

RESEARCH REPORT

Shall We Serve the Dark Lords? A Meta-Analytic Review of Psychopathy and Leadership

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Both scholars and the popular press have expressed concern regarding the potential prevalence of individuals with psychopathic tendencies in corporate leadership positions and the negative effects they may have on both individual workers and their organizations as a whole. However, research to date has been inconclusive as to whether such individuals are more likely to emerge as leaders or whether they are (in)effective leaders. To clarify the state of the literature, we conducted a meta-analysis on the association between psychopathic personality characteristics and leadership emergence, leadership effectiveness, and transformational leadership. Our results, based on data from 92 independent samples, showed a weak positive correlation for psychopathic tendencies and leadership emergence, a weak negative association for psychopathic tendencies and leadership effectiveness, and a moderate negative correlation for psychopathic tendencies and transformational leadership. Subgroup analyses on methodological factors did not indicate any differences from the main results. However, moderator analyses showed a gender difference in these associations such that psychopathic tendencies in men were weakly positively correlated with leadership emergence and effectiveness and negatively correlated with transformational leadership, while psychopathic tendencies in women were negatively associated with effectiveness and transformational leadership, and largely unassociated with emergence. In addition, small but consistent curvilinear associations were found for all leadership criteria. Overall, these results suggest that concern over psychopathic tendencies in organizational leaders may be overblown, but that gender can function to obscure real effects.

Keywords: leadership, meta-analysis, psychopathy, personality

Recent corporate scandals have led to a widespread concern among laypersons and scholars that there is potentially a major problem with the ethics and character of corporate leaders (Boddy, 2011). This is reflected in headlines such as “1 in 5 CEOs is a psychopath, study finds” (Pearlman, 2016) and “CEO is the profession with the most psychopaths” (Barker, 2014) and popular academic books such as *Snakes in Suits: When Psychopaths Go to Work* (Babiak & Hare, 2006). Although these narratives provide an appealing explanation for organizational dysfunction, that bad things are caused by bad people, many of these claims are based on weak or limited evidence.

While there is considerable evidence that a variety of leader characteristics can contribute to negative individual and organizational outcomes (Krasikova, Green, & LeBreton, 2013; Padilla, Hogan, & Kaiser, 2007; Spain & Harms, 2018), for personality traits such as psychopathy, there is also a general lack of consensus as to the size of these effects and even the direction of the relationships with leadership outcomes (see, e.g., Babiak & Hare, 2006; Dutton, 2012; Lilienfeld, Waldman, et al., 2012; Smith & Lilienfeld, 2013). Furthermore, as recent articles on other so-called “dark personality traits” have demonstrated (e.g., Grijalva, Harms, Newman, Gaddis, & Fraley, 2015; Kaiser, LeBreton, & Hogan, 2015), the relationship between psychopathy and leadership may be significantly moderated by what measures are used, the nature of the outcome, who is enacting the psychopathic behavior, or even how extreme the behaviors are.

To address these questions, we will use meta-analysis to examine the links between psychopathy and leadership emergence and leadership effectiveness. Specifically, we have three aims. First, we intend to resolve controversy regarding the connections between psychopathy and leadership emergence and effectiveness, as the eclectic group of studies in the literature at present is inconclusive and at times contradictory. Second, we examine potential moderators to these linkages, including methodological factors and leader gender. Last, we explore whether the associations between

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psychopathy and leadership emergence and effectiveness are curvilinear.

The Nature of Psychopathy

The concept of psychopathy originated with Cleckley's (1941) seminal text *The Mask of Sanity*. In it, Cleckley identified several psychopathic features or actions, including superficial charm, lack of anxiety, unwillingness to accept blame, lack of impulse control, and lack of empathy. Although Cleckley's work was never intended for use as a model for diagnosis (Babiak & Hare, 2006), clinical practice has traditionally been based on this characterization.

More recently, some organizational researchers have attached modifiers like "corporate" or "organizational" (e.g., Babiak & Hare, 2006; Boddy, 2011; Clarke, 2005) to psychopathy to reflect a subclinical, or nonpathological, level of the construct. But both clinical and subclinical approaches generally agree that psychopathy is a constellation of interpersonal, affective, and behavioral personality traits (e.g., Hare, 2003; LeBreton, Binning, & Adorno, 2006). These approaches are united in the triarchic model of psychopathy, which presents psychopathy as being composed of three distinct elements that combine to produce the psychopathic personality: boldness (e.g., interpersonal dominance), disinhibition (e.g., impulsivity), and meanness (e.g., lack of empathy; Patrick, Fowles, & Krueger, 2009). Varying conceptualizations of psychopathy can thus be distinguished by their emphasis on one or more constructs, with "successful" (i.e., subclinical) psychopathy epitomized by boldness in conjunction with low disinhibition (Lilienfeld, Watts, & Smith, 2015; Patrick et al., 2009).

Although both clinical and subclinical approaches concur that psychopathy consists of multiple factors or subdimensions, few measures account for this in a systematic way. One exception is the Psychopathic Personality Inventory—Revised (PPI-R; Lilienfeld & Widows, 2005), which assesses eight lower-order traits that make up three distinct factors: Fearless Dominance, Self-Centered Impulsivity, and Coldheartedness (see Blonigen et al., 2010). However, many studies of psychopathy in organizations have utilized measures that only provide overall scores or failed to report factor scores (e.g., Boddy, 2014; Mathieu & Babiak, 2016).

One other approach for assessing psychopathic tendencies in the workplace is the Mischievous (MIS) scale of the Hogan Development Survey (HDS; Hogan & Hogan, 2001, 2009). It should be noted that the HDS is not intended to measure personality disorders, but rather that it assesses tendencies to engage in self-defeating behaviors. The MIS scale itself consists of three subscales labeled Risky (dominant, goal-seeking behaviors), Impulsive (lack of self-control), and Manipulative (willingness to deceive and mistreat others; Ferrell & Gaddis, 2016) that roughly reflect the aspects of the triarchic model of psychopathy.¹ Individuals with high MIS scores are described as impulsive, nonconforming, manipulative, and exploitative, but can appear charming and friendly (Hogan & Hogan, 2009). Because it is well suited for assessing nonclinical populations, MIS has been frequently used to study issues related to job performance and leadership (e.g., Furnham & Crump, 2016; Furnham, Crump, & Ritchie, 2013; Harms, Spain, & Hannah, 2011a; Kaiser et al., 2015; Khoo & Burch, 2008).²

Psychopathy and Leadership

Individuals with psychopathic tendencies are generally believed to possess a number of highly aversive personality characteristics that are detrimental to successful functioning in the workplace (e.g., O'Boyle, Forsyth, Banks, & McDaniel, 2012; Spain, Harms, & LeBreton, 2014; Wu & LeBreton, 2011). However, these tendencies may not be uniformly negative with respect to aspects of leadership, including emergence and effectiveness.

Leadership Emergence

The leadership literature typically distinguishes between leadership emergence and leadership effectiveness (e.g., Grijalva et al., 2015; but see Colbert, Judge, Choi, & Wang, 2012, for an opposing view). Leadership emergence refers to whether an individual has attained a leadership role in a group or is perceived as being a leader (Lord, De Vader, & Alliger, 1986). Conversely, leadership effectiveness refers to actual team performance or perceptions of whether the leader is effective (Hogan & Kaiser, 2005).

