traits and ineffective leader behavior. We aligned the 11 dark-side traits in Table 2 with too little or too much of the Forceful, Enabling, Strategic, and Operational behaviors based on the similarity of their underlying constructs. We relied primarily on the work of Hogan and Hogan to define the essential features of the dark-side traits (Hogan & Hogan, 2001, 2009; Hogan, Hogan, & Warrenfeltz, 2007; Hogan et al., 2010; Hogan & Kaiser, 2005).

Main Effects

Forceful Predictions. We predicted that high scores on Excitable would be associated with “too much” Forceful leadership. Excitable managers are easily upset and prone to emotional eruptions—yelling, throwing fits, and expressing direct anger. Co-workers see Excitable behavior as abrasive and intimidating.

On the other hand, we predicted that high scores on Cautious, Reserved, Leisurely, and Dutiful would be related to “too little” Forceful leadership. Cautious managers fear making mistakes; they are reluctant to take action or exercise independent judgment. They also prefer to not call attention to themselves and therefore lack the assertiveness required for Forceful leadership. Reserved managers are guarded, aloof, and uncommunicative. They lack the visible and outspoken qualities of Forceful leadership. Leisurely managers are overtly pleasant and compliant; their non-confrontational outward appearance contrasts with the directness of Forceful leadership. Dutiful managers try to avoid conflict and prefer to follow rather than lead. Their conflict avoidance, submissiveness, and indecision inhibit Forceful leadership.

Enabling Predictions. We expected that high scores on Dutiful would also be associated with “too much” Enabling leadership. The overly accommodating qualities of Dutiful managers represent a style that is too deferential, gives employees too much autonomy, and is excessively concerned about pleasing others.

We predicted that high scores on Excitable, Skeptical, Reserved, and Diligent would be associated with “too little” Enabling. The volatility of Excitable managers is contrary to the sensitivity and consideration that is central to Enabling leadership. The mistrusting and argumentative aspects of Skeptical should inhibit the trust needed to delegate and the openness required to care about other people’s views. Reserved managers are uncommunicative and indifferent to the feelings of others, which would inhibit the listening and supporting components of Enabling leadership. Diligent managers are obsessed with details and critical of others; their deep involvement and fault-finding preclude the empowerment of Enabling leadership.

Strategic Predictions. We predicted that high scores on Bold, Mischievous, Colorful, and Imaginative would be associated with “too much” Strategic leadership. Prior research indicates that these dimensions form a higher-order factor usually interpreted as the “charismatic cluster” (Furnham et al., 2012; Hogan & Hogan, 2001, 2009). Research on the dark side of charisma (Hogan, Raskin, & Fazzini, 1990) and related notions such as hubris (Hayward & Hambrick, 1997) and overconfidence (Malmendier & Tate, 2005) emphasise how managers with these qualities are prone to “strategic overreach” (Kennedy, 1988). Bold managers have unrealistically optimistic beliefs in their capability, which can lead to overly ambitious strategies and growth initiatives. Mischievous managers are impulsive and willing to test limits; they may overlook the long-term consequences of risky decisions. Colorful managers are dramatic and persuasive, which helps sell their vision—even if it is not well founded. They also need constant stimulation,

TABLE 3
 Predicted Relationships between Dark-Side Personality Dimensions
 and Leader Behaviors

<i>Dark Side Trait</i>	<i>Leader Behavior</i>			
	<i>Forceful</i>	<i>Enabling</i>	<i>Strategic</i>	<i>Operational</i>
Excitable	Too much	Too little		
Cautious	Too little		Too little	Too much
Skeptical		Too little		
Reserved	Too little	Too little		
Leisurely	Too little			
Bold			Too much	Too little
Mischievous			Too much	Too little
Colorful			Too much	Too little
Imaginative			Too much	Too little
Diligent		Too little		Too much
Dutiful	Too little	Too much	Too little	

which can lead to abrupt changes in direction. Imaginative managers think in unusual and eccentric ways. Their novel ideas can seem visionary and “outside the box”, but often are ungrounded and make little business sense.

We predicted that high scores on Cautious and Dutiful would be associated with “too little” Strategic leadership. Afraid of being criticised or making mistakes, Cautious managers are uncomfortable taking risks and unwilling to advocate for innovation or change. Dutiful managers are more willing to go along with an existing strategy than recommend a change in direction.

Operational Predictions. We predicted that high scores on Cautious and Diligent would be associated with “too much” Operational leadership. Cautious managers are risk averse and insist on tried and true methods; their enforcement of standard operating procedures is stifling. Diligent managers are perfectionistic and rigid about schedules and expectations. Their inflexible high standards, exacting specificity, and obsession with detail are experienced as micromanagement.

In contrast with “too much” Strategic leadership, we predicted that high scores on Bold, Mischievous, Colorful, and Imaginative would be associated with “too little” Operational leadership. Bold managers are over-confident and underestimate the tactical problems with implementing their grand plans. Mischievous managers are impulsive and neglect details and follow-through. Colorful managers are easily distracted and lack the focus required to execute. Imaginative managers get lost in thought and struggle to move from idea to execution. All of the foregoing predictions are summarised in Table 3.

Moderating Effect of FFM Emotional Stability

Earlier we proposed that managers who are low on FFM Emotional Stability are less likely to regulate their dark sides because increased threat and anxiety taxes psychological resources and triggers the extreme and exaggerated behaviors associated with dark traits (Davies, 2009; Kaiser & Kaplan, 2006; Mansi, 2007; Nelson & Hogan, 2009). Therefore, we predicted that Emotional Stability would moderate the effect of dark-side traits on excessive leader behavior, such that relationships between dark-side traits and ratings of “too much” leader behavior will be strongest for managers who are low on measures of Emotional Stability.

We tested the moderating effects for Emotional Stability on the dark trait expected to be most strongly related to overdoing each of the four leader behaviors. Specifically, we predicted that for managers low on Emotional Stability, Excitable would be more related to “too much” Forceful; Dutiful would be more related to “too much” Enabling; Imaginative would be more related to “too much” Strategic; and Cautious would be more related to “too much” Operational.

METHOD

Sample

The data consisted of scores on the Hogan Development Survey and Hogan Personality Inventory for 320 managers and behavior ratings from 4,906 of their co-workers on the Leadership Versatility Index version 3.1. Data were gathered for strictly developmental purposes either as part of a training program or executive coaching services.

