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Hedge Fund Managers With Psychopathic Tendencies Make for Worse Investors

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Abstract

It is widely assumed that psychopathic personality traits promote success in high-powered, competitive contexts such as financial investment. By contrast, empirical studies find that psychopathic leaders can be charming and persuasive, but poor performers who mismanage, bully, and engage in unethical behavior. By coding nonverbal behaviors displayed in semistructured interviews, we identified the psychopathic, Machiavellian, and narcissistic tendencies in 101 hedge fund managers, and examined whether these traits were associated with financial performance over the course of 10 diverse years of economic volatility (2005-2015). Managers with greater psychopathic tendencies produced lower absolute returns than their less psychopathic peers, and managers with greater narcissistic traits produced decreased risk-adjusted returns. The discussion focuses on the costs of Dark Triad traits in financial investment, and organizational leadership more generally.

Keywords

psychopathy, Dark Triad, leadership, economic behavior

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> They [the trainees] were the victims of the myth, especially popular at Salomon Brothers, that a trader is a savage, and a great trader a great savage. This wasn't exactly correct. The trading floor held evidence to that effect. But it also held evidence to the contrary. People believed whatever they wanted to.
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> —Michael Lewis, *Liar's Poker* (1989)

Recent theorizing has identified two routes to influence and rising in social rank (Boehm, 1999; Cheng, Tracy, & Henrich, 2010). The first is defined in terms of what is known as the "Dark Triad" traits, which includes psychopathy, Machiavellianism, and narcissism, and is based on the use of force, threat, manipulation, and coercion (Babiak & Hare, 2006; Machiavelli, 1532/1961; ten Brinke, Liu, Keltner, & Srivastava, 2016). The second is defined by virtues such as humanity, justice, and wisdom, and is based in actions that benefit others, which in turn yield esteem and elevated status as manifest in freely conferred deference (Aristotle, 1962; Henrich & Gil-White, 2001; Keltner, 2016; Magee & Galinsky, 2008).

Depending on specific contextual factors and group dynamics, both approaches are viable routes to influence, and the acquisition of, power (Cheng, Tracy, Foulsham, Kingstone, & Henrich, 2013). For example, research in organizations finds that individuals committed to enhancing the welfare of others gain social influence and the respect of their peers (Cohen, Panter, Turan, Morse, & Kim, 2014; Keltner, 2016; Wiltermuth & Cohen, 2014). Although often hesitant to actively seek positions of power, those with a strong sense of responsibility for others are perceived as highly capable leaders (Schaumberg & Flynn, 2012). At the same time, individuals displaying aggressive and manipulative tendencies (i.e., Dark Triad personality traits: psychopathy, Machiavellianism, narcissism; Paulhus & Williams, 2002) show an eagerness to ascend to positions of power (Babiak & Hare, 2006). Emerging research finds that individuals with psychopathic tendencies in particular—having deficits of empathy and conscience, a manipulative interpersonal style, and a penchant for impulsive behavior—use charisma and charm to attain management roles despite poor performance reviews, tend to bully subordinates, and misbehave in the workplace (Boddy, 2006; Mathieu, Neumann, Hare, & Babiak, 2014). Thus, although power and influence may be attained via either of these conflicting strategies, each approach is likely to yield different effects on the satisfaction, productivity, and success of the group as a whole (e.g., Case & Maner, 2014; ten Brinke et al., 2016).

In the present investigation, we draw upon these recent theoretical advances to examine the efficacy of Dark Triad

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traits in financial investment performance. The Dark Triad was introduced by Paulhus and Williams (2002) and consists of three related personality traits: psychopathy, Machiavellianism, and narcissism. Psychopathy is a dimensional construct, characterized by interpersonal and affective deficits, including a lack of empathy and shallow emotional experience, as well as antisocial and impulsive behavioral patterns (Hare, 2003; Hare & Neumann, 2008; Williams, Paulhus, & Hare, 2007). Machiavellian traits manifest in agentic desires, a generally negative view of others, and a pragmatic approach to achieving personal goals by manipulating and deceiving others (Christie & Geis, 1970; Rauthmann & Will, 2011). Finally, narcissism is associated with feelings of grandiosity, entitlement, dominance, and superiority over others (Raskin & Hall, 1979). Although these personality traits share the general tendency toward being disagreeable and are moderately correlated (*r*s = .25-.50; Paulhus & Williams, 2002), they are distinct traits that have recently become a subject of interest in organizational psychology (e.g., Jonason, Slomski, & Partyka, 2012). In particular, psychopathy has garnered considerable attention as a trait of interest in predicting success (and failure) in organizational leadership.

Folk wisdom, popular media, and Wall Street insiders contend that the financial investment sector can be a breeding ground for so-called successful psychopaths. Here, the supposition is that through bald self-interest, cool detachment to the welfare of others, and the force of manipulation and deception, psychopathic individuals achieve powerful, managerial roles and monetary wealth (Bercovici, 2011; Dutton, 2012; Lewis, 1989). This aligns with clinical lore, which suggests that psychopathic traits can foster success in select contexts (Cleckley, 1941). Within the financial sector, the focus of this investigation, psychopathic tendencies may yield elevated returns on investment for several reasons. For example, the ability to execute self-serving investments that capitalize on the financial demise of others may be facilitated by the callous and unemotional features of psychopathy (ten Brinke, Black, Porter, & Carney, 2015). Furthermore, given that risk is inherent to investment, psychopathic tendencies may allow money managers to "stomach" high-risk trades that others might shy away from, potentially leading to lucrative returns (Jones, 2013, 2014).