Existing findings for the relationship between psychopathic tendencies and leadership emergence are somewhat varied. Psychopathic tendencies have been found to positively predict corporate rank (Howe, Falkenbach, & Massey, 2014) and level (Wille, De Fruyt, & De Clercq, 2013), but both negatively (Baird, 2002) and positively (Lilienfeld, Latzman, Watts, Smith, & Dutton, 2014) correlate with number of leadership positions held. Yet, psychopathic tendencies have also been found to have no significant relationship to management level (Babiak, Neumann, & Hare, 2010), hierarchical position (Harms et al., 2011a; Schütte et al., 2018; Spurk, Keller, & Hirschi, 2016), or time to promotion (Furnham et al., 2013). Given these mixed empirical results, we opted to explore the following research question:

Research Question 1: How are psychopathic tendencies associated with leadership emergence?

¹ According to the HDS manual (Hogan & Hogan, 2009, pp. 37, 38, 63), the highest correlate of MIS with the personality traits assessed by the California Personality Inventory (Gough, 1996) is Dominance ($r = .30$). For the Revised NEO Personality Inventory (Costa & McCrae, 1992) the highest correlate of MIS is Excitement-Seeking ($r = .35$). The highest correlating observer trait ratings of high MIS scorers are "is deceitful" ($r = .17$) and "is arrogant" ($r = .17$).

² Empirical evidence also supports the use of MIS as a commensurate assessment of psychopathy. In an online sample of 169 participants, Ferrell and Gaddis (2016) reported reliability-corrected correlations between the subscales of MIS and psychopathy measures from the Short Dark Triad (Jones & Paulhus, 2014) and the Dirty Dozen (Jonason & Webster, 2010) that ranged from .60 to .91. This range is comparable to the .70 reliability-corrected correlation reported by Carre, Mueller, Schleicher, and Jones (2018) between the Self-Report Psychopathy—Short Form measure and the Triarchic Psychopathy Model and is substantially higher than the reliability-corrected correlations between similarly-labeled Big Five trait measures (Pace & Brannick, 2010). As further validation of MIS as a comparable index of psychopathy, we asked 101 students to rate themselves on both the Personality Inventory for Diagnostic and Statistical Manual of Mental Disorders (5th ed., DSM-5; PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012) and the HDS. The pattern of correlations between the HDS MIS scale and those reported by Strickland, Drislane, Lucy, Krueger, and Patrick (2013) between the PID-5 and the Triarchic Psychopathy Measure (Patrick et al., 2009) correlated .77 with one another. This shows considerable similarity in the cognitive and behavioral patterns assessed by MIS and those of well-established psychopathy scales.

Leadership Effectiveness

Evidence of the relationship of psychopathic tendencies with leadership effectiveness is also mixed. For example, there is some indication that managers with psychopathic tendencies may be perceived as more effective leaders (Babiak et al., 2010; Lilienfeld, Waldman, et al., 2012). Analysis of U.S. presidents has also suggested a positive link between aspects of psychopathy and political effectiveness (Lilienfeld, Waldman, et al., 2012). Unsurprisingly, evidence of a negative relationship between psychopathic tendencies and leadership effectiveness is more common. Psychopathic tendencies in managers have been linked to negative follower outcomes such as abusive supervision (Mathieu & Babiak, 2016), bullying (Boddy, 2014), lower job satisfaction (Sanecka, 2013; Volmer, Koch, & Göritz, 2016), and turnover intentions (Mathieu & Babiak, 2015). Given this preponderance of empirical evidence, we hypothesize:

Hypothesis 1: Psychopathic tendencies will be negatively related to leadership effectiveness.

Potential Moderating Factors

Source of Measurement

Many ratings of leadership emergence are relatively objective, such as whether an individual has a formal leadership position in a group or organization (Harms, Roberts, & Wood, 2007; Lilienfeld et al., 2014), although some level of subjectivity may occur in self-report measures such as number of lifetime leadership positions held (e.g., Lilienfeld et al., 2014). Leadership effectiveness, though, may be objective (e.g., firm financial performance) or subjective (e.g., ratings of leadership performance). The latter can be measured by self-ratings (Furnham, Trickey, & Hyde, 2012), supervisor ratings (Benson, 2006), or followers rating their own outcomes as affected by their leader (Volmer et al., 2016). However, different individuals may have different perspectives as to which leaders are effective (Hogan & Kaiser, 2005). For example, self-ratings may be positively biased, supervisor ratings may be dependent on unit-level productivity, and subordinates may be more concerned with how they are treated. Thus, we examine the following research question:

Research Question 2: How does source of measurement moderate the association between psychopathic tendencies and leadership effectiveness?

Leader Gender

Men typically score significantly higher than women on measures of psychopathy (e.g., Lilienfeld & Hess, 2001; Miller, Watts, & Jones, 2011), and evidence suggests that psychopathic tendencies tend to be more common in men (Cale & Lilienfeld, 2002; Harms, 2016a). Some researchers have further argued that psychopathic tendencies may manifest differently in women than in men (e.g., relational aggression; Verona & Vitale, 2006; but see also Miller et al., 2011).

Although there have been no explicit tests of gender as a moderator of the association between psychopathic tendencies and leadership emergence or effectiveness, prior leadership research has shown that gender can often serve as an important moderator. For instance, men tend to emerge as leaders more often than

women (Eagly & Karau, 1991), and women tend to be rated as having higher derailment potential (Bono et al., 2017). Though meta-analytic evidence suggests that men and women are equally effective leaders (Paustian-Underdahl, Walker, & Woehr, 2014), men tend to be rated as more effective in masculine roles and women tend to be more effective in feminine roles (Eagly, Karau, & Makhijani, 1995). In addition, women who use communal influence tactics tend to have improved outcomes over those who use agentic tactics (Smith et al., 2013). Implicit prototypes of leadership (see Lord, Foti, & De Vader, 1984), which typically consist of male-typical attributes such as dominance and lack of emotion (Schein, 1973, 1975), may account for some of these effects. To the extent that individuals with psychopathic tendencies display these characteristics, we would expect them as being more likely to emerge as leaders and perhaps even to be perceived as more effective.

However, this is potentially not the case for women. For instance, De Hoogh, Den Hartog, and Neuvicka (2015) demonstrated that when male leaders displayed male-typical dark personality characteristics, they tended to be perceived as being more effective. Yet, when female leaders displayed these same characteristics, they tended to be rated as being less effective. Similarly, Williams and Tiedens (2016) found that explicit, but not implicit, displays of dominance tended to be negatively associated with women's likability. Thus, there may be completely opposite effects for men and women with psychopathic tendencies on leadership effectiveness. These effects could explain why there is considerable disagreement in the literature as to the effects of psychopathic tendencies and leadership. That is, depending on the percentage of men and women in the sample, the contrasting effects could potentially combine into an overall null effect. Therefore, we investigate the following research question:

Research Question 3: How does leader gender moderate the association between psychopathic tendencies and leadership emergence and leadership effectiveness?

Curvilinear Associations

Evolutionary (Jonason, Wee, & Li, 2014; Jones, 2014; Van Vugt & Ronay, 2014) and social psychological (Harms & Spain, 2015; Hogan, 2007; Spain et al., 2014) accounts of dark personality suggest that such characteristics persist in the population because they provide benefits under some circumstances and that moderate levels may be associated with higher levels of success. Indeed, Lilienfeld, Patrick, and colleagues (2012, pp. 329–330) have noted that Cleckley's original theorizing on psychopathy suggested that prototypical psychopathic individuals may actually appear to have superior mental health because they are less likely to be troubled by social or emotional impediments.

Prior organizational research has supported this account, with studies documenting curvilinear effects for narcissism and leadership effectiveness (Grijalva et al., 2015), psychopathy and commission sales performance (Titze, Blickle, & Wihler, 2017), and dark personality traits in general and leadership performance (Benson & Campbell, 2007). Grijalva and colleagues (2015) accounted for this using behavioral threshold theory, which suggests that different levels (or subfacets) of a trait may have different, or even opposite, relationships with particular outcomes of interest. That

is, individuals with moderate levels of psychopathic tendencies may, on average, be more likely to emerge as leaders and be effective leaders than those with either low or high levels of psychopathic tendencies.