The participants were employed in American (65%) and European (35%) firms. They were mostly male (71.3%) and the mean age was 45.7 years ($SD = 7.0$). They reported a mean of 16.4 years of managerial experience ($SD = 7.1$) and mean tenure in their current job of 3.1 years ($SD = 3.2$). Most worked in business organisations—61.2 per cent in publicly traded companies, 28.1 per cent in privately held companies, and 8.6 per cent in government institutions (2.1% did not report their type of organisation). Participants worked primarily in upper management—41.3 per cent reported working at the Executive level, 31.6 per cent at the Director level, and 27.2 per cent in Middle Management.

Measures

Personality Predictors. Participants completed the Hogan Development Survey (HDS; Hogan & Hogan, 2009) as the dark-side personality measure.

The HDS contains 11 scales with 14 items each. Items are written in the form of statements to which a respondent indicates “agree” or “disagree”. Raw scale scores range from 0 to 14, with higher scores representing more dysfunctional tendencies. The 11 scales and their descriptions appear in Tables 1 and 2. Hogan and Hogan (2001, 2009) summarise reliability and validity evidence for the HDS showing that the 11 scales have unique relationships with a range of conceptually aligned occupational criteria. Test–retest reliabilities over a three-month interval range from .64 to .75.

In addition, participants completed the *Hogan Personality Inventory* (HPI; Hogan & Hogan, 2007), from which we used the 37-item Adjustment scale in this study. The Adjustment scale is a construct-valid measure of FFM Emotional Stability (Hogan & Hogan, 2007) and was used as a moderator variable in the second wave of analyses. Hogan and Hogan (2007) and Hogan and Holland (2003) summarise reliability and validity evidence for the Adjustment scale for a broad range of theoretically relevant occupational criteria. Test–retest reliability over a three-month interval is .87.

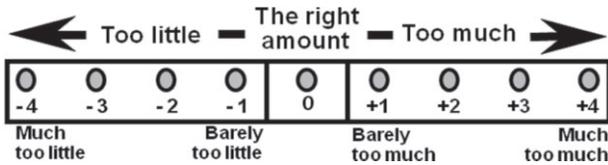
The norming sample used to interpret raw scores on the HDS and HPI Adjustment scales in terms of percentiles included over 100,000 cases of job applicants and employees from various occupational groups in the US workforce. Gender, race/ethnicity, and age are represented; both selection and development cases are included. The personality scores in this study are expressed in terms of percentiles ranging from 1st to 100th and should be interpreted relative to the general population of working adults in the US.

Leader Behavior Criteria. The Leadership Versatility Index version 3.1 (LVI) is a multi-rater instrument that contains four primary scales, each composed of 12 items, concerning Forceful, Enabling, Strategic, and Operational behaviors (Kaiser et al., 2010). Prior research supports the structure, reliability, and validity of the LVI as a measure of these four dimensions that shows the expected patterns of convergent and discriminant relations with other measures of leader behavior and effectiveness criteria (Kaiser et al., 2010; Staal, 2008; Vassar, 2008). Crucial to our study, the LVI behavior items are rated with a unique, “too little/too much” response format ranging from –4 to +4. Degrees of “too little” are represented from –4 to –1, “the right amount” is represented by 0, and degrees of “too much” are represented from +1 to +4 (see Figure 1). Research shows that raters can reliably make these distinctions and that it is a valid method for measuring strengths overused (Kaiser & Kaplan, 2005; Kaiser & Overfield, 2011).

Procedures

Leader behavior scores were calculated based on a composite of ratings from the superior, peer, and subordinate perspectives. This approach has been

This rating scale is probably different from those you are accustomed to using. On this scale the best score is “0”, in the middle of the scale. The premise is that performance problems arise when managers either do too little or do too much of something.



WARNING: Some people misread this scale. Please do not mistake it for the usual type where higher scores are better.

FIGURE 1. The “Too Little/Too Much” 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.

used in previous research (Kaiser & Hogan, 2011) and has been shown to produce scores that are more reliable and valid than relying on ratings from any one single source (Oh & Berry, 2009). We computed scale scores by first calculating the mean rating across raters within the superior, peer, and subordinate groups and then calculated the grand mean across all three groups for each target manager. We did this first for all 48 LVI items and then calculated the average of these scores across the 12 items comprising each of the four scales. Thus, the leader behavior ratings reflected a unit-weighted view from each of the three primary co-worker perspectives.

Justification for the rating aggregation was sought by calculating the degree of rating similarity using the $r_{wg(j)}$ interrater agreement coefficient (James, Demaree, & Wolf, 1984) and the one-way random effects intraclass correlation coefficient (McGraw & Wong, 1996). We computed these statistics within superior, peer, and subordinate groups and for the aggregation across the three groups (LeBreton, Burgess, Kaiser, Atchley, & James, 2003).

We used a triangular null distribution in the computation of $r_{wg(j)}$ to control for central tendency bias (LeBreton & Senter, 2008) because the majority of ratings were between -2 and $+2$ on the -4 to $+4$ scale. We calculated ICC(1) to estimate the reliability of an individual rater and ICC(k) to estimate the reliability of the average rating across k raters (where k equaled the modal number of two for superiors, five for peers, five for subordinates, and 12 for the aggregate rating across all three sources). In the rare cases when $r_{wg(j)}$

equaled an out-of-range value, estimates were reset to zero (see LeBreton, James, & Lindell, 2005). As the results in Table 4 show, the level of rating similarity both within and across the superior, peer, and subordinate sources was high and justified aggregation (LeBreton & Senter, 2008).

Descriptive statistics, reliability estimates, and zero-order correlations for all study variables are presented in Table 5.

RESULTS

Data analysis proceeded in two stages. We first tested the predictions concerning the main effects for the HDS dark-side traits on the leadership behaviors. Then, we tested the predictions concerning moderating effects for the measure of FFM Emotional Stability, HPI Adjustment.

Main Effects

The zero-order correlations in Table 5 offer a *prima facie* test of the predicted relationships between the HDS scales and leadership behaviors. Of the 22 predicted bivariate relationships, 16 were statistically significant; in contrast, only two of the 22 relationships we did not predict were significant.

