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Dark Triad Managerial Personality and Financial Reporting Manipulation

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Dark Triad Managerial Personality and Financial Reporting Manipulation[*]

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Abstract   We investigate the relationship between the dark triad personality traits (Machiavellianism, narcissism, and psychopathy) of managers and the practice of reporting manipulation using a primary survey of 837 professionals working in accounting and finance departments. We find that (a) managers who exhibit dark personality traits are associated with a higher prevalence of fraudulent accounting practices in their accounting and finance departments and (b) traditional risk management mechanisms are only partially effective in mitigating this effect. Internal audits are effective in curtailing the negative behavior of managers with dark triad traits only if these internal audits are outsourced and performed by independent external personnel but not if they are conducted by internal personnel. This suggests that managers with dark triad traits are able to manipulate other employees quite effectively. Consequently, having external personnel perform the auditing task provides a safeguard against such unethical practices and manipulation. This finding has strong practical implications, as it provides support for outsourcing internal audits rather than keeping them in-house.

Keywords: financial reporting quality; fraud; survey; managerial style effects; dark triad; internal controls

1 Introduction

Every now and then, we observe corporate accounting scandals that annihilate billions in market capitalization and have widespread consequences. There are numerous examples of such scandals, including Enron, WorldCom, and, most recently, the Wirecard scandal (Davies, 2020). The impacts on all company stakeholders and society at large are immense. Furthermore, these large-scale accounting scandals often involve top managers who are responsible for initiating, maintaining, and hiding these fraudulent practices for long periods of time.

For any individual to "successfully" maintain long-term fraud, it can be argued that certain predispositions are required. Unethical decision-making, lying for one's own gain, a sense of superiority and a lack of guilt and remorse are all consequences of having a dark triad personality (Babiak and Hare, 2006; Blickle et al., 2006; Corry et al., 2008; Stevens et al., 2012; Furnham et al., 2013; Boddy, 2015). According to psychological research, such traits are particularly prevalent among fraud offenders (Clarke, 2005; Kirkman, 2005).

In this paper, we use theories and measures from personality psychology to investigate the effects of management personality traits on fraudulent accounting practices. We focus on managers in finance and accounting departments, as they have the incentive and ability to influence the financial reporting process. We focus on the so-called "dark triad" personality traits because managers with Machiavellian, narcissistic, and psychopathic attributes are especially prone to exploit their ability to influence the reporting process in a self-serving way. We specifically look at the relationship between managers' dark triad personalities and fraudulent accounting actions and how internal control mechanisms can moderate this relationship.

In this setting, it is important to note that accounting manipulation is distinct from the related concept of earnings management. Accounting manipulation practices are those that violate generally accepted accounting principles (GAAP). Earnings management practices, while masking the true underlying economic situation of a company, still lie within the boundaries of GAAP. While academics have acknowledged that it is some-

times hard to delineate this boundary, we focus on practices that are clearly outside the discretion provided by GAAP, i.e., accounting manipulation.

We find a strong positive relationship between the dark triad personality traits of managers and the practice of accounting manipulation, keeping size and industry controls fixed. We also find that traditional risk control mechanisms, such as whistleblower regulations and internal audit departments staffed with internal personnel, do not easily mitigate these practices. However, having an independent and outsourced internal audit function successfully helps curb accounting fraud. Specifically, an outsourced and externally staffed audit function leads to an approximately 41% decrease in the negative impact of managers with dark triad personality traits on companies' accounting practices. The slopes are 0.80 ($p < 0.001$) for managers with dark triad traits in companies with an in-house internal audit department and 0.47 ($p < 0.01$) for managers with dark triad traits in companies with outsourced internal audit departments. We conjecture that this may be attributed to the fact that managers who score high on the dark triad scale are, in fact, able to influence internal personnel and an internally staffed audit function, whereas it is harder for them to manipulate external providers of an internal audit function. Consequently, having outsourced and external auditors perform the task provides a safeguard against such manipulation. This finding has strong practical implications, as it provides support for outsourcing such activities rather than keeping them in-house.