Such curvilinear relationships are also suggested when considering the facet structure of psychopathic tendencies discussed previously. Individuals with high levels of Fearless Dominance, a potentially positive facet of psychopathy (see Costello, Unterberger, Watts, & Lilienfeld, 2018; Lilienfeld & Widows, 2005; Neo, Sellbom, Smith, & Lilienfeld, 2018), but low levels of Self-Centered Impulsivity and Coldheartedness, would have moderate scores on an overall measure of psychopathic tendencies but may, on average, be most likely to become leaders and to be effective leaders. As a consequence, we will also consider the following research question:

Research Question 4: Are the associations between psychopathic tendencies and leadership emergence and effectiveness curvilinear?

Method

Search Strategy

Potential sources for inclusion were identified using the PsycINFO, Business Source Premier, Google Scholar, and ProQuest Dissertations Abstracts Databases. We used every possible dyadic combination of our selected search terms. For psychopathy, we used the following: *psychopathy, corporate psychopathy, antisocial personality, aberrant personality disorder, mischievous, self-report psychopathy scale, Dirty Dozen, Lilienfeld measure, psychopathic personality inventory, Short Dark Triad, HDS, Minnesota Multiphasic Personality Inventory (MMPI), MMPI, California Psychological Inventory socialization scale, Millon Clinical Multiaxial Inventory, and MCMI*. For leadership, we used: *leadership, leader emergence, leader-member exchange, LMX, career success, status attainment, transformational leadership, ethical leadership, authentic leadership, destructive leadership, showing consideration, initiating structure, abusive supervision, career choice, follower outcomes, and bullying*. We also searched the conference programs for Society for Industrial and Organizational Psychology and Academy of Management from 2006 to 2018 for the keywords “psychopathy” and “Dark Triad.”

These searches yielded a total of 371 journal articles, 52 book chapters, 33 conference papers and symposia, 40 theses and dissertations, and 7 books. Abstracts and titles were examined to establish initial eligibility for inclusion. Two hundred forty-two sources did not contain data (i.e., were theoretical, reviews, etc.), an additional 12 were meta-analyses, and 20 further were qualitative studies. Of the sources containing data, we eliminated 70 for not containing a measure of leadership and 68 for not containing a measure of psychopathy. In addition, 9 sources contained data that could not be coded, and we identified 12 sources that contained data reported elsewhere that had already been accounted for in our coding. We also requested the results of unpublished data sets from test publishing firms that have produced measures of personality derailers as part of their assessments. This left us with 46 unique samples for leader emergence, 7 for informal leadership, 42 for

leader effectiveness, and 15 for transformational leadership. Finally, as part of our investigation into the potentially moderating role of leader gender and possible curvilinear associations between psychopathy and the examined criteria, we also contacted all first authors of articles we had included in our primary review to request additional information that would allow us to explore these associations.

Inclusion and Exclusion Criteria

We included sources if they reported on the zero-order correlation between psychopathic tendencies and at least one of the leadership criteria, or if the size and direction of the zero-order correlation could be computed from the presented information. We included all sources irrespective of country of origin or industry. To allow an apples-to-apples comparison, one article (Babiak et al., 2010) was excluded because the authors rated the leaders’ level of psychopathic tendencies themselves, and another article (Kaiser et al., 2015) was excluded because the authors relied on an ideal-point operationalization of leadership effectiveness, which means that the zero-order correlation cannot speak to the strength between psychopathic tendencies and leadership effectiveness.

Criteria Operationalization

Two leadership criteria were examined. First, leadership emergence was operationalized in five ways: (a) whether or not an employee held a leadership position, (b) the rank of the leader, (c) the rate at which an employee was promoted to a management position, (d) the number of leadership positions held over a time span, and (e) peer-ratings of informal leadership, assessed as a subjective peer rating of the social influence the target individual had among others in the organization (Harms et al., 2007). We judged informal leadership to be theoretically distinct from the other operationalizations and therefore computed a separate estimate of the association between psychopathy and informal leadership.

Second, leadership effectiveness was operationalized as direct ratings of leader effectiveness or job performance from any source (i.e., self-ratings, supervisor-ratings, peer-ratings, subordinate-ratings). Due to measurement issues and lack of construct clarity, ratings of transformational leadership can often be conflated with leadership effectiveness (see Van Knippenberg & Sitkin, 2013). Because of this, we included a supplemental analysis of the association between psychopathy and transformational leadership, but did not use these correlations to estimate the association with overall leadership effectiveness.

Moderators of Effect Size

Most of the included studies relied on very similar designs, but some methodological moderators could be explored for some criteria. Prior research has noted that effect sizes are often strongly influenced by common-method effects (see Podsakoff, MacKenzie, & Podsakoff, 2012), and that these effects are particularly strong in the leadership field (e.g., Harms & Credé, 2010; Judge & Piccolo, 2004). We thus examined whether the associations were influenced by the source of psychopathy and leadership ratings and by whether the design was predictive or concurrent. We also

examined whether the scale used to measure psychopathic tendencies influenced the size of the observed correlations for the leader emergence criterion.

Coding Procedure

The coding of articles was systematized using a series of pre-determined coding categories. In addition to the predictor (psychopathic tendencies), the specific leadership criteria (see above), and the zero-order correlation between these two variables, we also coded for the following study characteristics: (a) the sample size, (b) the local reliability estimates for psychopathic tendencies, (c) the local reliability estimate for the criterion variable, (d) the source of psychopathic tendencies ratings (e.g., self-ratings, subordinate-ratings), (e) the source of criterion ratings, (f) the design of the study (predictive vs. concurrent), and (g) the scale used to measure psychopathic tendencies. Coded elements for each study are shown in the Appendix. All articles were coded by at least two coders. All disagreements between coders were resolved via discussion.

During the process of coding, several additional decisions were made that warrant brief description. First, when articles presented correlations between psychopathic tendencies and a criterion variable that was rated by multiple sources (e.g., both peer-ratings and subordinate-ratings of leadership effectiveness), we calculated a composite correlation for our overall analysis using the formulae presented by Ghiselli, Campbell, and Zedeck (1981), or computed a simple average when a composite could not be calculated. Second, in the few cases when authors presented correlations involving criteria collected at two time points (e.g., a concurrent correlation and a prospective correlation), we included the correlation involving the shorter time period. This decision was based on the fact that most studies were concurrent by design and by our desire to allow a direct comparison. Third, when authors reported a range of reliability estimates, we coded the midpoint of this range. Fourth, we imported the reliability estimates from the technical manuals of proprietary scales and applied these estimates when appropriate. Fifth, for informal leadership, we imported the midpoint of the alpha reliability estimate reported by Harms et al. (2007) for similar samples. Sixth, two recent studies (Costello et al., 2018; Neo et al., 2018) assessed psychopathic tendencies using both the PPI-R and Levenson's Self-Report Psychopathy Scale (LSRP). For these two cases, we coded the correlations based on the LSRP. This decision was made because scores on the Fearless Dominance subscale of the PPI-R correlated positively with the transformational leadership criterion while scores on the other subscales correlated negatively with this criterion. That is, using an aggregate scale score would have attenuated the relationship downward. We note this interesting effect in our discussion. Finally, for one study (Winsborough & Sambath, 2013) that reported on the psychopathic characteristics of 151 CEOs and CEO aspirants and compared those scores to local norms, we used the local norms to compute an effect size estimate for leadership emergence with a sample size that was twice the number of CEOs in the sample (i.e., $N = 302$) rather than the sum of the sample sizes for the CEOs and the local norms.