However, our predictions were categorical rather than directional. For example, we did not just predict the observed positive relationship between Excitable and Forceful ($r = .14, p < .05$); we predicted that higher Excitable scores would be associated with ratings of *too much* Forceful. Although we expected the relationship between the HDS traits and LVI behaviors to be continuous and linear, our primary interest was in how scores on the dark-side traits related to “underdoing” and “overdoing” as two qualitatively distinct forms of ineffective leader behavior. Therefore, we dichotomised the four leadership behavior scale scores, splitting each distribution at 0, “the right amount”, and predicted ratings categorised as “too little” versus “too much” from the HDS scales using binary logistic regressions.¹ To dichotomise the leadership behavior ratings, scores of less than 0 were coded as “too little” and assigned a value of 0; scores greater than 0 were coded as “too much” and assigned a value of 1. (No managers in the sample scored 0.0 on any scale.) This recoding resulted in the following distributions for each

¹ We actually tested relationships between the HDS scales and LVI behavior ratings with three different methods including (1) polynomial regression with continuous leadership behavior variables and (2) multinomial logistic regression using five categories for the leadership behavior variables (< -6 Standard Errors of Measurement [SEM] = “too little”, -6 to -3 SEM = “leaning too little”, -3 SEM to $+3$ SEM = “right amount”, $+3$ to $+6$ SEM = “leaning too much”, $> +6$ SEM = “too much”). Each statistical analysis led to the same substantive conclusions; therefore, to simplify presentation of the findings we only report the most basic analysis, (3) binary logistic regression with dichotomised leadership behavior ratings.

TABLE 4
Inter-rater Reliability and Inter-rater Agreement on Leader Behavior Scales

	Superiors			Peers			Subordinates			Aggregated across 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)	$r_{wg(j)}$
Forceful	.40	.57	.93	.29	.45	.92	.31	.47	.93	.24	.79	.94
Enabling	.24	.38	.96	.23	.37	.95	.28	.44	.95	.23	.78	.96
Strategic	.32	.49	.96	.14	.25	.98	.15	.26	.96	.17	.71	.98
Operational	.26	.41	.96	.20	.33	.96	.18	.31	.96	.14	.66	.97

Note: ICC(k) was based on $k = 2$ for superior ratings, $k = 5$ for peer ratings, $k = 5$ for subordinate ratings, and $k = 12$ for ratings aggregated across sources. $r_{wg(j)}$ values represent the average $r_{wg(j)}$ statistic computed across all focal managers ($N = 198$ for superiors, 311 for peer, 312 subordinates).

TABLE 5
Descriptive Statistics for and Correlations between Study Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Forceful	-0.6	.42	(.96)															
2. Enabling	-1.8	.30	-.74	(.92)														
3. Strategic	-2.6	.29	.43	-.08	(.92)													
4. Operational	-1.0	.21	.06	.02	-.30	(.81)												
5. HPI Adjustment	60.16	25.77	-1.6	.17	-.03	.04	(.87)											
6. HDS Excitable	54.71	27.33	.14	-.19	.01	-.04	-.41	.23	(.75)									
7. HDS Skeptical	54.57	27.29	-.02	.02	.00	-.04	-.41	.23	.09	(.67)								
8. HDS Cautious	59.45	26.39	-.15	.04	-.16	.12	-.34	.27	.09	.42	(.74)							
9. HDS Reserved	58.35	28.65	-.14	.06	-.02	.05	-.19	.20	.09	.42	.18	(.64)						
10. HDS Leisurely	54.80	30.68	-.10	.07	-.06	-.08	-.32	.11	.26	.21	.11	.24	(.67)					
11. HDS Bold	50.59	29.46	.07	-.02	.13	-.16	-.14	.02	.32	-.11	-.11	.24	.13	.44	(.70)			
12. HDS Mischievous	63.95	27.37	.07	-.07	.16	-.23	-.09	.05	.33	-.21	-.02	.13	.44	.47	.42	(.71)		
13. HDS Colorful	56.54	29.12	.16	-.09	.25	-.25	-.05	-.02	.14	-.30	-.25	.05	.47	.48	.36	.75	(.75)	
14. HDS Imaginative	57.37	26.09	.08	-.08	.20	-.35	-.11	.04	.25	-.17	-.03	.11	.43	.48	.36	.75	.06	(.72)
15. HDS Diligent	43.63	29.55	.11	-.07	.02	.15	-.11	.04	.23	-.04	.03	.01	.19	-.02	-.03	.06	.06	(.66)
16. HDS Dutiful	41.11	27.27	-.14	.10	-.16	.08	.04	-.07	-.11	.10	-.13	.12	-.05	-.11	-.12	-.10	.06	(.66)

Note: $N = 320$ managers and executives. Coefficients along the diagonal in parentheses are reliability estimates; Cronbach's alpha based on co-worker ratings aggregated across sources in the present sample for the *LVI* leader behavior scales and test-retest correlations for the personality scales [reported in Hogan & Hogan (2007) for HPI Adjustment and Hogan & Hogan (2009) for HDS scales]. All correlations $\geq |.11|$ significant at $p < .05$, $\geq |.15|$ significant at $p < .01$.

behavior: 195 too little and 125 too much Forceful, 233 too little and 87 too much Enabling, 275 too little and 45 too much Strategic, and 206 too little and 114 too much Operational.

We conducted four binary logistic regression analyses to simultaneously test relationships for the set of dark traits predicted to be associated with the four leadership behaviors. Testing all relationships with each leadership behavior in a single analysis minimises Type I error rates. However, this approach represents a very conservative test of our hypotheses because we are examining the relationship between leader behaviors and each dark-side scale after statistically controlling for the effects of the remaining dark-side scales in the model (Lunneborg & Abbott, 1983). Consequently, regression coefficients from this analysis represent tests of the incremental importance of predictors (LeBreton, Hargis, Griepentrog, Oswald, & Ployhart, 2007).

Logistic regression is analogous to linear regression with continuous predictor and criterion variables, but is more appropriate for testing categorical predictions (Aldrich & Nelson, 1984). The β weights indicate a change in the odds of observing one or the other category of the dichotomous criterion variable for each standard unit of change in the predictor variable (Demaris, 1992). Significant negative (positive) β weights are reliably associated with “too little” (“too much”) of the leadership behavior. The results are presented in Table 6.