Our results contribute to the literature in three important ways. First, we provide additional evidence for the literature linking personality characteristics to financial reporting practices. In terms of our research question, our paper is closest to Buchholz et al. (2019), Capalbo et al. (2018), Ham et al. (2017), and Ge et al. (2011). These studies find that manager-specific effects help explain reporting quality, which is evidently decreased by accounting manipulation. Previous research has usually focused on one selected dark personality trait. For example, while Murphy (2012) focuses on Machiavellianism and its impact on misreporting using the MACH-IV scale (Christie and Geis, 1970), most of the remaining research concerning personality focuses on narcissism (see, e.g., Buchholz et al., 2019; Capalbo et al., 2018; Ham et al., 2017; Olsen et al., 2014;

Olsen and Stekelberg, 2015; Chatterjee and Hambrick, 2007). The only authors who also investigate all three personality traits simultaneously are D'Souza and de Lima (2015). However, their setting and research question are somewhat different than ours. They use the short dark triad scale (Jones and Paulhus, 2014) with 131 MBA students from Spain to investigate personality effects on opportunistic decision-making. Unlike these previously used proxies for dark personality traits in the accounting literature, we use the dirty dozen measure (Jonason and Webster, 2010), which allows us to study all three negative personality traits at the same time. Our results complement previous studies by showing that managerial personality darkness has a significant effect on fraudulent practices.

Second, by focusing on the moderating role of internal control mechanisms, we show that only a subset of common control functions help keep the self-serving interests of managers in check. In doing so, we extend the prior literature that has primarily used publicly listed company samples and thus does not have information on internal control mechanisms. This is important, as we show that standard internal controls are ineffective in containing dark personalities. We provide empirical evidence demonstrating that outsourced internal audit functions are better able to mitigate the effects of managers who score high on the dark triad spectrum.

Third, by using the survey method and explicitly asking the participants about their actions, we are able to study fraud that has yet to be detected by external parties and is thus hard to examine with archival data. Being able to investigate ongoing fraudulent actions—information that would be impossible to obtain by any other data-gathering method—is a substantial contribution to the existing literature, as fraudulent reporting tends to remain hidden for long periods of time or even indefinitely (Zingales, 2015). In contrast, the prior literature has so far focused on the concept of earnings management and used only archival data (Buchholz et al., 2019; Capalbo et al., 2018; Ham et al., 2017; Ge et al., 2011), thus making it unable to explore the extreme unethical and fraudulent accounting manipulation that often occurs in an organization before accounting scandals come to light. Furthermore, we ask our survey respondents to answer questions not about

themselves but about their immediate supervisor. Observer ratings have been established in the psychology literature as not only accurate but, in some cases, even more accurate than self-ratings (see the meta-analyses of Connelly and Ones, 2010; Cragun et al., 2020). The validity of observer ratings has also been established for dark personality traits (Malesza and Kaczmarek, 2020). Our use of observer ratings is particularly advantageous, given that individuals with the personality traits we are interested in are prone to engage in noncompliant behavior.

Our paper is placed within the greater literature on the antecedents and determinants of corporate fraud. While this literature is vast, to date, it has largely focused on the role of organizational-level determinants of corporate fraud. In contrast, we focus on the individual level and, more specifically, on the dark traits of managers. Research at the individual level is important, as psychological research shows that dark traits are particularly prevalent among fraud offenders (Clarke, 2005; Kirkman, 2005). Furthermore, dark personality traits may be more prevalent in the corporate world compared to the overall population (Babiak et al., 2010). For example, Babiak et al. (2010) analyze a corporate sample and find that 5.9% of participants show an indication of "potential" or "possible" psychopathy, compared to only 1.2% in a large community sample (Neumann and Hare, 2008). The authors also report that several of the participants with the highest psychopathy scores hold considerable rank and status within their respective organizations. Harris et al. (2021) even provide experimental evidence suggesting that organizations may go as far as to particularly hire managers with dark personality traits because of their willingness to push ethical boundaries. Consequently, we explore whether organizations with managers who display these traits are more likely to engage in financial reporting manipulation. While we focus on the individual level, we do not ignore existing organizational-level determinants. In fact, we also study the moderating role of the presence of internal controls and whistleblower policies, two important organizational-level determinants of corporate fraud (Liu et al., 2015). Moreover, we control for other previously found important determinants of corporate fraud, such as firm size and industry (Baucus and Near, 1991). We thus build on the existing research

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to investigate the incremental effect of dark triad personality traits on corporate fraud, given that the psychology literature indicates that it may be an important determinant (Clarke, 2005; Kirkman, 2005).