Statistical Method

Meta-analytic estimates of the associations between psychopathy and the leadership criteria were computed using the Schmidt and Hunter (2004) interactive meta-analytic method, which is based on a random-effects model. Corrections were made for unreliability in the measurement of both psychopathic tendencies and all but one of the leadership criteria. No corrections were made for leader emergence because all criterion data were relatively objective and measured using a single-item measure (e.g., rank). Because most studies did not report local reliability estimates for scores on either psychopathic tendencies or the leadership criteria, we used the limited available information to construct reliability estimates (Table 1) and then used these reliability distributions to arrive at effect size estimates that had been disattenuated for unreliability. No corrections were made for range restriction because of the lack of normative information about the distribution of psychopathic tendencies scores in general population.

For each meta-analytic estimate, eight relevant values are reported: (a) the number of studies on which the estimate was based (k), (b) the total sample size on which the estimate was based (N), (c) the sample-size weighted mean observed correlation (r_{obs}), (d) the estimate of the population correlation disattenuated for unreliability ($\hat{\rho}$), (e) the lower and upper bound of the 95% confidence interval (CI) of effects sizes (2.5% CI and 97.5% CI), (f) the estimate of the SD in effect sizes after removing the variability that can be accounted for by sampling error and variability in the reliability of measurement across studies ($SD_{\hat{\rho}}$), (g) the lower and upper bound of the 80% credibility interval of effect sizes (10% CV and 90% CV), and (h) the proportion of the total observed variance in effect sizes that can be accounted for by study artifacts (%Var). Large values of $SD_{\hat{\rho}}$, wide credibility intervals, and small values for %Var all suggest the presence of unaccounted for moderators.

For our exploration of curvilinear associations, we used local reliability estimates (or imputed means from our reliability distributions when local reliability estimates were unavailable) to calculate a series of meta-analytic intercorrelation matrices between psychopathic tendencies, the square of psychopathic tendencies, and each of the criteria. We then used that matrix to regress each criterion on the squared term after controlling for psychopathic tendencies.

Table 1
Reliability Distributions Used to Compute Meta-Analytic Estimates of the Associations Between Psychopathic Tendencies and Leadership Criteria

Construct	Mean α	SD_{α}	K_{rel}
Psychopathic tendencies	.61	.09	70
Leader effectiveness	.82	.21	6
Transformational leadership	.88	.03	10
Informal leadership	.94	—	1

Note. Mean α = average local alpha reliability estimate; SD_{α} = standard deviation of local alpha reliability estimates; K_{rel} = number of local reliability estimates used to construct reliability distribution. The reliability estimate for informal leadership was imported from Harms and Wood (2008). For each effect size obtained from the HDS test publisher we imputed the reliability estimate reported in the HDS manual.

Results

Meta-analytic results are reported in Table 2. Answering Research Question 1, psychopathic tendencies were positively associated with leadership emergence ($k = 46; N = 32,680; \hat{\rho} = .07; SD_{\hat{\rho}} = .09$). However, given the large number of samples that used the HDS MIS scale, we also calculated results separately for samples that used MIS ($k = 23; N = 21,106; \hat{\rho} = .06; SD_{\hat{\rho}} = .07$) and samples that did not ($k = 23; N = 11,574; \hat{\rho} = .10; SD_{\hat{\rho}} = .11$), and found largely similar average effects. As noted previously, during the coding process, it became clear that informal leadership should be treated separately. Our results revealed a nonsignificant weak negative association between peer ratings of informal leadership and self-ratings of psychopathic tendencies ($k = 7; N = 305; \hat{\rho} = -.08; SD_{\hat{\rho}} = .00$).

Supporting Hypothesis 1, the results for psychopathic tendencies and leadership effectiveness ($k = 42; N = 6,838; \hat{\rho} = -.04; SD_{\hat{\rho}} = .09$) showed a weak but statistically significant association. To explore Research Question 2 on source of measurement, we conducted an additional analysis with only supervisor ratings of leadership effectiveness, which also found a weak negative but statistically significant association ($k = 35; N = 4,890; \hat{\rho} = -.06; SD_{\hat{\rho}} = .10$). An analysis using multisource ratings of leadership effectiveness found a weak and nonsignificant association ($k = 7; N = 1,814; \hat{\rho} = -.03; SD_{\hat{\rho}} = .06$). All three meta-analyses were characterized by credibility intervals that indicated the likely presence of some moderators.

Our supplementary analysis of transformational leadership showed a consistent negative association with psychopathic tendencies. In concurrent designs, self-ratings of psychopathic tendencies exhibited modest relationships with transformational leadership when all rating sources of leadership were combined ($k =$

$13; N = 1,220; \hat{\rho} = -.18; SD_{\hat{\rho}} = .28$), although the strength of the relationship was very strongly moderated by the source of ratings on both variables. When leaders rated themselves on both psychopathic tendencies and transformational leadership, the relationship was moderately negative ($k = 6, N = 823, \hat{\rho} = -.29, SD_{\hat{\rho}} = .29$). An even stronger negative relationship was observed when both ratings were made by subordinates ($k = 3, N = 1,301, \hat{\rho} = -.58, SD_{\hat{\rho}} = .00$), although this may in part reflect an attributional process whereby followers attribute poor leadership skills to psychopathic tendencies. Relatively weak relationships were observed when individuals rated themselves on psychopathic tendencies and had peers provide ratings on transformational leadership in either concurrent ($k = 6, N = 297, \hat{\rho} = -.02, SD_{\hat{\rho}} = .07$) or predictive designs ($k = 6, N = 255, \hat{\rho} = -.20, SD_{\hat{\rho}} = .10$), or when both ratings were made by peers ($k = 6, N = 272, \hat{\rho} = -.06, SD_{\hat{\rho}} = .00$). The confidence intervals of most of the estimates of the relationship between psychopathic tendencies and transformational leadership did not include zero, indicating that the effects were significantly different from zero. However, the wide credibility intervals for most estimates suggest that the relationship remains strongly moderated.

To examine Research Question 3 on the influence of leader gender, we estimated the associations using samples where separate correlations were available for each gender. For leadership emergence, the association between psychopathic tendencies and leadership emergence was weakly positive for women ($k = 12; N = 3,048; \hat{\rho} = .04; SD_{\hat{\rho}} = .11$) but slightly stronger for men ($k = 17; N = 3,191; \hat{\rho} = .10; SD_{\hat{\rho}} = .16$). This difference was not statistically significant according to the Neter, Wasserman, and Whitmore (1988) t test, $t(27) = 1.20, p = .24$. For leadership effectiveness, the association was modestly negative for women

Table 2
Meta-Analytic Results for the Associations Between Psychopathic Tendencies and Leadership Criteria