By contrast, equally plausible arguments suggest that a manager's psychopathic tendencies will predict poor returns on that individual's investments. If successful financial investment requires innovation and divergent thinking, such as that produced by complex teams providing economic strategy (Miller, 1986; Royal & O'Donnell, 2008), vicious and coercive managers may underperform, relative to virtuous and collaborative ones, given the problematic effects of a coercive leadership style upon team innovation (Kilduff, Willer, & Anderson, 2016; Pearson & Porath, 2009; Porath & Pearson, 2013). Indeed, leaders with psychopathic traits reduce cooperation among coworkers; recent research suggests that political leaders displaying signs of psychopathy (e.g., lack of appropriate emotional expression, schadenfreude—the experience of pleasure from another person's misfortune, over-the-top flattery) attracted fewer cosponsors to his or her bills and wielded less political influence, relative to their less psychopathic peers (ten Brinke et al., 2016). Furthermore, if some investments require integrative negotiation—in which compromising with other parties is necessary to achieve specific objectives—managers with psychopathic tendencies may post suboptimal returns because of their unwillingness to assist others and negotiate integrative solutions that create additional value within multidimensional deals (ten Brinke et al., 2015). Finally, recent research by Jones (2013, 2014) suggests that psychopathic tendencies are associated with a willingness to take extreme, and often unsuccessful, financial risks; even in a game of certain loss, psychopathic tendencies are associated with risking other people's money (but not their own).

Guided by this emerging theorizing about the two routes to power and widespread claims about psychopathy and financial success, we relied on a previously validated behavioral coding approach developed by ten Brinke et al. (2016) to examine whether vicious personality traits (psychopathy, Machiavellianism, and narcissism) relate to success in a powerful and novel sample—hedge fund managers. Specifically, we define success in monetary terms (e.g., Liang, 1999) and examine whether displays of behavior consistent with vicious traits are associated with relatively worse absolute and risk-adjusted financial performance over a 10-year span, compared with peers. Although folk wisdom and empirical studies we have reviewed point to competing predictions about whether psychopathy will be associated with better or worse economic performance by hedge fund managers, we expect the present findings to converge with mounting evidence highlighting the negative consequences of psychopathic personalities at work. In short, we expect Dark Triad traits among hedge fund managers to predict poorer financial performance.

Method

Participants: Constructing a Sample of Hedge Fund Managers

Hedge funds are alternative investment vehicles, available to institutional and individual investors with significant assets. Although hedge funds adopt various investment strategies, what differentiates them from traditional mutual funds is their structure, whereby their mandates typically allow them to invest both long and short, often with the use of leverage and sophisticated financial instruments such as derivatives, without the attendant constraints related to offering daily liquidity, and without as much regulation (Fung & Hsieh, 1999). Most often, hedge funds are led by the principal manager(s) who founded the firm. As such, hedge funds tend to be entrepreneurial in nature and often

dissolve upon the departure of the founder (e.g., Comstock, 2011). Although psychopathy and related Dark Triad traits have not been previously studied in the context of hedge funds, there is evidence that psychopathic individuals may be attracted to this type of organizational structure. Research on Dark Triad traits among business undergraduates and MBA students suggests that psychopathy is positively associated with entrepreneurial motivations (e.g., Akhtar, Ahmetoglu, Chamorro-Premuzic, 2013; Hmieleski & Lerner, 2013).

A video library of interviews yielded the sample of managers who we considered for inclusion in this study. This library includes a wide range of managers across firm size, strategy, and geography. Videos coded for this study were created between the years of 2005 and 2015 by an investment advisory firm to profile managers for evaluation by potential investors. As such, the questions, topic, interview style, and environment are consistent across videos. Interviews served as a marketing tool to reach prospective clients, and as a communication tool to provide existing clients with market updates. As such, questions in the interview were likely known to managers prior to taping and were generally not driven by news, headlines, or ratings, as would be the case for public media interviews (e.g., on Bloomberg, Reuters, or CNBC) with managers. To our knowledge, there is no other video library that offers this amount of consistency and richness of behavior across such a large number of interviews of hedge fund managers.

Of the individuals included in this video library, only principal managers who occupy the most senior and influential positions (e.g., founder, CIO, CEO, portfolio manager [PM]) in their firm were considered for inclusion in the study. Selected firms were those who had been in business for at least the past 10 years from the time of data collection (September 2015), and who had financial performance data available for that time period (N = 101); all managers coded were male. This sample size was considered adequate based on previous research examining the association between psychopathic personality characteristics and indices of success among political leaders: N = 42 U.S. presidents (Lilienfeld et al., 2012) and N = 150 U.S. senators (ten Brinke et al., 2016). In addition, power analyses suggest that this sample size is sufficient to find a moderately sized correlation (r = .30), setting power at .95, and alpha at .05. Generally, these managers handle large investments from institutional investors such as corporate and public pensions, endowments, foundations, sovereign wealth funds, insurance companies, as well as funds of funds, family offices, and high net worth individuals. Principal managers often have a considerable proportion of their own personal wealth invested in their firm's investment products (i.e., funds). Firms included in our sample managed a median of US$4.64 billion in assets (range = US$40 million-US$1 trillion). And, as of 2015, firms in our sample had been in operation from 10.27 to 29.49 years.

Coding of Dark Triad Traits From Nonverbal Behavior

Coding scheme creation. Personality traits manifest in specific patterns of verbal and nonverbal behavior (Caspi & Bem, 1990; Keltner & Kring, 1998; Scarr & McCartney, 1983). This claim is based in two theoretical traditions: the Brunswikian lens model of individual differences (Brunswik, 1952) and the social functional approach to emotional expression (Fridlund, 1992; Keltner & Kring, 1998). According to the Brunswikian lens model, individual differences in personality traits—including Dark Triad traits—can be judged based on verbal and nonverbal cues associated with the trait (Brunswik, 1952). For example, people can detect levels of psychopathy in others by attending to emotional disturbances in their facial expression and language (ten Brinke et al., 2017). Relatedly, the social functional approach suggests that behaviors themselves are strategic, and have systematic effects on others (Fridlund, 1992; Keltner & Kring, 1998). For example, Machiavellian individuals are expected to adopt an expansive posture to assert dominance over others; research suggests that when interacting with a person adopting a dominant (i.e., expansive) stance, partners will respond with an act of submission (i.e., postural constriction; Tiedens & Fragale, 2003). Together, these theoretical traditions suggest that patterns of verbal and nonverbal behavior can be coded to assess the personality traits from which they manifest.