The remainder of the paper is structured as follows. The next section discusses the related literature and our hypotheses. Section 3 describes our methodology. Section 4 presents our main results and several supplemental analyses. Finally, we discuss our findings in Section 5.

2   Related Literature and Hypotheses

Corporate fraud is a topic that draws constant attention from the public, regulatory bodies, and academia. However, attention usually starts too late, namely, after the costs of a large fraud case for stakeholders, such as shareholders, creditors, employees, and, possibly, society, are already in the millions. As a reaction to uncovered fraud, standard-setters and academia focus on fixing the rules, providing tighter guidelines, and imposing stricter regulatory requirements on the firm.

The fraud triangle provides a theoretical framework for the analysis of fraud detection and prevention (Cressey, 1973; Trompeter et al., 2012; Dorminey et al., 2012; Bailey, 2017). It argues for three necessary conditions for fraudulent behavior: first, an incentive, motive, or pressure to engage in the fraudulent act; second, a perceived opportunity; and third, the attitude or mindset to rationalize and justify the act or to not need such a rationalization.

The majority of the existing research on corporate fraud has focused on organizational-level characteristics that may increase fraud in firms (Zahra et al., 2005), thereby primarily addressing the perceived opportunity to commit fraudulent acts. Zahra et al. (2005) and Schnatterly et al. (2018) provide a detailed overview of the existing literature on organizational-level effects in their comprehensive reviews. Overall, this literature concludes that strong formal controls, such as independent audit committees and whistleblower policies, are able to prevent corporate fraud (Liu et al., 2015). Following

the enactment of the Sarbanes-Oxley (SOX) Act and similar international regulations, such control mechanisms are required by law in many jurisdictions around the world. In addition to formal control mechanisms, organizations are also able to deter fraud through informal controls such as corporate culture (Chakrabarty, 2015).

The role of individuals, specifically their incentives and, in particular, their rationalizations, only recently became a subject of interest in research. Bertrand and Schoar (2003) are among the first authors to investigate the relationship between manager-specific traits and firm outcomes. The authors show that manager-fixed effects are an important factor in firm outcomes. In the accounting literature, Ge et al. (2011) and Bamber et al. (2010), among others, utilize the manager-fixed effects approach to show that managers matter in a broad range of accounting choices, such as increasing operating leases, changing pension assumptions, and making voluntary disclosure decisions. More recently, research has tried to explain the determinants of these manager-fixed effects and how personality fits into the picture.

2.1   Reporting Quality and Fraud

As the operating and financial decisions of managers form the basis of the reported accounting figures, it is important to study the links among managerial personality, fraudulent accounting practices and, ultimately, reporting quality. Today, almost all large companies use financial incentives based on earnings per share, stock prices, or shareholder returns to determine their executives' compensation and incentive plans (Schmidt and Reda, 2017; Davis, 2009). Thus, managers have both the ability and the incentive to influence reported earnings and performance figures. This, in turn, has an impact on reporting quality.

As the literature provides no precise definition for reporting quality, scholars oftentimes measure reporting quality as an absence of negative actions. Such negative actions are those that might make the accounting figures less transparent or timely, such as earnings smoothing, earnings management, restatements, and fraud. For most actions, it is hard to delineate between quality-improving or quality-deteriorating consequences.

Whether a more volatile earnings trend closer to the current economic reality is a better indicator of long-term earnings capabilities than a smooth and earnings-managed trend is remains to be determined. According to Nelson and Skinner (2013), the interpretation of what constitutes reporting quality is dependent on the intent of management and the decision-making context of the user. Fraudulent financial reporting is a clear sign of low (or no) reporting quality. As fraudulent accounting figures show an incorrect and misleading view of a company's health and performance to outside stakeholders, it is important to obtain a better understanding of the determinants and potential deterrents of this practice.