Leader gender	Source of psychopathic tendency ratings	Leadership criterion	Criterion rating source	k	N	r_{obs}	$\hat{\rho}$	2.5% CI	97.5% CI	$SD_{\hat{\rho}}$	10% CV	90% CV	%Var
All	Self	Leader emergence	All	46	32,680	.06	.07	.04	.10	.09	-.04	.19	22
All	Self (HDS MIS)	Leader emergence	All	23	21,106	.05	.06	.03	.09	.07	-.04	.15	25
All	Self (non-HDS MIS)	Leader emergence	All	23	11,574	.08	.10	.05	.15	.11	-.04	.24	21
All	Self	Informal leadership	Peers	7	305	-.06	-.08	-.04	.20	.00	-.08	-.08	100
Female	Self	Leader emergence	All	12	3,048	.03	.04	-.04	.12	.11	-.09	.18	36
Male	Self	Leader emergence	All	17	3,191	.08	.10	.01	.19	.16	-.10	.30	26
All	Self	Leader effectiveness	All	42	6,838	-.03	-.04	-.09	-.001	.09	-.16	.07	60
All	Self	Leader effectiveness	Supervisors	35	4,890	-.04	-.06	-.11	-.003	.10	-.18	.07	60
All	Self	Leader effectiveness	Multisource	7	1,814	-.02	-.03	-.12	.06	.06	-.10	.05	65
Female	Self	Leader effectiveness	All	7	459	-.12	-.18	-.29	-.07	.00	-.18	-.18	100
Male	Self	Leader effectiveness	All	7	1,103	.02	.03	-.01	.07	.00	.03	.03	100
All	Self	TL (Concurrent)	All	13	1,220	-.13	-.18	-.35	-.01	.28	-.54	.17	20
All	Self	TL (Concurrent)	Self	6	823	-.21	-.29	-.54	-.04	.29	-.65	.08	14
All	Subordinates	TL (Concurrent)	Subordinates	3	1,301	-.42	-.58	-.62	-.54	.00	-.58	-.58	100
All	Self	TL (Concurrent)	Peers	6	297	-.02	-.02	-.14	.10	.07	-.11	.07	89
All	Self	TL (Predictive)	Peers	6	255	-.14	-.20	-.40	-.004	.10	-.33	-.06	80
All	Peers	TL (Concurrent)	Peers	6	272	-.04	-.06	-.19	.07	.00	-.06	-.06	100
Female	Self and subordinate	TL (Concurrent)	All	6	505	-.31	-.42	-.63	-.21	.22	-.70	-.15	29
Male	Self and subordinate	TL (Concurrent)	All	8	652	-.20	-.27	-.51	-.03	.31	-.67	.13	18

Note. k = number of studies; N = number of subjects; r_{obs} = sample-size weighted mean observed correlation; $\hat{\rho}$ = estimated true score correlation; 2.5% CI and 97.5% CI = lower and upper bound of 95% confidence interval; $SD_{\hat{\rho}}$ = standard deviation of estimated true score correlation; 10% CV and 90% CV = lower and upper bound of 80% credibility intervals; %Var = percentage of variance in observed effect sizes that can be explained by study artifacts; HDS MIS = Hogan Development Survey Mischievous scale; TL = transformational leadership; concurrent = concurrent designs only; predictive = predictive designs only.

($k = 7; N = 459; \hat{\rho} = -.18; SD_{\hat{\rho}} = .00$) and weakly positive for men ($k = 7; N = 1,103; \hat{\rho} = .03; SD_{\hat{\rho}} = .00$). This difference could not be tested using the Neter et al. procedure because the variance estimates for the population correlations are zero. Finally, for transformational leadership, when psychopathic tendencies were assessed by leaders and their subordinates, the association was strongly negative for women ($k = 6, N = 505, \hat{\rho} = -.42; SD_{\hat{\rho}} = .22$) but only moderately negative for men ($k = 8, N = 652, \hat{\rho} = -.27, SD_{\hat{\rho}} = .31$). This difference was not statistically significant, $t(12) = 1.06, p = .31$, because of the relatively few studies and high variance estimates of the respective population correlations. Across all three criteria, the general pattern is that higher levels of psychopathic tendencies are tolerated or even sanctioned in men, but that elevated levels of psychopathic tendencies in women are associated with lessened chances of promotion and a greater likelihood of being negatively appraised.

Results for the curvilinear associations between psychopathic tendencies and the examined criteria for Research Question 4 are presented in Table 3. All tests were statistically significant at $\alpha = .05$, but associations were small to modest (ΔR from .013 to .162). We plot these relationships in Figures 1–6 using standardized values for both criteria and psychopathic tendencies. The slope between psychopathic tendencies and emergence (Figure 1) increased slightly as the level of psychopathic tendencies increased. Figure 3 shows that the negative relationship between self-rated psychopathic tendencies and transformational leadership decreased in strength as psychopathic tendencies increased. For all other criteria (Figure 2 and Figures 4–6), the association with psychopathic tendencies followed a weak inverse u-shape such that the highest levels of the criterion were observed for moderate levels of psychopathic tendencies.

Discussion

The present study set out to address questions concerning the prevalence of psychopathic tendencies of corporate leaders. We conducted a meta-analysis to reconcile the often-contradictory literature exploring the associations between psychopathic tendencies and leadership emergence and effectiveness. Overall, our results showed that psychopathic tendencies were, on average, weakly positively linked to leadership emergence and weakly negatively linked to leadership effectiveness. Psychopathic tendencies were negatively associated with transformational leadership,

although this was moderated by rating source. Specifically, the weakest association occurred when psychopathic tendencies were self-rated and transformational leadership was rated by peers, and the strongest association occurred when both criteria were subordinate-rated. Furthermore, since one aspect of psychopathy—Fearless Dominance, from the PPI-R (Lilienfeld & Widows, 2005)—correlates positively with transformational leadership (Costello et al., 2018; Neo et al., 2018), it is possible that these associations would be stronger if an examination of facet-level relationships had been possible.

Additional analyses showed that gender moderated the association between psychopathic tendencies and leadership emergence and effectiveness. Specifically, for emergence, there was a nonsignificant positive association for women and a significant positive association for men. For effectiveness, there was a significant negative association for women and a significant positive association for men. That is, there tend to be social sanctions against women displaying psychopathic characteristics. This is likely because women displaying psychopathic behaviors are viewed as violating not only general gender norms (Verona & Vitale, 2006), but also those associated with female leaders (Johnson, Murphy, Zewdie, & Reichard, 2008). Our analyses also provide evidence for modest curvilinear effects. Increasing levels of psychopathic tendencies were associated with a progressively increasing likelihood of being a leader, while leader effectiveness, transformational leadership (except when psychopathic tendencies were self-reported), and informal leadership were highest at moderate levels of psychopathic tendencies.

Implications

One major aim for this study was to reconcile and explain the often-conflicting results found in the literature surrounding psychopathic tendencies and leadership and to address the often-overblown rhetoric on the topic in the popular press and practitioner literature. The positive association of psychopathic tendencies with leadership emergence suggests that, as both scholars and the popular press fear (e.g., Babiak & Hare, 2006; Pearlman, 2016), these individuals are more likely to emerge as leaders within organizations. Although this effect size is small by conventional standards (Cohen, 1988) or those typical in the organizational literature (Bosco, Aguinis, Singh, Field, & Pierce, 2015; Paterson, Harms, Steel, & Credé, 2016), it is nonetheless potentially impor-

Table 3
Summary of Hierarchical Regression Results to Test Curvilinear Associations Between Psychopathic Tendencies and Leadership Criteria

Criterion	Source of psychopathy ratings	k	N	Psychopathic tendency		(Psychopathic tendency) ²		Step 1 R	Step 2 ΔR	Incremental p
				β	t	β	t			
Emergence	All	7	5,437	.103	5.84	.072	4.11	.057	.022	<.001
Effectiveness	All	8	2,041	.002	.07	-.061	-2.75	.006	.061	.006
TL	Self-reports	9	864	-.263	-7.67	.083	2.43	.240	.013	.015
TL	Other-reports	6	272	-.005	-.07	-.160	-2.50	.061	.162	.013
Informal leadership	Self-reports	6	320	-.044	-.80	-.156	2.81	.037	.160	.005
Informal leadership	Other-reports	6	296	-.020	-.30	-.140	2.31	.059	.146	.022

Note. k = number of studies; N = number of subjects; Step 1 R = R for psychopathy alone; Step 2 ΔR = incremental R provided by squared psychopathic tendency after controlling for psychopathic tendency; incremental p = p associated with the incremental R associated with squared psychopathic tendency; TL = transformational leadership.