Verbal and nonverbal signals for each of the Dark Triad traits were derived from a systematic review of the scientific literature and had been reliably applied in a previous study of U.S. senators' speeches (ten Brinke et al., 2016). Behaviors empirically and conceptually related to each trait were identified according to the Brunswikian (1952) and social functional approaches (Keltner & Kring, 1998; see Table 1 and Verbatim Methodology in the online appendix for additional details). We translated each core component of the trait to its verbal and nonverbal behavioral manifestations and extensively trained a group of coders to detect them. Coders watched each video with attention to the presence, frequency, and intensity of behaviors associated with each of the three Dark Triad traits (see Table 1). Following each video, ratings were made on 1 (*not at all*) to 7 (*highly*) Likert-type scales. Coders were encouraged to use up to two decimal points in their ratings to increase variability. Coders were blind to hypotheses and financial performance. An expert coder completed ratings of all videos, which were reliable with a second, blind (to hypothesis and performance) coder, based on a random sample of 50 to 59 videos per trait (αs = .71-.88). Nonverbal coding of these videos, matching to financial return data, and statistical analysis for research purposes were reviewed and approved by an independent ethics review board. Previous research with this coding scheme examined the behavior of U.S. senators at multiple times over a 10-year period; ratings were consistent over time, suggesting that this

Table 1. Sample of Behavioral Manifestations of Dark Triad Traits.

Dark Triad traits	Descriptors	Behavioral signals
Psychopathy	Lacking empathy, impulsive, aggressive	• Erratic emotional expression (especially quickly escalating anger; Blackburn & Lee-Evans, 1985; ten Brinke et al., 2017) • Eerie calm/lack of emotional expression (Hare et al., 1990; Porter, Bhanwer, Woodworth, & Black, 2014; Rime, Bouvy, Leborgne, & Rouillon, 1978; Verona, Patrick, Curtin, Bradley, & Lang, 2004) • Lack of empathy (particularly when talking of other's struggle; Hare et al., 1990) • Schadenfreude (pleasure/smiles in failures/pain of others; Porter et al., 2014) • Superficial charm (over-the-top flattery, disingenuous kindness; Hare et al., 1990) • Incoherent arguments (Hare et al., 1990; low conscientiousness—Paulhus & Williams, 2002) • Broad illustrators (Gifford, 1994; Rime et al., 1978; ten Brinke et al., 2017)
Machiavellianism	Dominant, manipulative, calculating, emotionally detached	• Lack of self-conscious emotions (no gaze aversion, looking downward, blushing, no embarrassment or shame; Keltner, 1995; McIlwain et al., 2012) • Dominance (chin up, jaw thrust; expansive, upright posture; Carney, Hall, & LeBeau, 2005; Cherulnik et al., 1981)
Narcissism	Grandiosity, entitlement, superiority	• Showing off body, flashy dress, coy looks (side eye, face turned slightly down and away; Back, Schmukle, & Egloff, 2010) • Flirting behaviors (e.g., licking lips, lip puckers; Campbell & Foster, 2002) • Excessive makeup for females (Vazire, Naumann, Rentfrow, & Gosling, 2008) • Chest pushed out (pride; Tracy & Robins, 2007) • Talking about self (especially at inappropriate times; Carpenter, 2012) • Using "I" rather than "we" (Raskin & Shaw, 1988) • Demeaning to others (Smalley & Stake, 1996)

coding method measures stable and enduring tendencies related to the Dark Triad (ten Brinke et al., 2016). As such, ratings of the randomly selected videos coded here are interpreted as indices of stable traits.

Coded videos. In the videotaped interviews that we coded, each manager responded to similar questions about the structure and strategy of their firm, in a semistructured interview format guided by one of four interviewers (three male, one female). For example, managers were asked the following: "What is your outlook on opportunities in the current market?" "Can you explain your portfolio construction process?" and "What is your philosophy on risk management?" Interviews were, on average, 13.85 min (SD = 5.12 min) in duration. We used a thin-slicing approach in which 2 min of each video were coded for evidence of Dark Triad traits (psychopathy, Machiavellianism, narcissism; Fowler, Lilienfeld, & Patrick, 2009; Paulhus & Williams, 2002) on 1 (*not at all*) to 7 (*highly*) scales. The fifth to seventh minute of each video was coded based on findings showing that (a) the most accurate detection of personality traits can be obtained by observing footage several minutes into semistructured conversations and (b) coding more than 2 min of video yields diminishing returns in accuracy of interpersonal perceptions (Carney, Colvin, & Hall, 2007).

Research suggests that behaviors that reveal speakers' personality traits emerge even in highly scripted situations. For example, in research by Borkenau, Mauer, Riemann, Spinath, and Angleitner (2004), participants were asked to read various newspaper headlines aloud. Observers, watching these brief statements could make accurate judgments of several personality traits, including openness to experience and intelligence. Other research suggests that extraversion and conscientiousness can be accurately assessed after only 5-s exposure to an individuals' behavior in standardized lab experiments (Carney et al., 2007). As such, we expected that hedge fund managers, each responding to similar questions, would engage in verbal and nonverbal behaviors that reveal their personality traits, even if questions were previously known or rehearsed.

Financial Performance

Financial performance data for each manager's flagship fund over a 10-year interval were collected and then de-identified. Although the manager may provide several investment products to clients, the flagship fund is usually the largest, often the original fund offered by the manager, and most clearly reflects the manager's investment process and broader reputation. It is commonly recognized as an appropriate reflection of a manager's overall ability to produce investment returns (Dishi, Gallagher, & Parwada, 2007). Specifically, annualized returns on investment in the flagship fund—expressed in percentages—posted between October 1, 2005, and September 30, 2015, were calculated for each manager. In our sample, average annualized returns over this period equaled +7.27%, which is higher than the fund-weighted hedge fund research index for the same time period (which

was +4.36%),[1] suggesting that our sample reflects a relatively high-performing population of hedge fund managers. An annualized total return is the average amount of money earned by an investment, each year in a given time period (i.e., a geometric mean). Although this provides an easy-to-understand measure of financial success for each manager, annualized returns do not give investors any indication of an investment's risk. As such, we also focused on two risk-adjusted return measures over the same 10-year interval known as Sharpe and Sortino ratios.