2.2   Fraud and Personality

Since the publication of the seminal research article by Hambrick and Mason (1984) on upper echelons theory, the general link between managerial style and firm outcomes has continued to receive attention in managerial, accounting, and finance research. Bringing corporate fraud into the picture is a more recent phenomenon. During a 2011 panel at the American Accounting Association's annual meeting on emerging issues in fraud research, Brody et al. (2012) pointed out that to prevent and detect fraudulent activities, auditors and regulators need to understand the behavioral components behind people committing fraud. In the end, every fraud case is perpetrated by an individual and not a company. Other researchers have emphasized the importance of personality traits in fraud research as well. While Cohen et al. (2010) suggest that auditors should specifically focus on the behavior and attitudes of managers, Ramamoorti (2008) reminds us that fraud is a human endeavor. Thus, it is important to understand the personality of fraud offenders to better understand their behavior (Ramamoorti, 2008).

However, the particular link between fraud and personality is underexplored in the literature. Some recent papers have looked at the effects of dark personality traits on (unethical) accounting outcomes, such as accruals quality (Buchholz et al., 2019; Capalbo et al., 2018; Ham et al., 2017; Francis et al., 2008), the propensity to be subjected to accounting and auditing enforcement releases (Schrand and Zechman, 2012), and misre-

porting (Murphy, 2012).

The three most prominent negative personality traits examined in the literature are Machiavellianism, narcissism, and (subclinical) psychopathy—together called the dark triad of personality. Furnham et al. (2013) provide an excellent review of the dark triad concept. The existing accounting literature has emphasized the narcissism of top executives as a potential determinant of accounting outcomes. For example, Rijsenbilt and Commandeur (2013) study the impact of top executive narcissism on fraud, Olsen et al. (2014) performance, Olsen and Stekelberg (2015), Capalbo et al. (2018), Buchholz et al. (2019) earnings management, and Ham et al. (2017) multiple reporting quality proxies.

The focus on narcissism can mainly be attributed to the fact that researchers have established that there are observable characteristics of individuals with narcissistic traits in archival data that can be used as proxies for the underlying personality trait. Using measures such as signature size (Ham et al., 2018), the size of the pictures in annual reports (Chatterjee and Hambrick, 2007), the frequency of first-person pronouns in earnings conference calls (Raskin and Shaw, 1988), and third-party ratings of video samples of chief executive officers (CEOs) (Petrenko et al., 2016) enables archival researchers to measure narcissism without having to subject managers to psychological tests. This is important, as managers are likely unwilling to participate in psychological tests in the first place. However, the recent literature has also questioned the validity of these proxies (particularly signature size and first-person singular pronoun use) for narcissism (Carey et al., 2015; Koch and Biemann, 2014).

Currently, there are no established proxies in archival data for the traits of Machiavellianism and psychopathy, which might explain the lack of research on these two traits. However, there is considerable overlap between the measures. While there might be noticeable differences in a clinical population, Furnham et al. (2013) argue that in the general population, all three share a common core of callous manipulation. Paulhus and Williams (2002), who introduced the term dark triad, also acknowledged that they found considerable overlap in empirical studies of the dark triad. All three traits manifest, among other things, as a tendency towards self-promotion, emotional coldness, and a

socially evil character.

Psychological research has found that individuals with a high Machiavellianism score tend to be more self-interested and opportunistic (Gunnthorsdottir et al., 2002). As such, Machiavellian characters are more likely to cheat and be able to rationalize their behavior (Cooper and Peterson, 1980). They try to manipulate others for their own gain (Christie and Geis, 1970) and believe that manipulation is the key to success in life (Paulhus and Jones, 2015). Murphy (2012) found in an experimental setting that people who score high on the Machiavellianism test misreport both to a higher degree and with less guilt. Thus, Machiavellian personality traits allow individuals to rationalize fraudulent acts but also may lead them to seize perceived opportunities more forcefully (see also Harrison et al., 2018).