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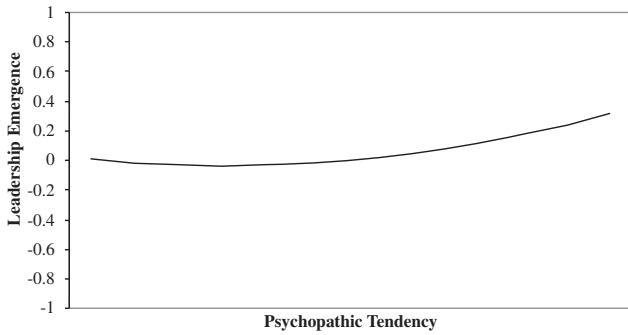


Figure 1. Curvilinear association between psychopathic tendencies and leadership emergence.

tant in practice. For instance, Cortina and Landis (2009) noted that, under certain conditions, conventionally small effect sizes may have significant implications. The emergence of leaders with psychopathic tendencies may be one such context.

Our results also indicated that psychopathic tendencies were generally weakly associated with lower levels of leadership effectiveness. Thus, our findings provide some support for accounts of psychopathy that presume that negative leadership outcomes are more likely than not (e.g., Babiak & Hare, 2006). That said, our curvilinear analysis showed evidence that moderate levels of psychopathy were associated with higher levels of effectiveness than either very low or very high levels. As a consequence, accounts of psychopathy that suggest that positive outcomes are possible under some circumstances (e.g., Dutton, 2012) also seem to have found some support.

Finally, of particular importance and interest is our finding that gender moderates the association of psychopathic tendencies with leadership emergence and effectiveness such that women are evaluated negatively when they express psychopathic characteristics, but men are not. This represents a potential fruitful avenue not only for researchers interested in psychopathic tendencies in the workplace, but also those interested in the impact of dark personality traits more broadly. That is, there is a need to explore not just whether differences exist in overall levels of dark personality, but also how those traits are manifested. For example, prior research suggests that women typically are less likely to endorse antisocial criteria than men even when matched for level of psychopathy (Jane, Oltmanns, South, & Turkheimer, 2007). Instead, they are

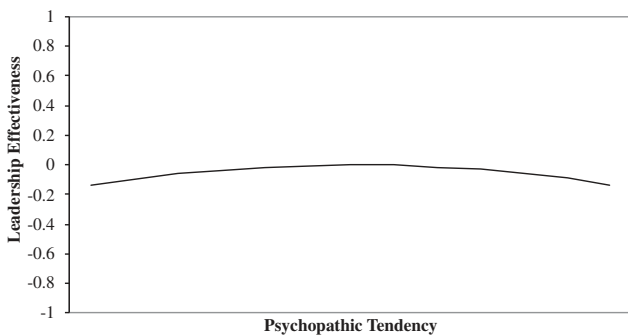


Figure 2. Curvilinear association between psychopathic tendencies and leadership effectiveness.

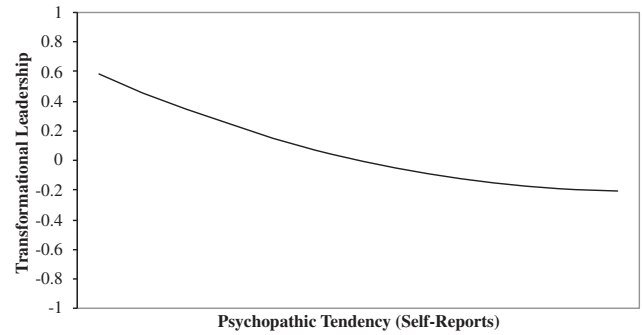


Figure 3. Curvilinear association between self-reported psychopathic tendencies and transformational leadership.

more likely to manifest psychopathic tendencies with emotion-laden outbursts in more interpersonal contexts such as at home or with family (Verona & Vitale, 2006).

Limitations and Future Directions

We must acknowledge some limitations of this meta-analysis. First, despite the prevalence of academic literature speculating on the associations between psychopathic tendencies and leadership, a relatively limited number of empirical studies were available. Second, given the large number of available measures of psychopathic tendencies and the lack of agreement on a common metric, we had to include all measures of psychopathic tendencies. Third, because of the small number of samples that used measures with subdimensions (e.g., the PPI-R; Lilienfeld & Widows, 2005), we were limited to using overall scores of psychopathy. Fourth, in almost all instances, leader effectiveness was assessed by subjective ratings rather than by objective measures, such as financial performance, which may yield different associations.

However, our results suggest some potential directions for future research. First, and most obvious, is the need for better assessment of psychopathy in the organizational literature. Much of the psychopathy literature agrees that the construct is multidimensional, but researchers often either use measures that only generate overall scores or fail to report findings for each factor. This is especially critical because some dimensions of psychopathy (e.g., meanness) may lead to more interpersonal problems than

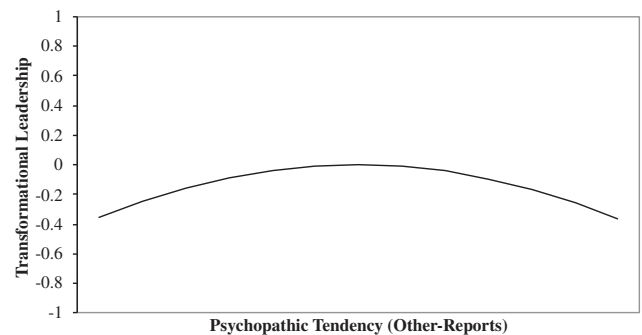


Figure 4. Curvilinear association between other-reported psychopathic tendencies and transformational leadership.

others (e.g., boldness). Thus, it is possible that seemingly contradictory results across studies may be because of measures oversampling content from particular dimensions. Second, the potential for gender differences in how psychopathic tendencies align with leadership outcomes merits further exploration in terms of how such gender differences may impact nonleadership aspects of work, but also how gender may influence the expression and interpretation of personality traits in the workplace more broadly.

Third, the results of the current study suggest that there may be unexplored moderators at work. This indicates that further research is warranted, particularly studies that explore the impact of using different and more rigorous designs and measures. In addition, studies comparing effects across organizations and countries are likely to find differences in the degree to which different cultures tolerate or interpret psychopathic behavior. In particular, we believe that the prevalence of women in the workplace and societal values concerning gender equality may impact how leaders, followers, and organizations react to psychopathic behavior.

Fourth, prior research has established that the negative impact of destructive leaders is moderated by the characteristics of their followers (Harms, Wood, Landay, Lester, & Lester, 2018; Henle & Gross, 2014; Nandkeolyar, Shaffer, Li, Ekkirala, & Bagger, 2014; Padilla et al., 2007; Wang, Harms, & Mackey, 2015). However, little research has addressed this question for psychopathic leaders directly. As a consequence, we suggest that future research examine whether follower characteristics (e.g., gender, age) influence the degree to which they notice or react to the negative characteristics of their leaders.³ Finally, the small but consistent curvilinear results indicate a potential trend that should be further investigated in order to assess “optimal” levels of psychopathic tendencies in regards to leadership.