Sharpe ratios reflect average returns earned in excess of the risk-free rate (i.e., that which could be earned on an investment with no risk of financial loss) per unit of volatility (Sharpe, 1994). In this study, a static risk-free rate of 2% was used. The greater the value of the Sharpe ratio, the better the return/risk trade-off of an investment. Sortino ratios are a modification of the Sharpe ratio that differentiates harmful (downside) volatility, resulting from losses on investments, from general (upside and downside) volatility, resulting from both gains and losses (Sortino & Price, 1994). Sortino ratios reflect average annualized returns earned in excess of a user-defined target return (0% for purposes of this study) per unit of downside volatility. In effect, a relatively higher Sortino ratio indicates a better risk-adjusted return profile over the target return.

Control Variables

Strategy. Hedge fund managers use a variety of strategies to structure their investment portfolios. Consistent with strategies laid out by Fung and Hsieh (1999), each manager's flagship fund was classified as either (a) macro (n = 23), (b) equity long/short (n = 37), (c) credit (n = 19), or (d) multistrategy (n = 22). Macro strategies rely on macroeconomic analysis to predict global economic shifts and make investments, both long and short, in various equity, fixed income, currency, commodities, and futures markets. Equity long/short strategies attempt to buy equities (long) that are expected to increase in value and sell (short) equities that are expected to decrease in value. Credit strategies focus on opportunities in the fixed income and credit markets, typically in the form of relative value strategies, which seek arbitrage opportunities between similar securities, or distressed/restructuring strategies, which focus on opportunities related to corporate restructurings. Multistrategy funds employ a number of investment approaches within or across the different strategy types, often with an event-driven approach or a team of senior PMs taking discrete risk. Strategy was included as a control variable, as they tend to have distinct return profiles in terms of return and risk.

Size of firm. The size of a hedge fund organization can affect its ability to capitalize on opportunities and maneuver within the market (Hedges, 2004). Given this, the size of each manager's firm—defined as assets under management (AUM)—was gathered and treated as an additional control variable in subsequent analyses. Because firm size can vary over time as a result of new investments, redemptions, and performance, AUM data were gathered for a specific time period. Specifically, the most recently reported firm-wide AUM within the 10-year period of interest, ending on September 30, 2015, was recorded.

Age of firm. Finally, the inception date of the firm was gathered to account for potential influences of experience in the field and learning upon investment outcome. Because hedge funds are often founded by a sole principal manager or coprincipal managers (who serve as CIO, CEO, or equivalent, during its tenure) and dissolve upon the departure of one or both, the age of the firm often also indicates the time that the manager has been in his leadership position.

Results

Mean ratings of Dark Triad traits were generally low, but included sufficient variation for analysis: psychopathy (M = 1.41, SD = 0.48), Machiavellianism (M = 1.42, SD = 0.51), and narcissism (M = 1.25, SD = 0.39). Consistent with self-report measurement of Dark Triad traits (Paulhus & Williams, 2002), the three expressive measures of these traits in the present sample of hedge fund managers were positively correlated with each other, rs = .29 to .39, ps < .01. A MANOVA revealed that managers who adopted macro, equity long/short, credit, or multistrategy approaches to investment did not differ in the extent to which they displayed behavioral evidence of Dark Triad traits, $F(9, 291) = 0.852$, $p = .568$.

To examine whether Dark Triad traits were related to financial performance metrics gathered between 2005 and 2015, a series of multiple linear regressions were conducted. All Dark Triad trait ratings, continuous control variables, and financial performance data were z scored prior to analysis. Specifically, each model includes a single trait rating (psychopathy, Machiavellianism, or narcissism) and a series of controls as independent variables. Financial performance metrics (annualized returns, Sharpe, and Sortino ratios) serve as dependent variables. Control variables include the size of the firm (AUM in billions), firm age (years since firm inception), and investment strategy (dichotomous dummy variables for macro, credit, and multistrategy investment approaches, with the equity long/short strategy serving as the comparison condition). Table 2 provides coefficients for all models.

Psychopathy

Psychopathic tendencies were negatively associated with annualized returns (b = −.21, $SE(b)$ = 0.10, p = .044). Specifically, a manager rated 1 SD above the mean on psychopathy (i.e., who showed greater evidence of superficial charm and schadenfreude) earned 0.88% less each year, for 10 years, relative to a manager rated at the mean and earning

Table 2. Multiple Linear Regression Models, Examining Relationships Between Dark Triad Trait Ratings (Psychopathy, Machiavellianism, Narcissism) and Financial Performance (Annualized Returns, Sharpe, and Sortino Ratios).

	Annualized returns			Sharpe ratio			Sortino ratio		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Psychopathy	−.21* (.10)			−.09 (.10)			−.03 (.10)		
Machiavellianism		.02 (.10)			−.05 (.10)			−.06 (.10)	
Narcissism			−.19† (.10)			−.26* (.10)			−.20* (.10)
Size (AUM)	−.03 (.10)	−.06 (.10)	−.04 (.10)	−.07 (.10)	−.08 (.10)	−.05 (.10)	−.09 (.10)	−.09 (.10)	−.07 (.10)
Firm age (years)	−.09 (.10)	−.12 (.10)	−.14 (.10)	−.21* (.10)	−.21* (.10)	−.24* (.10)	−.20† (.10)	−.20† (.10)	−.22* (.10)
Strategy									
Credit	.07 (.28)	−.01 (.29)	.01 (.28)	.58* (.27)	.56* (.26)	.58* (.26)	.33 (.28)	.34 (.28)	.34 (.28)
Macro	−.35 (.27)	−.36 (.28)	−.30 (.27)	−.18 (.26)	−.18 (.26)	−.09 (.25)	.03 (.27)	.04 (.27)	.11 (.27)
Multistrategy	.09 (.27)	.11 (.28)	.16 (.28)	.59* (.26)	.61* (.27)	.67* (.26)	.43 (.28)	.46 (.28)	.49† (.27)
Constant	.05 (.16)	.06 (.17)	.03 (.17)	−.20 (.16)	−.20 (.16)	−.23 (.15)	−.16 (.17)	−.17 (.17)	−.20 (.16)

Note. All trait ratings, firm size, and age variables have been z scored such that the sample's mean is equal to 0, and standard deviation equal to 1. A dummy variable for equity long/short strategy was not included in the model; this strategy serves as the comparison group for all other strategy categories. Unstandardized coefficients are provided, and standard errors for each are listed in parentheses.
†$p < .10$. *$p < .05$.