The results offer general, but not universal, support for our predictions. On the one hand, all except one of the 22 predicted main effects is in the expected direction (the exception is a positive, rather than negative, β weight for Reserved in the prediction of Enabling leadership). On the other hand, only nine of the main effects are statistically significant at $p < .05$. This is partially because the simultaneous test for each predictor in the logistic regressions apportioned criterion variance to the stronger effects first, leaving little residual variance to attribute to weaker effects (Aldrich & Nelson, 1984; Demaris, 1992; LeBreton et al., 2007). However, each of the overall effects was medium-sized, with Nagelkerke R^2 values of .10 for Forceful, .07 for Enabling, .10 for Strategic, and .14 for Operational behaviors.²

² There are a number of model fit statistics for logistic regression and none is clearly preferred over the others (Cohen, Cohen, West, & Aiken, 2003). We used the Nagelkerke (1991) R^2 statistic because it is one of the more commonly used indexes of model fit and, similar to the traditional R^2 from Ordinary Least Squares (OLS) linear regression, ranges on a scale from 0 to 1. However, it is important to recognise that all quasi- R^2 statistics, including Nagelkerke R^2 , are simply an approximation of the variance explained by the logistic analysis and are not directly comparable to the traditional R^2 values obtained via OLS regression (Tabachnick & Fidell, 2007, p. 462). Therefore, we also conducted analogous OLS linear regression models using the HDS scales to predict the continuous scores on the four LVI behavior scales. The R^2 values were comparable to the Nagelkerke R^2 values from the logistic regressions reported in Table 6: .09 for Forceful, .07 for Enabling, .10 for Strategic, and .17 for Operational.

TABLE 6
Parameter Estimates for Binary Logistic Regression Analyses

<i>Leader Behavior Criterion</i>				<i>Model Statistics</i>	
<i>Dark-Side Predictors</i>	β	<i>Wald</i>	<i>p</i>	<i>Nagelkerke R²</i>	<i>Goodness of Fit</i>
Forceful					
Excitable	2.97	8.85	.003	.10	$\chi^2(5, N = 320) = 23.20,$ $p < .001$
Cautious	-2.82	7.95	.005		
Reserved	-.18	.03	.857		
Leisurely	-.97	.94	.332		
Dutiful	-1.95	3.65	.048		
Enabling					
Excitable	-2.68	7.19	.007	.07	$\chi^2(5, N = 320) = 15.03,$ $p < .01$
Skeptical	-.79	.63	.427		
Reserved	1.51	2.29	.130		
Diligent	-1.58	2.49	.114		
Dutiful	2.43	5.93	.011		
Strategic					
Cautious	-1.88	3.53	.050	.10	$\chi^2(6, N = 320) = 18.79,$ $p < .01$
Bold	.43	.19	.665		
Mischievous	1.15	1.32	.251		
Colorful	1.51	2.28	.131		
Imaginative	2.18	4.75	.029		
Dutiful	-1.45	2.11	.146		
Operational					
Cautious	.41	.17	.684	.14	$\chi^2(6, N = 320) = 35.56,$ $p < .001$
Bold	-1.10	1.20	.272		
Mischievous	-1.59	2.54	.111		
Colorful	-.41	.17	.682		
Imaginative	-4.49	20.14	.000		
Diligent	1.89	3.59	.049		

Note: Leader behaviors coded “too little” = 0 and “too much” = 1; therefore, negative (positive) β weights are associated with too little (too much).

Forceful leadership was significantly associated with high Excitable, low Cautious, and low Dutiful which together correctly classified 71 per cent of the sample (versus the base rate of 61% that would be predicted from a null model) rated as “too little” and 54 per cent (versus a 39% base rate) rated

“too much”. Enabling leadership was significantly associated with high Dutiful and low Excitable, which correctly classified 84 per cent (versus a 73% base rate) rated as “too little” and 44 per cent (versus a 27% base rate) rated “too much”. High Imaginative and low Cautious was associated with Strategic leadership, and they correctly classified 94 per cent (versus an 86% base rate) rated as “too little” and 36 per cent (versus a 14% base rate) rated “too much”. Finally, Operational leadership was associated with high Diligent and low Imaginative, and they correctly classified 73 per cent (versus a 64% base rate) of the sample rated as “too little” and 58 per cent (versus a 36% base rate) rated “too much”. Although the dark-side traits correctly classified a higher proportion of managers rated as “too little” (81%) versus “too much” (48%) across the four behaviors, the base rates were also higher for those rated “too little” (71%) versus “too much” (29%). Compared to the base rates, the dark-side traits improved the classification of managers rated “too much” nearly twice as much as they improved the classification of managers rated “too little” (19% versus 10%, respectively). We note that this is consistent with the overlooked connection between flawed personality and strengths overused in early studies of derailment.

Having determined which of the predicted relationships between high scores on the dark-side traits and underdoing and overdoing the four leader behaviors was significant, we next examined relationships across the full range of the leader behavior continuous scores. First, we wanted to identify the level of HDS dark-side traits associated with the optimal amount, versus too little or too much, of each leader behavior. Second, prior research has produced conflicting results: some studies suggest linear relationships between dark traits and performance (Moscoso & Salgado, 2004; O’Boyle et al., 2012; Resick et al., 2009), whereas others suggest nonlinear relationships in which lower scores on dark traits are unrelated to performance but higher scores are related to worse performance (e.g. Benson & Campbell, 2007). For each of the significant dark-side predictors in the logistic regression analyses, we compared the fit of linear and quadratic regression models in the prediction of the continuous scores on the LVI behaviors. In all cases, the addition of the squared term in the quadratic equation resulted in a non-significant increase in the model R^2 . In other words, all nine of the significant dark-side effects were more accurately described as linear (vs. non-linear).