Conclusion

The present study set out to address controversy concerning the prevalence of psychopathic tendencies of corporate leaders. We conducted a meta-analysis on the associations of psychopathic tendencies with leadership emergence, leadership effectiveness, and transformational leadership. Our results suggested that individuals with psychopathic tendencies are, in fact, somewhat more likely to emerge as leaders, and that these individuals are somewhat less effective leaders. Furthermore, analyses suggested that gender moderated these links such that women are penalized for

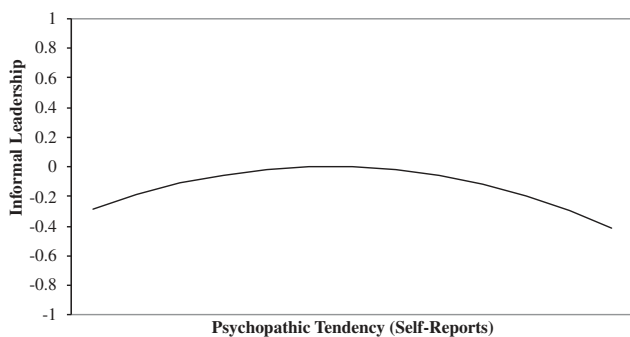


Figure 5. Curvilinear association between self-reported psychopathic tendencies and informal leadership.

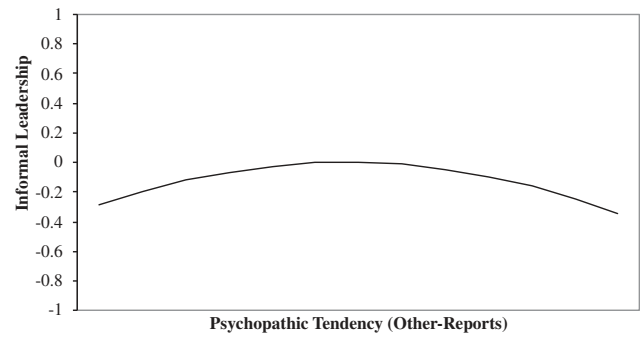


Figure 6. Curvilinear association between other-reported psychopathic tendencies and informal leadership.

displaying psychopathic tendencies but that men may be rewarded for similar behaviors. Finally, curvilinear analyses suggested that moderate levels of psychopathic tendencies can actually be associated with increased ratings of leadership effectiveness. Although this study answers several questions about the nature of psychopathic tendencies with regards to leadership, it also indicates that there is much more to be learned about leadership, dark personality traits, and the role of gender in the workplace.

³ We thank an anonymous reviewer for this suggestion.

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Appendix
Coded Primary Study Data for Psychopathic Tendencies and Leadership Criteria

Sample	Author	Psychopathy			Criterion			Design	r	N
		Measure	Local or manual alpha	Source	Type	Local alpha	Source			
1	Baird (2002)	LPS	.82	Self	Em.		Self-report	Concurrent	-.33	92
2	Benson (2006)	HDS	.52	Self	Eff.	.94	Supervisor and peers	Concurrent	-.17	290
3	Benson (2006)	HDS	.50	Self	Eff.	.41	Supervisor	Concurrent	.07	220
4	Costello, Unterberger, Watts, & Lilienfeld (2018)	LPS	.904	Self	TL		Self-report	Concurrent	-.432	339
5	Davies (2004)	HDS		Self	Eff.		Self and subordinates	Concurrent	.01	127
5	Davies (2004)	HDS		Self	TL		Self-report	Concurrent	.144	131
5	Davies (2004)	HDS		Self	TL		Subordinate	Concurrent	.128	100
6	Eisenbarth, Hart, & Sedikides (2018)	PPI-R-T	.65	Self	Em.		Self-report	Concurrent	.097	412
7	Furnham, Crump, & Ritchie (2013)	HDS		Self	Em.		Self-report	Concurrent	-.07	3,799
8	Götzsche-Astrup, Jakobsen, & Furnham (2016)	HDS		Self	Em.		Objective	Concurrent	.02	176
9	Harms (2016b)	MMPI Pd		Self	Em.		Objective	Longitudinal	-.076	309
10	Harms (n.d.a.)	Dirty Dozen	.84	Self	Em.		Self-report	Concurrent	.112	1,390
11	Harms (n.d.b.)	Mini-ME	.71	Self	Em.		Self-report	Concurrent	.057	1,056
12	Harms & Spain (2014)	Q-Sort		Subordinates	TL		Subordinate	Concurrent	-.38	287
13	Harms, Spain, & Hannah (2011a)	HDS		Self	Eff.	.84	Supervisor	Longitudinal	-.013	919
14	Harms, Spain, & Hannah (2011b)	HDS		Self	Eff.		Supervisor	Concurrent	-.13	353
15	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	-.297	27
15	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	.169	27
15	Harms & Wood (2008)	Mini-ME	.784	Peers	TL	.843	Peers	Concurrent	-.037	29
15	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.843	Peers	Concurrent	.034	35
15	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.90	Peers	Longitudinal	.264	32
16	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	.09	67
16	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	-.082	67
16	Harms & Wood (2008)	Mini-ME	.784	Peers	TL	.90	Peers	Concurrent	.068	65
16	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.907	Peers	Concurrent	-.141	72
16	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.845	Peers	Longitudinal	-.033	53
17	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	-.018	48
17	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	-.124	47
17	Harms & Wood (2008)	Mini-ME	.784	Peers	TL	.923	Peers	Concurrent	.081	49
17	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.862	Peers	Concurrent	-.032	49
17	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.862	Peers	Longitudinal	-.447	44
18	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	.031	71
18	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	-.106	71
18	Harms & Wood (2008)	Mini-ME	.784	Peers	TL	.907	Peers	Concurrent	-.129	69
18	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.90	Peers	Concurrent	-.144	73
18	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.923	Peers	Longitudinal	.03	75
19	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	-.115	18
19	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	-.292	18
19	Harms & Wood (2008)	Mini-ME	.784	Peers	TL	.845	Peers	Concurrent	-.167	16
19	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.845	Peers	Concurrent	.271	20
19	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.843	Peers	Longitudinal	-.205	13
20	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	.139	31
20	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	-.172	31
21	Harms & Wood (2008)	Mini-ME	.753	Self	Em.		Objective	Concurrent	-.108	46
21	Harms & Wood (2008)	Mini-ME	.753	Self	Inf. Ld.		Peers	Concurrent	-.107	44
21	Harms & Wood (2008)	Mini-ME	.784	Peers	TL	.862	Peers	Concurrent	-.18	44
21	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.923	Peers	Concurrent	.227	48
21	Harms & Wood (2008)	Mini-ME	.753	Self	TL	.907	Peers	Longitudinal	-.173	38
22	Hogan Assessment Systems Study #1	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.206	295
23	Hogan Assessment Systems Study #2	HDS	.58	Self	Eff.	.86	360-degree Rating	Concurrent	-.061	181
24	Hogan Assessment Systems Study #3	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.222	325
25	Hogan Assessment Systems Study #4	HDS	.58	Self	Eff.		360-degree Rating	Concurrent	-.018	210
26	Hogan Assessment Systems Study #5	HDS	.58	Self	Eff.	.96	Supervisor	Concurrent	.035	188
27	Hogan Assessment Systems Study #6	HDS	.58	Self	Em.		Objective	Concurrent	.085	311
28	Hogan Assessment Systems Study #7	HDS	.58	Self	Em.		Objective	Concurrent	.043	2,468
29	Hogan Assessment Systems Study #8	HDS	.58	Self	Em.		Objective	Concurrent	.012	497
30	Hogan Assessment Systems Study #9	HDS	.58	Self	Em.		Objective	Concurrent	.154	439
31	Hogan Assessment Systems Study #10	HDS	.58	Self	Em.		Objective	Concurrent	.056	385
32	Hogan Assessment Systems Study #11	HDS	.58	Self	Em.		Objective	Concurrent	.095	1,277
33	Hogan Assessment Systems Study #11	HDS	.58	Self	Em.		Objective	Concurrent	.122	139
34	Hogan Assessment Systems Study #13	HDS	.58	Self	Em.		Objective	Concurrent	.098	740
35	Hogan Assessment Systems Study #14	HDS	.58	Self	Em.		Objective	Concurrent	.139	526