7.46% annually for 10 years. Because annualized returns compound on a geometric basis, this means that an investment of US$1 million earned US$161,694 (15%) less over the course of 10 years, if invested with a manager who displayed more (+1 *SD*) versus less (*M*) behaviors indicating psychopathic tendencies. Moreover, a US$1 million investment with a manger who displayed psychopathic tendencies at 2 *SD*s above the mean, earned US$311,834 (30%) less than a manager who displayed mean levels of psychopathic tendencies. Psychopathic tendencies, however, were not related to risk-adjusted returns (i.e., Sharpe and Sortino ratios).

Narcissism and Machiavellianism

Narcissism, as indexed in expressions of pride and the use of first-person pronouns, was negatively related to Sharpe ($b = -.26$, $SE(b) = 0.10$, $p = .008$) and Sortino ($b = -.20$, $SE(b) = 0.10$, $p = .045$) ratios. In other words, narcissism was related to decreased risk-adjusted returns. Machiavellian behavioral tendencies were unrelated to all financial performance metrics.

Discussion

Clinical and cultural lore and select findings within the political realm suggest that psychopathic tendencies—rooted in a lack of empathy for others, the use of superficial charm, displays of aggression, and a proclivity for risk taking—are a recipe for success in the realm of financial investment. By contrast, recent theoretical accounts of power and influence find that such social tendencies undermine collaborative efforts required of successful work and can yield suboptimal outcomes for organizations.

To pit these competing hypotheses against one another, we coded hedge fund managers' nonverbal behaviors expressive of psychopathy (e.g., lack of appropriate emotional expression, schadenfreude, reactive anger, over-the-top flattery), and related this assessment of psychopathy to three measures of their flagship fund performance (annualized returns, Sharpe and Sortino ratios). Contrary to clinical lore and claims about the role of Dark Triad traits in predicting success and power, psychopathic personality traits do not appear to relate to improved performance among elite financial investors. In fact, results suggest that displaying behaviors related to psychopathy predicted diminished annualized returns of hedge fund managers over a 10-year period. Specifically, managers rated as 1 *SD* above the mean on behaviors related to psychopathic personality traits reported annualized returns of nearly 1% less than managers rated at the mean. On large investments, and over the course of a decade, this can lead to considerably lower monetary returns, relative to investments with less psychopathic managers.

Furthermore, analyses revealed that managers who engaged in more narcissistic behaviors such as flirtatious lip puckers or excessive use of first-person pronouns produced lower risk-adjusted returns than managers displaying fewer of those behaviors. Specifically, these behaviors were negatively associated with both Sharpe and Sortino ratios, which quantify returns per unit of risk (i.e., volatility). Specifically, these findings suggest that psychopathy and narcissism are differentially associated with managers' risk profile, that is, the volatility of their returns.

To cast these results in practical terms, an investor would see less money in their bank account at the end of a given time period if they had allocated their funds to a more (vs. a less) psychopathic manager. However, there is no effect of psychopathy on risk-adjusted returns; that is, psychopathic

personality traits are unrelated to the amount of money earned, per unit of risk that they take in their investments. However, if the investor had allocated their assets to a manager with more narcissistic personality traits as well as managers with less narcissistic personality traits, they would not notice any difference in the size of their bank accounts at the end of a given time period as narcissism is unrelated to annualized returns. However, the more narcissistic manager would have taken more risk to earn the same amount of money. That is, if the investor were to watch their account over the course of the year, they would notice more dramatic gains and losses (i.e., volatility) in a more narcissistic manager's returns than a less narcissistic manager.

These relationships suggest that more psychopathic and narcissistic managers may approach risk differently. For example, more psychopathic managers may simply choose poor investment opportunities, leading to underperformance on objective measures of job performance—consistent with research by Babiak, Neumann, and Hare (2010). In contrast, the overconfidence experienced by more narcissistic managers may lead to greater risk taking and enduring greater volatility without generating commensurate returns, relative to managers displaying fewer narcissistic behaviors (Campbell, Goodie, & Foster, 2004). Further research is necessary to test such speculations, and to understand the specific behavioral tendencies associated with Dark Triad traits that produce these downstream effects on investment returns.

Although the present findings suggest that investors would be wise to avoid managers with psychopathic and narcissistic tendencies, several limitations of this study should be acknowledged. First, our financial performance data were of a particular time (i.e., 2005-2015), which notably included the Global Financial Crisis. Although we studied a lengthy time period with the intent of capturing long-term market cycles including near inevitable recessions, we cannot rule out the possibility that in other periods or contexts, Dark Triad traits may be related to better outcomes. Relatedly, and due to the correlational nature of our findings, an alternative interpretation of the results may be that relative underperformance leads managers to engage in more psychopathic behaviors. Such an explanation is unlikely, however, given that behavioral ratings have been shown to remain stable over time (ten Brinke et al., 2016) and that videos were randomly selected from a library spanning nearly a decade during which time managers inevitably experience ups and downs in performance. Finally, although attention to nonverbal cues can provide considerable insights into personality, our coding procedure provides a relatively coarse and exterior measure of personality traits. For example, psychopathy is comprised of four factors (interpersonal, affective, lifestyle, and antisocial; Hare, 2003; Williams et al., 2007); our measure collapses across these dimensions to produce a single psychopathy rating. More detailed assessments of managers' personalities via self-report or peer report may reveal subcomponents of Dark Triad traits that are most/least detrimental to investment performance and provide insight into the specific behaviors that lead to decreased annualized and risk-adjusted returns.