The significant linear relationships between the HDS percentile scores and the continuous LVI leader behavior ratings are depicted in Figure 2. The functions represent the regression lines for each bivariate relationship and indicate the level of each dark-side trait that corresponds to “the right amount” of each leader behavior, as well as various degrees of “too little” and “too much”. The point where each regression line crosses “0, the right amount” on the leader behavior scale indicates the HDS percentile score

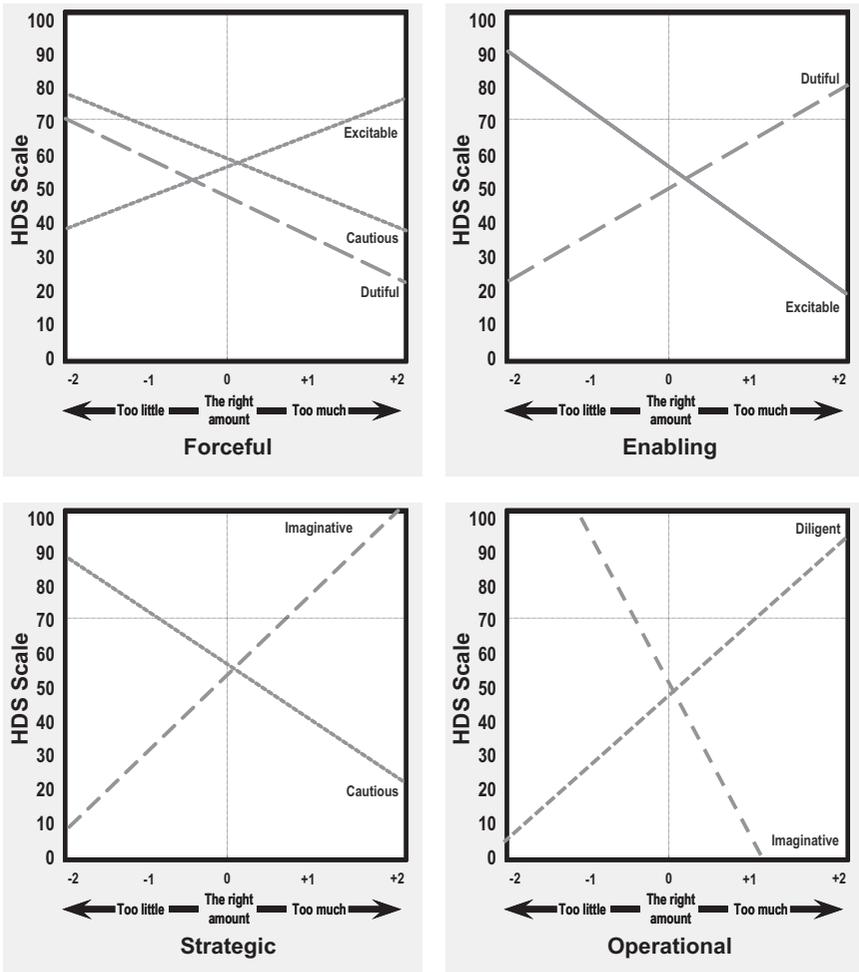


FIGURE 2. Regression lines for significant predictors from binary logistic regression analysis. The point where the regression line crosses “0, the right amount” on the leader behavior scale corresponds to the percentile score on the dark-side traits associated with the optimal amount of the leader behavior.

associated with the optimal amount of that behavior. In general, HDS scores around the 50th percentile, the normative average, correspond to “the right amount” of the leader behaviors. (We elected to place the dependent variables, LVI behaviors, on the abscissa of these graphs in order to facilitate the interpretation of what levels of HDS scores were associated with the “the right amount” of the various leader behaviors.) Further, although elevated

HDS scores are associated with ineffective leader behavior, low HDS scores are as well. The effects for low scores were not predicted and add a novel wrinkle to our understanding of the relationship between the dark side of personality and leadership. We consider these findings further in the Discussion section.

Moderated Effects

We used an expanded version of the previous analytic strategy to test the prediction that low levels of FFM Emotional Stability have an amplifying effect on the relationship between dark-side traits and excessive leadership behavior. Specifically, we conducted a hierarchical binary logistic regression predicting the leader behaviors dichotomously coded “too little” or “too much” for each of the four predicted effects. This procedure is analogous to using hierarchical linear regression to test moderation effects on continuous criterion variables (Frazier, Tix, & Barron, 2004). In the first step, we entered the main effect terms for the HDS dark-side scale and our measure of FFM Emotional Stability, the HPI Adjustment scale. In the second step, we entered the cross-product term—which contains information about the interaction effect between the HDS dark-side scale and the HPI Adjustment scale—and tested the increment in Nagelkerke R^2 for significance. The results are presented in Table 7.³

The results indicate a significant moderating effect for HPI Adjustment in three of the four HDS scale–leader behavior relationships. Adding the interaction term increased the overall classification rate from 57 per cent to 61 per cent for Excitable-Forceful, from 67 per cent to 72 per cent for Dutiful-Enabling, and from 64 per cent to 67 per cent for Cautious-Operational. The moderating effect for Imaginative-Strategic was not significant. To facilitate the presentation and interpretation of these moderating effects, we reran the analyses treating leader behavior as a continuous variable and examined the linear relationships between the HDS scale scores and the continuous leader behavior scores for three different levels of HPI Adjustment: low (\leq 33rd percentile; $N = 58$), moderate (34th–66th percentile; $N = 122$), and high (\geq 67th percentile; $N = 140$). These functions are depicted in Figure 3 and indicate that high HDS scores were associated with “too much” leader behavior for managers low on HPI Adjustment, with the minor exception that higher levels of HDS Cautious also were linked to “too much”

³ At the suggestion of one reviewer, we also tested the significance of a potential three-way interaction between the HDS scales, Adjustment, and Prudence (a measure of FFM Conscientiousness) on the grounds that high Adjustment would represent stress tolerance and high Prudence would represent impulse control. None of these complex three-way interactions were statistically significant at $p < .10$.

TABLE 7
Parameter Estimates for Moderated Hierarchical Logistic Regression Analyses