(Appendix continues)

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Appendix (continued)

Sample	Author	Psychopathy			Criterion				<i>r</i>	<i>N</i>
		Measure	Local or manual alpha	Source	Type	Local alpha	Source	Design		
36	Hogan Assessment Systems Study #15	HDS	.58	Self	Em.		Objective	Concurrent	.031	1,212
37	Hogan Assessment Systems Study #16	HDS	.58	Self	Em.		Objective	Concurrent	.253	342
38	Hogan Assessment Systems Study #17	HDS	.58	Self	Em.		Objective	Concurrent	.097	1,354
39	Hogan Assessment Systems Study #18	HDS	.58	Self	Em.		Objective	Concurrent	.206	30
40	Hogan Assessment Systems Study #19	HDS	.58	Self	Em.		Objective	Concurrent	.026	157
41	Hogan Assessment Systems Study #20	HDS	.58	Self	Em.		Objective	Concurrent	.066	2,077
42	Hogan Assessment Systems Study #21	HDS	.58	Self	Em.		Objective	Concurrent	.061	2,260
43	Hogan Assessment Systems Study #22	HDS	.58	Self	Em.		Objective	Concurrent	.031	974
44	Hogan Assessment Systems Study #23	HDS	.58	Self	Em.		Objective	Concurrent	.045	978
45	Hogan Assessment Systems Study #24	HDS	.58	Self	Em.		Objective	Concurrent	.164	90
46	Hogan Assessment Systems Study #25	HDS	.58	Self	Em.		Objective	Concurrent	.067	573
47	Hogan Assessment Systems Study #26	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.04	78
48	Hogan Assessment Systems Study #27	HDS	.58	Self	Eff.		Supervisor	Concurrent	.01	318
49	Hogan Assessment Systems Study #28	HDS	.58	Self	Eff.		Supervisor	Concurrent	.17	183
50	Hogan Assessment Systems Study #29	HDS	.58	Self	Eff.		Supervisor	Concurrent	.16	25
51	Hogan Assessment Systems Study #30	HDS	.58	Self	Eff.		Supervisor	Concurrent	.23	103
52	Hogan Assessment Systems Study #31	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.35	23
53	Hogan Assessment Systems Study #32	HDS	.58	Self	Eff.		Supervisor	Concurrent	.07	114
54	Hogan Assessment Systems Study #33	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.04	119
55	Hogan Assessment Systems Study #34	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.09	69
56	Hogan Assessment Systems Study #35	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.04	63
57	Hogan Assessment Systems Study #36	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.02	130
58	Hogan Assessment Systems Study #37	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.13	118
59	Hogan Assessment Systems Study #38	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.11	46
60	Hogan Assessment Systems Study #39	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.08	67
61	Hogan Assessment Systems Study #40	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.10	103
62	Hogan Assessment Systems Study #41	HDS	.58	Self	Eff.		Supervisor	Concurrent	.00	68
63	Hogan Assessment Systems Study #42	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.10	37
64	Hogan Assessment Systems Study #43	HDS	.58	Self	Eff.		Supervisor	Concurrent	.12	51
65	Hogan Assessment Systems Study #44	HDS	.58	Self	Eff.		Supervisor	Concurrent	.04	83
66	Hogan Assessment Systems Study #45	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.32	47
67	Hogan Assessment Systems Study #46	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.15	47
68	Hogan Assessment Systems Study #47	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.09	51
69	Hogan Assessment Systems Study #48	HDS	.58	Self	Eff.		Supervisor	Concurrent	.13	32
70	Hogan Assessment Systems Study #49	HDS	.58	Self	Eff.		Supervisor	Concurrent	.00	114
71	Hogan Assessment Systems Study #50	HDS	.58	Self	Eff.		Supervisor	Concurrent	.01	56
72	Hogan Assessment Systems Study #51	HDS	.58	Self	Eff.		Supervisor	Concurrent	-.08	241
73	Hogan Assessment Systems Study #52	HDS	.58	Self	Eff.		Supervisor	Concurrent	.16	38
74	Hogan Assessment Systems Study #53	HDS	.58	Self	Eff.		360-degree rating	Longitudinal	.03	796
75	Hogan Assessment Systems Study #54	HDS	.58	Self	Eff.		Supervisor	Longitudinal	.00	103
76	Hogan Assessment Systems Study #55	HDS	.58	Self	Eff.		360-degree rating	Concurrent	.02	210
77	Howe, Falkenbach, & Massey (2014)	PPI-R-T	.84	Self	Em.		Self-report	Concurrent	.08	55
78	Khoo & Burch (2008)	HDS		Self	TL		Self-report	Concurrent	.09	80
79	Lester (n.d.)	FFM Psychopathy		Self	Em.		Unknown	Concurrent	.04	62
79	Lester (n.d.)	FFM Psychopathy		Self	Eff.		Supervisor	Concurrent	.055	63
79	Lester (n.d.)	FFM Psychopathy		Self	TL		Unknown	Concurrent	.124	54
80	Lilienfeld, Lutzman, Watts, Smith, & Dutton (2014)	PPI-R-SF	.94	Self	Em.		Self-report	Concurrent	.10	3,387
81	Lindberg (2006)	HDS		Self	Eff.	.93	Subordinates	Concurrent	.07	134
82	Mathieu & Babiak (2015)	B-Scan 360	.82	Subordinates	TL	.91	Subordinate	Concurrent	-.42	423
83	Mathieu, Neumann, Babiak, & Hare (2015)	B-Scan 360	.85	Subordinates	TL	.85	Subordinates	Concurrent	-.45	591
84	Neo, Sellbom, Smith, & Lilienfeld (2018)	LPS	.92	Self	TL	.85	Self-report	Concurrent	-.242	131
85	Sarris (1994)	MMPI Pd		Self	Em.		Objective	Concurrent	-.117	107
86	Schütte et al. (2018)	PPI-R-T	.85	Self	Em.		Self-report	Concurrent	-.031	161
87	Spencer & Byrne (2016)	PM-MRV		Self	Em.		Objective	Concurrent	.80	118
88	Spurk, Keller, & Hirschi (2016)	Dirty Dozen	.78	Self	Em.		Self-report	Concurrent	.01	793
89	Westerlaken & Woods (2013)	SRP III-R12	.91	Self	TL	.86	Self-report	Concurrent	-.19	115
90	Wille, De Fruyt, & De Clercq (2013)	NEO-PI-R Antisocial	.73	Self	Em.		Self-report	Longitudinal	.16	226
91	Winsborough & Sambath (2013)	HDS	.58	Self	Em.		Objective	Concurrent	.146	302
92	Wisse, Barelds, & Rietzschel (2015)	Dirty Dozen	.65	Self	Em.		Objective	Concurrent	.012	599

Note. Eff. = leader effectiveness; Em. = leader emergence; Inf. Ld. = informal leadership; TL = transformational leadership; HDS = Hogan Development Survey; LPS = Levenson measure of primary and secondary psychopathy; MMPI Pd = Psychopathic Deviate scale of Minnesota Multiphasic Personality Inventory; NEO-PI-R = Revised NEO Personality Inventory; PM-MRV = Psychopathy Measure-Management Research Version; PPI-R-SF = short form of Psychopathic Personality Inventory—Revised; PPI-R-T = Psychopathic Personality Inventory—Revised total; SRP-III-R12 = Self-Report Psychopathy Scale—Revised. Reliabilities for samples 15–21 were computed across all seven samples jointly.

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