Furthermore, the factor structure of the psychopathic personality may be defined differently. Whereas the coding scheme was created based on Hare's (2003) four-factor model of psychopathy, others argue that psychopathy can be defined by three factors: disinhibition, boldness, and meanness (Patrick, Fowles, & Krueger, 2009). And, factor analyses of a widely used self-report measure of psychopathy (Psychopathic Personality Inventory; Lilienfeld & Andrews, 1996) support a two-factor solution: impulsive antisociality (IA) and fearless dominance (FD; Benning, Patrick, Hicks, Blonigen, & Krueger, 2003). Although the centrality of FD—a social tendency defined by assertiveness, thrill seeking, and an immunity to stress—to the psychopathic personality is a subject of debate (see Lynam & Miller, 2012; Miller & Lynam, 2012), some evidence indicates that this trait can be associated with success in leadership (Lilienfeld, Watts, & Smith, 2015). For example, Lilienfeld et al. (2012) found that among U.S. presidents, FD was associated with greater perceived performance, persuasiveness, and crisis management, as assessed by historians. Future research should examine alternative definitions of the psychopathic personality on financial performance.

Limitations notwithstanding, findings from the present investigation converge with a recent study showing that psychopathic tendencies yield reduced support for bills proposed by U.S. senators in leadership roles (ten Brinke et al., 2016). These two studies, clear examples of real-world performance, cast doubts upon the efficacy of a Dark Triad–based approach to wielding power (see also Judge, Bono, Ilies, & Gerhardt, 2002). Cultural stereotypes may hold that psychopathic tendencies are pathways to power in politics and finance. Indeed, each of the individuals we coded is a successful professional to have been included in the video database we selected as our sample. Yet, empirical findings suggest that the objective performance of psychopaths, once they achieve a powerful position, fails to meet expectations (Babiak et al., 2010). This gap between cultural beliefs about who is best suited for power and actual outcomes in these roles raises nuanced questions. It may be that psychopathic tendencies are effective in gaining power quickly, or in certain kinds of contexts; for example, psychopathic behaviors may be associated with perceptions of dominance or competence, which lead to rapid promotions in some organizations (e.g., Anderson & Kilduff, 2009). Once in a position of power, however, psychopathic behaviors may prove counterproductive (Gervais, Kline, Ludmer, George, & Manson, 2013; Hildreth & Anderson, 2016; Porath, Gerbasi, & Schorch, 2015; ten Brinke et al., 2015). Future research is necessary to understand the ascension and performance of psychopathic personalities in organizations (Lilienfeld et al., 2015).

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Note

1. Source: HFR (Hedge Fund Research, Inc.), ©2011, www.hedgefundresearch.com

Supplemental Material

Supplementary material is available online with this article.

References

Akhtar, R., Ahmetoglu, G., & Chamorro-Premuzic, T. (2013). Greed is good? Assessing the relationship between entrepreneurship and subclinical psychopathy. *Personality and Individual Differences*, *54*, 420-425.

Anderson, C., & Kilduff, G. J. (2009). Why do dominant personalities attain influence in face-to-face groups? The competence-signaling effects of trait dominance. *Journal of Personality and Social Psychology*, *96*, 491-503.

Aristotle. (1962). *Politics* (T. A. Sinclair, Trans.). London, England: Penguin Classics.

Babiak, P., & Hare, R. D. (2006). *Snakes in suits: When psychopaths go to work*. New York, NY: Regan Books.

Babiak, P., Neumann, C. S., & Hare, R. D. (2010). Corporate psychopathy: Talking the walk. *Behavioral Sciences & the Law*, *28*, 174-193.

Back, M. D., Schmukle, S. C., & Egloff, B. (2010). Why are narcissists so charming at first sight? Decoding the narcissism–popularity link at zero acquaintance. *Journal of Personality and Social Psychology*, *98*, 132-145.

Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the psychopathic personality inventory: Validity and implications for clinical assessment. *Psychological Assessment*, *15*, 340-350.

Bercovici, J. (2011, June 14). Why (some) psychopaths make create CEOs. *Forbes*. Retrieved from http://www.forbes.com/sites/jeffbercovici/2011/06/14/why-some-psychopaths-make-great-ceos/#694863c94fac

Blackburn, R., & Lee-Evans, J. M. (1985). Reactions of primary and secondary psychopaths to anger-evoking situations. *British Journal of Clinical Psychology*, *24*, 93-100.

Boddy, C. R. (2006). The dark side of management decisions: Organisational psychopaths. *Management Decision*, *44*, 1461-1475.

Boehm, C. (1999). *Hierarchy in the forest: The evolution of egalitarian behavior*. Cambridge, MA: Harvard University Press.

Borkenau, P., Mauer, N., Riemann, R., Spinath, F. M., & Angleitner, A. (2004). Thin slices of behavior as cues of personality and intelligence. *Journal of Personality and Social Psychology*, *86*, 599-614.

Brunswik, E. (1952). *The conceptual framework of psychology* (International Encyclopedia of Unified Science, Vol. 1, No. 10). Chicago, IL: The University of Chicago Press.

Campbell, W. K., & Foster, C. A. (2002). Narcissism and commitment in romantic relationships: An investment model analysis. *Personality and Social Psychology Bulletin*, *28*, 484-495.

Campbell, W. K., Goodie, A. S., & Foster, J. D. (2004). Narcissism, confidence, and risk attitude. *Journal of Behavioral Decision Making*, *17*, 297-311.

Carney, D. R., Colvin, C. R., & Hall, J. A. (2007). A thin slice perspective on the accuracy of first impressions. *Journal of Research in Personality*, *41*, 1054-1072.

Carney, D. R., Hall, J. A., & LeBeau, L. S. (2005). Beliefs about the nonverbal expression of social power. *Journal of Nonverbal Behavior*, *29*, 105-123.

Carpenter, C. J. (2012). Narcissism on Facebook: Self-promotional and anti-social behavior. *Personality and Individual Differences*, *52*, 482-486.