<i>Leader Behavior Criterion</i>	β	<i>Wald</i>	<i>p</i>	<i>Model Statistics</i>	
				<i>Goodness of Fit</i>	
Forceful					
Step 1					
Adjustment	-1.52	2.31	.129		
Excitable	1.18	1.39	.238		
Nagelkerke R^2				.030	$\chi^2(2, N = 320) = 7.19, p < .05$
Step 2					
Adjustment	1.34	1.81	.179		
Excitable	2.51	6.32	.012		
Adjustment X Excitable	-2.27	5.16	.023		
Δ Nagelkerke R^2				.022	$\chi^2(1, N = 320) = 5.31, p < .05$
Model Nagelkerke R^2				.052	$\chi^2(3, N = 320) = 12.49, p < .01$
Enabling					
Step 1					
Adjustment	3.18	10.09	.001		
Dutiful	1.18	1.39	.238		
Nagelkerke R^2				.055	$\chi^2(2, N = 320) = 12.43, p < .01$
Step 2					
Adjustment	2.91	8.46	.004		
Dutiful	3.73	13.93	.000		
Adjustment X Dutiful	-2.69	7.26	.007		
Δ Nagelkerke R^2				.033	$\chi^2(1, N = 320) = 7.57, p < .01$
Model Nagelkerke R^2				.088	$\chi^2(3, N = 320) = 19.99, p < .001$
Strategic					
Step 1					
Adjustment	.82	.66	.415		
Imaginative	2.82	7.94	.005		
Nagelkerke R^2				.049	$\chi^2(2, N = 320) = 8.77, p < .05$
Step 2					
Adjustment	-.51	.26	.611		
Imaginative	.39	.15	.694		
Adjustment X Imaginative	.85	.72	.397		
Δ Nagelkerke R^2				.004	$\chi^2(1, N = 320) = 0.71, ns$
Model Nagelkerke R^2				.053	$\chi^2(3, N = 320) = 9.49, p < .05$
Operational					
Step 1					
Adjustment	1.52	2.31	.128		
Cautious	1.40	1.97	.160		
Nagelkerke R^2				.016	$\chi^2(2, N = 320) = 3.26, ns$
Step 2					
Adjustment	2.21	4.87	.027		
Cautious	2.16	4.67	.031		
Adjustment X Cautious	-1.82	3.30	.049		
Δ Nagelkerke R^2				.014	$\chi^2(1, N = 320) = 3.49, p < .05$
Model Nagelkerke R^2				.030	$\chi^2(3, N = 320) = 6.85, p < .05$

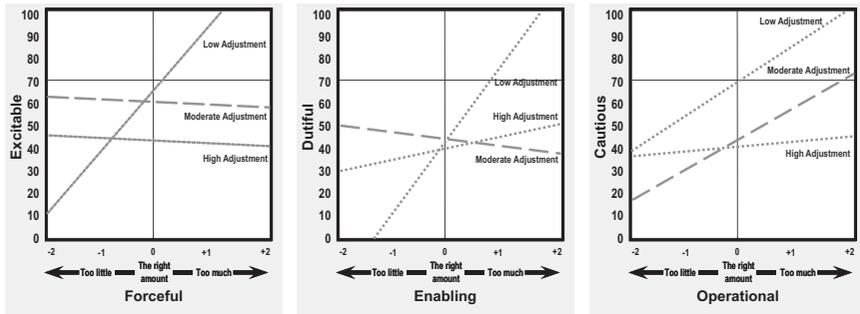


FIGURE 3. Relationships between dark-side traits and leader behaviors for low, moderate, and high levels of Adjustment.

Operational leadership for managers in both the low and moderate range of HPI Adjustment. In no case was an HDS dark side trait associated with excessive leader behavior for managers high on Adjustment.

DISCUSSION

The results of this study provide links between the dark side of personality and extreme leader behavior. Correlations were statistically significant for 16 of the 22 predicted dark trait–leader behavior relationships, and 20 of the 22 relationships that were not predicted were non-significant (overall hit rate: 36/44, or 82%). Moreover, the overall multivariate effects predicting “too little” and “too much” of the four leader behaviors from theoretically aligned dark traits ranged between Nagelkerke R^2 values of .07 and .14, with an average of .10. These are medium-sized effects (Cohen, 1988) and suggest that the impact of dark-side traits on extreme leader behavior is practically important. The findings extend the role of the dark side in leadership theory and research, suggest an expanded interpretation of scores on dark-side personality scales, and have implications for the development of managers.

Implications for Theory and Research

Our findings respond to Harms et al.’s (2011a) call for a better understanding of the role of the dark side in leadership by: (a) highlighting the problem of excessive behavior, (b) extending the impact of dark traits beyond relationships, (c) demonstrating an amplifying effect for emotional instability, and (d) revealing negative effects for low levels of dark-side traits.

Accounting for Excessive Behavior. The negative impact of dark traits on leadership is often discussed in terms of excessive behavior (Hogan et al.,

2010; Kaiser & Kaplan, 2006; Mansi, 2007; Nelson & Hogan, 2009). In line with this focus on excessive behavior, we found that the dark traits enhanced the prediction of ratings of “too much” behavior nearly twofold compared to the prediction of ratings of “too little” behavior. However, most measures of leadership do not represent excessive behavior—for example, when strengths become weaknesses through overuse. The current study distinguished “too little” and “too much” as different forms of extreme leader behavior. The unique relationships we found between dark-side traits and “too little” and “too much” highlight the importance of this distinction, and contrast with studies that conclude that there are positive relationships between the dark side and performance (e.g. Robie et al., 2008). It is possible that these earlier studies may have confounded strengths overused in the criterion measures. We recommend that future research specify whether dark traits are expected to be related to underdoing or overdoing certain leader behaviors and to use a measurement method that operationalises this distinction.

The focus on excessive behavior notwithstanding, the dark traits did correctly classify a higher absolute proportion of ratings of “too little” versus “too much” behavior (overall classification rates of 81% and 48%, respectively). We see two likely explanations. First, there was a much higher incidence of “too little” leader behavior than “too much”—on average, 71 per cent versus 29 per cent across the four behaviors. Given this difference in base rates, the dark-side predictors were more than twice as likely to identify behaviors rated “too little”. Second, of the 22 predicted bivariate relationships, only eight were expected to relate to “too much” leader behavior. There were nearly twice as many predictors of “too little” as compared to “too much”. Future research is needed to determine how to account for a higher absolute proportion of overdoing behavior, or whether it is simply harder to predict than underdoing behavior.

Beyond Relationship Problems. Theorists have emphasised how dark-side traits disrupt relationships (Hogan & Hogan, 2001; O’Boyle et al., 2012), which is consistent with the association between the Axis II disorders and low FFM Agreeableness and Emotional Stability (Samuel & Widiger, 2008; Saulsman & Page, 2004). However, in our study, the dark-side traits accounted for an average of 8 per cent of the variance in the two interpersonally oriented leader behaviors, Forceful and Enabling, but an average of 12 per cent of the variance in the organisational change- and task-oriented behaviors, Strategic and Operational. This is a 50 per cent higher rate of prediction for behaviors related to the organisational aspects of leadership compared to the interpersonal aspects.