As for narcissism, recent research has identified a sense of entitlement, dominance, and superiority as the key features of narcissists (Corry et al., 2008). Correspondingly, there is evidence of narcissists being prone to unethical behavior, such as cheating on their romantic partners (Buss and Shackelford, 1997) and cheating to improve their academic performance (Menon and Sharland, 2011). Consequently, narcissistic personality traits may facilitate fraudulent behavior by providing perceived opportunities and a rationalizing mindset. The accounting literature documents links between narcissism, the most thoroughly studied personality characteristic, and both less effective monitoring (Young et al., 2014; Chatterjee and Pollock, 2016) and lower reporting quality due to chief financial officer (CFO) and CEO narcissism (Ham et al., 2017). Moreover, Ham et al. (2017) find a link between CFO narcissism and lower reporting quality in several dimensions, such as greater earnings management (see also Capalbo et al., 2018; Buchholz et al., 2019), less timely loss recognition, and a higher probability of restatement, all of which still lie in the realm of legal accounting discretion. We are not aware of any study to date that explicitly looks at the effect of narcissism on the propensity to engage in fraudulent practices.

Finally, (subclinical) psychopathy is considered to be the most negative trait of the dark triad (Rauthmann and Kolar, 2012). Psychopathy has been linked to deficits of

conscience, empathy, and remorse (Babiak and Hare, 2006; Bailey, 2017); it facilitates fraudulent acts by ensuring that rationalization becomes negligible and leads to manipulative behavior (Bailey, 2017). Individuals with psychopathic traits are also said to be thrill-seeking (Hare, 1985; Lilienfeld and Andrews, 1996), reckless, selfish, and aggressive (Patrick, 2007). As noted by Bailey (2017), the typical traits of an individual with psychopathic tendencies may influence all three sides of the fraud triangle. In top management positions, individuals with psychopathic traits pose the largest threat to business ethics (Marshall et al., 2015). In an organizational setting, they are willing to defraud the company that employs them to obtain higher pay or a promotion (Clarke, 2005). According to Kirkman (2005), fraud is a frequent crime of choice among individuals with psychopathic traits, while Bailey (2017) notes that "psychopathy has serious implications for fraud and unethical behavior by accountants and auditors" (p. 15). Studying a sample of accounting students, Bailey (2019) found that students with pronounced psychopathic or narcissistic personality traits are more accepting of fraudulent accounting practices, and that psychopathy has a substantially greater effect than narcissism.

The three dark triad elements act in concert as powerful psychological antecedents to fraud behaviors (Harrison et al., 2018). Specifically, Harrison et al. (2018) argue that narcissism inspires individuals to act unethically and changes their perception of their ability to successfully commit fraud, Machiavellianism drives individuals to act unethically and alters their perceptions about the opportunities to deceive others, and psychopathy helps individuals to rationalize their fraudulent behaviors. Hence, all three personality traits together fulfill the necessary conditions to commit fraud according to the fraud triangle (Cressey, 1973; Dorminey et al., 2012; Trompeter et al., 2012; Bailey, 2017).

Based on the prior literature and the stark similarities between individuals with Machiavellian, narcissistic, and psychopathic traits, we believe that it is important to consider all three facets of the dark triad when considering the impact of personality traits on accounting manipulation. We expect managers who score high on the dark triad scale to be more willing to engage in accounting fraud.

H1: Firms with managers who score high on the dark triad scale manipulate accounting figures more often than firms with managers who score low on the scale do.

Moreover, considering the individual elements of the dark triad, we additionally hypothesize as follows:

H1a: Firms with managers who score high on narcissism manipulate accounting figures more often than firms with managers who score low on the scale do.

H1b: Firms with managers who score high on Machiavellianism manipulate accounting figures more often than firms with managers who score low on the scale do.

H1c: Firms with managers who score high on psychopathy manipulate accounting figures more often than firms with managers who score low on the scale do.

2.3 Internal Controls and Reporting Quality

The 2002 SOX Act is a direct response to accounting scandals in the early 2000s, most notably those that occurred at Enron. One significant change since the SOX Act was enacted has been the heightened importance that regulatory bodies place on internal controls, such as internal audit departments and whistleblower policies.

Research has found a positive association between strong internal controls and earnings quality (Doyle et al., 2007; Ashbaugh-Skaife et al., 2008). The internal audit function, in particular, serves an important role in reducing earnings management (Prawitt et al., 2009) and protects companies from criminal behavior within the firm (Nestor, 2004). Several authors point out that internal audit departments play a critical role in detecting possible fraud, both that conducted by employees and that conducted by outsiders (Luehlfing et al., 2003; Belloli and McNeal, 2006). Thus, the literature is in consensus about the positive effects of having an internal audit function rather than not having one.