Case, C. R., & Maner, J. K. (2014). Divide and conquer: When and why leaders undermine the cohesive fabric of their group. *Journal of Personality and Social Psychology*, *107*, 1033-1050.

Caspi, A., & Bem, D. J. (1990). Personality continuity and change across the life course. In L. A. Pervin (Ed.), *Handbook of personality theory and research* (pp. 549-575). New York, NY: Guilford Press.

Cheng, J. T., Tracy, J. L., Foulsham, T., Kingstone, A., & Henrich, J. (2013). Two ways to the top: Evidence that dominance and prestige are distinct yet viable avenues to social rank and influence. *Journal of Personality and Social Psychology*, *104*, 103-125.

Cheng, J. T., Tracy, J. L., & Henrich, J. (2010). Pride, personality, and the evolutionary foundations of human social status. *Evolution & Human Behavior*, *31*, 334-347.

Cherulnik, P. D., Way, J. H., Ames, S., & Hutto, D. B. (1981). Impressions of high and low Machiavellian men. *Journal of Personality*, *49*, 388-400.

Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism*. New York, NY: Academic Press.

Cleckley, H. (1941). *The mask of sanity*. St. Louis, MO: Mosby.

Cohen, T. R., Panter, A. T., Turan, N., Morse, L., & Kim, Y. (2014). Moral character in the workplace. *Journal of Personality and Social Psychology*, *107*, 943-963.

Comstock, C. (2011, February 4). *Tiger cub Chris Shumway is retiring at 45 and closing his 48 billion fund—Here's what he's invested in*. Business Insider. Retrieved from http://www.businessinsider.com/chris-shumway-returning-money-shumway-capital-2011-2

Dishi, E., Gallagher, D. R., & Parwada, J. T. (2007). Institutional investment flows and the determinants of top fund manager turnover. *Accounting & Finance*, *47*, 243-266.

Dutton, K. (2012). *The wisdom of psychopaths: What saints, spies, and serial killers can teach us about success*. New York, NY: Scientific American.

Fowler, K. A., Lilienfeld, S. O., & Patrick, C. J. (2009). Detecting psychopathy from thin slices of behavior. *Psychological Assessment*, *21*, 68-78.

Fridlund, A. J. (1992). The behavioral ecology and sociality of human faces. In M. S. Clark (Ed.), *Emotion* (pp. 90-121). Newbury Park, CA: SAGE.

Fung, W., & Hsieh, D. A. (1999). A primer on hedge funds. *Journal of Empirical Finance*, *6*, 309-331.

Gervais, M. M., Kline, M., Ludmer, M., George, R., & Manson, J. H. (2013). The strategy of psychopathy: Primary psychopathic traits predict defection on low-value relationships. *Proceedings of the Royal Society B: Biological Sciences*, *280*, 20122773.

Gifford, R. (1994). A lens-mapping framework for understanding the encoding and decoding of interpersonal dispositions in nonverbal behavior. *Journal of Personality and Social Psychology*, *66*, 398-412.

Hare, R. D. (2003). *The Hare psychopathy checklist revised* (PCL-R). Toronto, Ontario, Canada: Multi-Health Systems.

Hare, R. D., Harpur, T. J., Hakstian, A. R., Forth, A. E., Hart, S. D., & Newman, J. P. (1990). The revised Psychopathy Checklist: Reliability and factor structure. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, *2*, 338-341.

Hare, R. D., & Neumann, C. S. (2008). Psychopathy as a clinical and empirical construct. *Annual Review of Clinical Psychology*, *4*, 217-246.

Hedges, J. (2004). Size versus performance in the hedge fund industry. *Journal of Financial Transformation*, *10*, 14-17.

Henrich, J., & Gil-White, F. J. (2001). *The evolution of prestige: Freely conferred deference as a mechanism for enhancing the benefits of cultural transmission*. Evolution & Human Behavior, 22, 165-196.

Hildreth, J. A. D., & Anderson, C. (2016). Failure at the top: How power undermines collaborative performance. *Journal of Personality and Social Psychology*, *110*, 261-286.

Hmieleski, K. M., & Lerner, D. A. (2013). The dark triad: Narcissism, psychopathy, and Machiavellianism as predictors of entrepreneurial entry (summary). *Frontiers of Entrepreneurship Research*, *33*, Article 6.

Jonason, P. K., Slomski, S., & Partyka, J. (2012). The Dark Triad at work: How toxic employees get their way. *Personality and Individual Differences*, *52*, 449-453.

Jones, D. N. (2013). What's mine is mine and what's yours is mine: The Dark Triad and gambling with your neighbor's money. *Journal of Research in Personality*, *47*, 563-571.

Jones, D. N. (2014). Risk in the face of retribution: Psychopathic individuals persist in financial misbehavior among the Dark Triad. *Personality and Individual Differences*, *67*, 109-113.

Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, *87*, 765-780.

Keltner, D. (1995). Signs of appeasement: Evidence for the distinct displays of embarrassment, amusement, and shame. *Journal of Personality and Social Psychology*, *68*, 441-454.

Keltner, D. (2016). *The power paradox: How we gain and lose influence*. New York, NY: Penguin Press.

Keltner, D., & Kring, A. M. (1998). Emotion, social function, and psychopathology. *Review of General Psychology*, *2*, 320-342.

Kilduff, G. J., Willer, R., & Anderson, C. (2016). Hierarchy and its discontents: Status disagreement leads to withdrawal of contribution and lower group performance. *Organization Science*, *27*, 373-390.

Lewis, M.. (1989). Liar's poker: Rising through the wreckage on Wall Street. New York: W. W. Norton.

Liang, B. (1999). On the performance of hedge funds. *Financial Analysts Journal*, *55*, 72-85.

Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal population. *Journal of Personality Assessment*, *66*, 488-524.

Lilienfeld, S. O., Waldman, I. D., Landfield, K., Watts, A. L., Rubenzer, S., & Faschingbauer, T. R. (2012). Fearless dominance and the US presidency: Implications of psychopathic personality traits for successful and unsuccessful political leadership. *Journal of Personality and Social Psychology*, *103*, 489-505.