This difference may be attributable to the fairly senior status of the sample. The majority of study participants were at the director or executive level and as managers move up the organisational hierarchy, strategic and organi-

sational aspects of performance become more important than relational aspects (Kaiser, Craig, Overfield, & Yarborough, 2011; Mumford, Campion, & Morgeson, 2007). At least among senior managers, it appears that the dark side may corrupt strategic and tactical judgment *more* than it disrupts interpersonal relationships. Nonetheless, we do not want this difference to overshadow the more important point that we found negative effects for behaviors related to both types of leadership performance problems, and both interrupt the ability to build, maintain, and guide a high performing team. The major implication here is that future research should consider how dark-side traits compromise strategic and tactical judgment in addition to their more frequently considered role in undermining relationships.

Emotional Instability as an Amplifier. Measures of FFM Emotional Stability are powerful predictors of important criteria including life outcomes, health status, social relationships, education, and job attitudes, satisfaction, and performance (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Stable leaders are calm, confident, and resilient; unstable leaders are anxious, easily upset, negative, and moody. Judge et al. (2009, p. 868) suggested that, because leadership is “an inherently emotional process”, leaders with low Emotional Stability create toxic environments. Leaders transmit their moods to subordinates through emotional contagion effects (Sy, Côté, & Saavedra, 2005) and followers of less stable leaders report lower levels of satisfaction with the job, communication, interpersonal relations, feedback, and leader credibility (Farmer & Aguinis, 2005).

We predicted that the relationship between HDS dark-side scales and overdoing the four leader behaviors would be more pronounced for managers with low scores on HPI Adjustment, our measure of Emotional Stability. The results revealed a significant moderating effect for three of the four dark trait–leader behavior relations examined. Higher dark-side scores were associated with extreme leader behavior for managers scoring lower on Adjustment, but there was no such relationship for managers scoring higher on Adjustment. Why is this? First, high Adjustment seems to neutralise the potential of the dark side to promote exaggerated behavior like the excessive use of strengths. Second, in the case of Excitable and overdoing Forceful leadership, low Adjustment triggers volatility, which results in over-reacting and pushing too hard. In the case of Dutiful and overdoing Enabling leadership, low Adjustment increases insecurity which leads to submissiveness to avoid conflict. In the case of Cautious and overdoing Operational leadership, low Adjustment contributes to increased worry and fear of mistakes which promote micromanagement and inflexible and inefficient safeguard procedures. Meta-analytic research shows that low Emotional Stability undermines effective leadership (Judge, Bono, Ilies, & Gerhardt, 2002); our results

suggest that one mechanism through which it does so is by amplifying extreme, counterproductive dark-side tendencies.

Low Levels of Dark Traits. We framed our predictions about the negative effects of the dark side based on the interpretation of high scores. The results, however, revealed that *low* scores were also associated with ineffective leader behavior. Prior research on the dark side has either not considered negative effects for low scores (e.g. Moscoso & Salgado, 2004; Resick et al., 2009) or proposed that lower scores are unrelated to leader performance (Benson & Campbell, 2007). Judge et al. (2009, p. 859) analyzed “the paradox of traits” in terms of adaptive and maladaptive aspects to both bright-side and dark-side dispositions, but focused their analysis on the range associated with high scores. They did not consider the paradox that both high and low scores may be problematic. Our unexpected findings for low scores suggest that research on the adaptive and maladaptive effects of both high and low scores on bright-side traits (Kaiser & Hogan, 2011; Nettle, 2006) may be applicable to the dark side. Future leadership studies should consider the full range of dark-side traits and the possibility that we need to re-conceptualise our interpretation of scores falling at the lower end of the continuum as being most desirable.

Based on a new interpretation of dark-side scales (see below), we offer the following explanations for the negative effects we found for low scores. First, low Excitable is associated with “too little” Forceful and “too much” Enabling due to emotional disengagement and a lack of urgency. Low Dutiful is associated with “too little” Enabling and “too much” Forceful because it represents rebellious defiance and disregard for the expectations of other people. Low Cautious is associated with “too much” Forceful and Strategic due to reckless impulsivity and pushing boundaries. Low Imaginative is associated with “too little” Strategic and “too much” Operational due to an excessive preference for routine structure and disinterest in new ideas. And low Diligent is associated with “too little” Operational because of low work standards, inattention to detail, and a lackadaisical approach to production.

Reconsidering the Interpretation of Dark-Side Scales

Negative effects for low scores on dark-side scales are not part of mainstream theory. Prior work has conceptualised dark traits as ranging from innocuous, or even desirable, at the low end to increasingly undesirable and potentially career limiting at the high end. According to guidelines for interpreting the HDS, low scores suggest an absence of the derailing behaviors associated with high scores and the presence of certain positive behaviors (Hogan et al., 2007). For instance, high Skeptical is described in terms of a cynical and mistrusting outlook where people expect to be mistreated and come across as

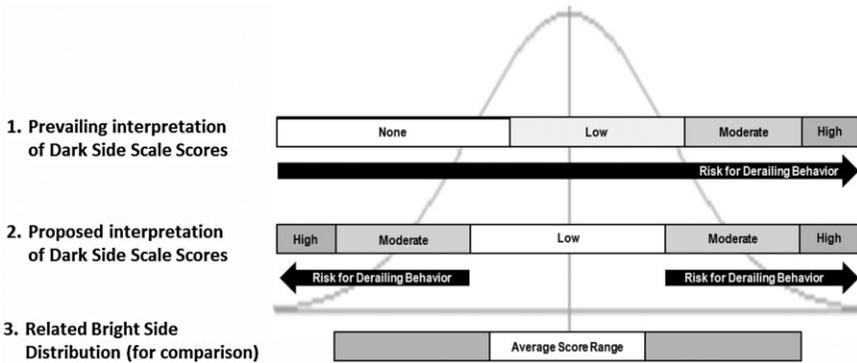


FIGURE 4. Alternative interpretations of dark-side scale scores (1 and 2) compared to a related bright-side scale distribution (3).

argumentative, critical, and defensive. On the other hand, low Skeptical is described in terms of an optimistic outlook and faith in the intentions of others which promote behaviors that are seen as cooperative, receptive, and trusting. However, observations from executive coaching practice suggest that low HDS scores may more accurately be interpreted in terms of opposite, yet similarly undesirable and extreme, tendencies compared to high scores (Warrenfeltz & Seldman, 2012). For instance, low Skeptical may actually reflect gullibility and naiveté. Our results converge with this insight in suggesting that both extremes of dark-side continua are associated with counterproductive behaviors.