However, there are opposing views on whether an in-house team or an outsourced provider can better perform the internal audit function. Carey et al. (2006) find that, consistent with the model-based findings of Caplan and Kirschenheiter (2000), companies that decide to outsource the internal audit function see the external function as more competent and of higher quality. More recent findings show that an in-house internal audit function is more effective in identifying weaknesses and fraud detection (Coram et al., 2008). The authors point towards a greater familiarity with the systems in place and a much higher amount of time spent with actual auditing compared to outsourced providers.

Having a whistleblower policy in place should also help in detecting fraud (Morgan, 2005; Coram et al., 2008). According to Feltovich and Hamaguchi (2018), the use of whistleblowers is invaluable in curbing many forms of illegal or unethical behavior. Thus, it is not surprising that governments increasingly institute incentives for whistleblowers, such as workplace protections for employees blowing the whistle on their bosses, a share of tax receipts for citizens reporting tax cheats, and reduced fines and punishments for collusive firms that report their activity (Feltovich and Hamaguchi, 2018).

The literature has not determined, however, the interplay among managerial personalities, their impacts on internal control functions, and the ensuing effects on accounting manipulation. Overall, in studying accounting outcomes, the evidence is strongly in favor of having an internal control function rather than not having one. The question remains, however, whether internal control functions are also effective for companies with managers with dark triad traits.

2.4   Personality and Internal Control

Upper echelons theory posits that to understand the strategy and performance of a company, one must consider the background characteristics of managers and their actions (Hambrick and Mason, 1984; Hambrick, 2007). An extension of upper echelons theory is the "tone at the top" construct, which states that senior management, in addition to directly influencing firm outcomes, also indirectly influences firm outcomes. As everyone

in the firm looks towards those at the top for guidance, senior management effectively sets the tone within the company (Schwartz et al., 2005; Schroeder, 2002). The values of C-level executives, especially the CEO, are shown to affect the values and behaviors of other members of the organization (Berson et al., 2008; Reed et al., 2011).

Apart from the findings of Ham et al. (2017) showing that companies have more material weaknesses (their measure of weak internal control) if they have a CFO with narcissistic traits, there is, to the best of our knowledge, no research that looks at the potential moderating role of internal control functions on the relationship between managerial personality and reporting quality.

However, studying the triangular relationship between personality traits, disclosure quality, and internal control mechanisms is important. The organizational psychology literature documents that individuals with psychopathic traits have a talent for using other people and concealing their real motives (Boddy, 2006). Soltani (2014) finds that fraud cases, in addition to being affected by managements' ability and motivation to influence accounting records, often involve managers who override control mechanisms that otherwise appear to work effectively. Anecdotal evidence supports this view. The CEO of the Daily Mirror, scoring high on the corporate psychopath scale, reportedly intimidated his staff and rules via a culture of fear (Boddy, 2016). Considering the existing literature, we expect internal control mechanisms to nonetheless effectively increase reporting quality, albeit to a lesser extent, even in the context of managers with dark triad traits.

> *H2a: The effect of managers with dark personality traits on reporting quality is more pronounced in firms that do not have an internal audit function than in firms with an internal audit function.*
>
> *H2b: The effect of managers with dark personality traits on reporting quality is more pronounced in firms that do not have a whistleblower policy than in firms that do have a whistleblower policy.*

3 Methodology

3.1 Data and Sample Description

We use an online survey to gather information about the personality traits of managers and instances of accounting fraud. Choosing a survey enables us to capture ratings of personality characteristics as well as reports about the presence and frequency of fraudulent accounting actions in companies' day-to-day operations. While we acknowledge that data collected through a survey may contain noise, it is not possible to obtain this combination of information by any other data collection method. In addition, we follow best practices with respect to maximizing data quality for questions on unethical practices and sensitive topics. In particular, the literature suggests removing the interviewer and researcher from data collection by using anonymous surveys (Dickson-Swift et al., 2008; Groves et al., 2004; Tourangeau and Smith, 1996).