Lilienfeld, S. O., Watts, A. L., & Smith, S. F. (2015). Successful psychopathy: A scientific status report. *Current Directions in Psychological Science*, *24*, 298-303.

Lynam, D. R., & Miller, J. D. (2012). Fearless dominance and psychopathy: A response to Lilienfeld et al. *Personality Disorders: Theory, Research, and Treatment*, *3*, 341-353.

Machiavelli, N. (1961). *The prince* (G. Bull, trans.). London, England: Penguin Classics. (Original work published 1532)

Magee, J. C., & Galinsky, A. D. (2008). Social hierarchy: The self-reinforcing nature of power and status. *The Academy of Management Annals*, *2*, 351-398.

Mathieu, C., Neumann, C. S., Hare, R. D., & Babiak, P. (2014). A dark side of leadership: Corporate psychopathy and its influence on employee well-being and job satisfaction. *Personality and Individual Differences*, *59*, 83-88.

McIlwain, D., Evans, J., Caldis, E., Cicchini, F., Aronstan, A., Wright, A., & Taylor, A. (2012). Strange moralities: Vicarious emotion and moral emotions in Machiavellian and psychopathic personality styles. In R. Langdon & C. Mackenzie (Eds.), *Macquarie monographs in cognitive science: Emotions, imagination, and moral reasoning* (pp. 119-148). New York, NY: Psychology Press.

Miller, J. D., & Lynam, D. R. (2012). An examination of the Psychopathic Personality Inventory's nomological network: A meta-analytic review. *Personality Disorders: Theory, Research, and Treatment*, *3*, 305-326.

Miller, M. H. (1986). Financial innovation: The last twenty years and the next. *Journal of Financial and Quantitative Analysis*, *21*, 459-471.

Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology*, *21*, 913-938.

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, *36*, 556-563.

Pearson, C. M., & Porath, C. (2009). *The cost of bad behavior: How incivility damages your business and what you can do about it*. New York, NY: Portfolio Penguin Group.

Porath, C., Gerbasi, A., & Schorch, S. L. (2015). The effects of civility on advice, leadership, and performance. *Journal of Applied Psychology*, *100*, 1527-1541.

Porath, C., & Pearson, C. (2013, January-February). The price of incivility: Lack of respect in the workplace hurts morale-and

the bottom line. *Harvard Business Review*. Retrieved from https://hbr.org/2013/01/the-price-of-incivility/

Porter, S., Bhanwer, A., Woodworth, M., & Black, P. J. (2014). Soldiers of misfortune: An examination of the Dark Triad and the experience of schadenfreude. *Personality and Individual Differences*, *67*, 64-68.

Raskin, R., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports*, *45*, 590.

Raskin, R., & Shaw, R. (1988). Narcissism and the use of personal pronouns. *Journal of Personality*, *56*, 393-404.

Rauthmann, J. F., & Will, T. (2011). Proposing a multidimensional Machiavellianism conceptualization. *Social Behavior and Personality: An International Journal*, *39*, 391-403.

Rime, B., Bouvy, H., Leborgne, B., & Rouillon, F. (1978). Psychopathy and nonverbal behavior in an interpersonal situation. *Journal of Abnormal Psychology*, *87*, 636-643.

Royal, C., & O'Donnell, L. (2008). Differentiation in financial markets: The human capital approach. *Journal of Intellectual Capital*, *9*, 668-683.

Scarr, A., & McCartney, K. (1983). How people make their own environments: A theory of genotype→ environment effects. *Child Development*, *54*, 424-435.

Schaumberg, R. L., & Flynn, F. J. (2012). Uneasy lies the head that wears the crown: The link between guilt proneness and leadership. *Journal of Personality and Social Psychology*, *103*, 327-342.

Sharpe, W. F. (1994). The Sharpe ratio. *The Journal of Portfolio Management*, *21*, 49-58.

Smalley, R. L., & Stake, J. E. (1996). Evaluating sources of ego-threatening feedback: Self-esteem and narcissism effects. *Journal of Research in Personality*, *30*, 483-495.

Sortino, F. A., & Price, L. N. (1994). Performance measurement in a downside risk framework. *The Journal of Investing*, *3*, 59-64.

ten Brinke, L., Black, P. J., Porter, S., & Carney, D. R. (2015). Psychopathic personality traits predict competitive wins and cooperative losses in negotiation. *Personality and Individual Differences*, *79*, 116-122.

ten Brinke, L., Liu, C. C., Keltner, D., & Srivastava, S. B. (2016). Virtues, vices, and political influence in the US Senate. *Psychological Science*, *27*, 85-93.

ten Brinke, L., Porter, S., Korva, N., Fowler, K., Lilienfeld, S. O., & Patrick, C. J. (2017). An examination of the communication styles associated with psychopathy and their influence on observer impressions. *Journal of Nonverbal Behavior*, *41*, 269-287.

Tiedens, L. Z., & Fragale, A. R. (2003). Power moves: Complementarity in dominant and submissive nonverbal behavior. *Journal of Personality and Social Psychology*, *84*, 558-568.

Tracy, J. L., & Robins, R. W. (2007). The prototypical pride expression: Development of a nonverbal behavior coding system. *Emotion*, *7*, 789-801.

Vazire, S., Naumann, L. P., Rentfrow, P. J., & Gosling, S. D. (2008). Portrait of a narcissist: Manifestations of narcissism in physical appearance. *Journal of Research in Personality*, *42*, 1439-1447.

Verona, E., Patrick, C. J., Curtin, J. J., Bradley, M. M., & Lang, P. J. (2004). Psychopathy and physiological response to emotionally evocative sounds. *Journal of Abnormal Psychology*, *113*, 99-108.

Williams, K. M., Paulhus, D. L., & Hare, R. D. (2007). Capturing the four-factor structure of psychopathy in college students via self-report. *Journal of Personality Assessment*, *88*, 205-219.

Wiltermuth, S. S., & Cohen, T. R. (2014). "I'd only let you down": Guilt proneness and the avoidance of harmful interdependence. *Journal of Personality and Social Psychology*, *107*, 925-942.