Our results also indicate that moderate dark-side scores around the normative average were associated with optimal levels of the four leader behaviors. Taken together, the findings raise the possibility that we may need to reconsider the interpretation of scores on dark-side scales. Figure 4 presents two alternative interpretations. The first is the prevailing interpretation (e.g. Hogan et al., 2007; Hogan & Hogan, 2009), where low scores represent no risk and higher scores indicate increasing risk for derailing behaviors. The second is a new interpretation we propose where both lower and higher scores represent increasing risk for derailing behaviors, whereas moderate scores represent low risk and may even be associated with desirable behaviors. For comparative purposes, we also include a third distribution for a related bright-side scale. Although the relative quantitative scaling is not meant to be precise—further research is needed for that—the idea is that dark-side traits and bright-side traits overlap but dark-side traits extend the continuum beyond the range of the bright side into the extreme regions, where counterproductive behavior is more likely (Benson & Campbell, 2007).

We are proposing that the dark-side continua extend the range covered by bright-side traits at both ends of the scale, and that scores at both extremes are associated with counterproductive behaviors.

Our proposed reinterpretation of dark-side scores is based on three considerations. First is construct validity in terms of empirical relationships between the trait measure and other variables (Anastasi, 1961, pp. 145–146). In the present study, both high and low dark-side scores were related to ineffective leader behavior. Second is theory about the costs and benefits associated with high and low levels of personality traits. Nettle (2006) argued that for individual differences on any personality trait to have evolved there must be (1) benefits associated with that trait in certain contexts and (2) costs associated with the trait in other contexts. Extreme scores at both the low and high ends of the continuum are likely to be less adaptive because they represent a greater probability of exhibiting extreme behavior regardless of its contextual appropriateness (Schuman & Presser, 1981). Finally, our interpretation assumes the hypothesised relationship between dark-side traits and related bright-side traits (Benson & Campbell, 2007; Paulhus & Williams, 2002). Further research is needed to test the viability of this new view of dark-side scales, especially in terms of negative effects for both low and high scores, scale ranges associated with various degrees of risk for derailing behaviors, and the relationship between distributions for related bright-side and dark-side traits.

Implications for Management Development

Dark-side traits are common among managers and increasingly visible in higher levels of management. For instance, one study used multiple methods to determine that about a quarter of managers in a very large European sample spanning all levels of management had at least one dark-side trait sufficiently elevated to be considered a performance risk (De Fruyt, Wille, & Furnham, in press). By comparison, across three samples including 378 Australian CEOs and executives, Davies (2009) reports that 98 per cent had at least one HDS scale in the “risk zone” (≥ 70 th percentile) and 80 per cent had at least one in the “high risk zone” (≥ 90 th percentile). If the definition of “risk” was expanded to also include low scores, these base rates would be even higher. Virtually every upper-level manager is at some risk for performance problems related to his or her dark side, which raises the importance of self-development.

Learning to contain the destructive effects of dark-side traits requires supplementing the outer work of behavior change with the inner work of changing one’s mindset (Kaiser & Kaplan, 2006; Kaplan & Kaiser, 2006). The inner work involves enhancing one’s self-awareness and capacity for self-regulation. Managers can become more aware of their dark-side

tendencies and come to appreciate how they compromise performance through a combination of personality assessment and co-worker feedback. Both bright- and dark-side measures of personality are useful in this effort (Mansi, 2007; Nelson & Hogan, 2009), especially to understand when low Emotional Stability may intensify dark-side tendencies. Co-worker feedback can be used to corroborate inferences from personality scores and identify the traits that are having the most undesirable impact on leadership behavior. Attention is best focused where feedback from the two methods converges.

However, self-awareness is not enough; managers must also develop self-regulatory strategies to manage their dark side. Models for this type of development share six features (e.g. Davies, 2009; Kaiser & Kaplan, 2006; Mansi, 2007; Nelson & Hogan, 2009; Peterson, 2010). First, they depend on assessment feedback and are facilitated by a development professional. Second, they identify managers' implicit mental models of social interaction and performance expectations (i.e. schemas). Third, they highlight faulty assumptions, emotional hot-buttons, and self-defeating strategies that are typically unconscious and that distort perception and promote defensive behaviors. Fourth, they guide managers to see how their self-defeating mental models and associated behaviors may have worked in previous contexts, but may no longer be adaptive or applicable. Fifth, they use principles of cognitive restructuring to replace faulty mental models and counterproductive behaviors with constructive alternatives and teach methods of analyzing "if-then" contingencies for when to apply the more constructive alternatives. Finally, they acknowledge the challenge of changing self-protective beliefs and behaviors that were learned in stressful circumstances and reinforced through habitual use. This requires a serious commitment to change and an ongoing cycle of practice, feedback, reflection, and guidance.

Limitations

At least three shortcomings to the present study may limit generalisability. First, the sample was composed mostly of upper-level managers. It is unclear how well the findings apply to lower-level managers and supervisors. It is plausible that the effect of dark-side traits at lower levels is stronger for interpersonally oriented leader behaviors and weaker for organisational change- and task-oriented behaviors.

The sample consisted exclusively of managers working in American and European locations. It remains to be seen how well these results apply to Latin and South America, Asia-Pacific, the Middle East, and Africa. For instance, the greater power distance in these cultures may affect the threshold for the level of dark-side traits perceived to be associated with "too little" and "too much" of various leader behaviors (House, Hanges, Ruiz-Quintanilla, Dorfman, Falkus, & Ashkanasy, 1999). It is possible that the greater obedi-

ence to authority common to more hierarchical and collectivist cultures such as those in Asia are more tolerant of personality quirks and eccentricities, in which case it may require more extreme scores on dark-side traits to be associated with ineffective ratings of leader behavior. However, there is little extant theory to guide these kinds of conjectures. Integration of the literatures on the dark side of personality and cross-culture effects in leadership research is a fertile area to be explored.

Finally, our criterion variables were measured on a continuous scale, but in some analyses were split into binary categories because our predictions were categorical (“too little” and “too much”) rather than continuous. This procedure reduced variance in the four leader behaviors which limited statistical power and attenuated the observed relationships with the HDS dark-side traits (Cohen, 1983; MacCallum, Zhang, Preacher, & Rucker, 2002). It is possible that some of the HDS scales were erroneously rejected as non-significant predictors in the logistic regression analyses due to this reduction in power. Further, the observed multivariate effect sizes should be regarded as lower-bound estimates (Cohen, 1983).

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