We collect data with the help of Cint, a large panel exchange and survey respondent provider. We specifically target professionals from the United States who indicated to the panel provider at the time they signed up that they work in either accounting or finance departments. A total of 3,776 professionals are screened to see if they still work in an accounting or finance department. Of these, 1,628 qualify for our survey based on their current department. As data from online surveys are sometimes contaminated by careless responding, we include an attention check in our actual survey (see Oppenheimer et al., 2009, and the supplementary material for all questions in the survey, including the attention check). In total, we obtain data from 1,074 respondents who are able to pass the attention check. Of those 1,074 respondents, 957 finish the survey, and 837 provide answers to all the questions relevant for the analysis (i.e., do not select the "I do not know" option). Thus, the final sample size is 837 observations. Table 1 shows the distribution of respondents across the 21 different industries. The sample includes an overrepresentation of firms in the financial sector, with these accounting for 35% (293) of all observations (837).

Insert Table 1 here

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The unit of analysis is the individual actions of employees with decision-making authority, i.e., managers. However, survey respondents are asked to answer questions not about themselves but about their immediate superiors. Observer ratings are acceptable for our purposes, as personality traits are readily observable (Rokeach, 1985). A large body of literature emphasizes the value and accuracy of observer ratings of personality traits, including dark personality traits (Malesza and Kaczmarek, 2020), and establishes that observer ratings are not only accurate but can, in fact, be more accurate than self-assessments (see, e. g. Connelly and Ones, 2010; Oh et al., 2011). In their meta-analysis, Cragun et al. (2020) note that such observer perceptions are a desirable choice for researchers when feasible.

The observer rating approach has two important advantages. First, by using an informant approach and maintaining the participants' anonymity, we reduce the risk that social desirability bias (Crowne and Marlowe, 1964; Rokeach, 1985) and response distortion (Kerin and Peterson, 1977) will affect the results. Second, this approach allows us to obtain observations about the whole spectrum and hierarchy of a company's management team, from business unit managers to C-level executives. In our sample, 277/214 survey respondents are directors/managers or other employees with decision-making power. The remaining 346 respondents are not in management positions.

We acknowledge that observer ratings may be influenced by the quality of the respondent's relationship with her supervisor. Importantly, however, due to the anonymous nature of our survey, respondents do not have any incentive to score their supervisors inaccurately. In particular, respondents do not stand to gain anything by scoring their supervisors particularly poorly, as the anonymous nature of the survey prevents any potential detriments for the supervisor. Thus, we believe that these relationships are distributed in an unsystematic way (e.g., some respondents have a positive relationship with their supervisor, while others have a negative relationship with their supervisor). Such random measurement error in the explanatory variable biases coefficient estimates toward zero (Atanasov and Black, 2016). Any random measurement error for the outcome inflates standard errors but does not lead to biased coefficients (Atanasov and Black,

2016).

In addition to social desirability bias, common method bias is an important issue to consider when using data gathered by a survey. We use both procedural and statistical remedies to minimize common method bias, and a similar strategy has been used by other accounting researchers (see for example Abernethy et al., 2011). We follow best practices to enhance the validity of the survey procedure. First, the measurement of dependent (accounting manipulation) and independent variables (dark triad) takes place at a maximum distance within the survey (Podsakoff et al., 2003; Chang et al., 2010). Second, as the independent variable of interest is measured with negatively loaded items, we hide such items among a positively loaded scale that assesses general leadership styles (from House and Dessler, 1974) to further reduce bias. The positively loaded scale compromises the instrumental leader scale, supportive leader scale, and the participative leader scale.

Statistically, we conduct the Harman (1976) single-factor test to assess whether the correlations between variables are artificially inflated. With an explained variance of 28%, we fail to find a single factor that accounts for the majority of covariation within the data, an indication of low common method bias (Abernethy et al., 2004) and well below the critical threshold of 50%.

3.2   Factor Analysis

We use factor analysis to investigate whether our scales load on the constructs they are supposed to measure and not on other constructs. We use two measures to test the appropriateness of factor analysis. The Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) is .96, which according to Kaiser and Rice (1974) is "marvelous". Bartlett's test of sphericity is statistically significant (Approx. Chi-Square = 1344.3, df = 45, p=.000). Thus, the correlations are sufficiently large for factor analysis. None of the off-diagonal items indicate correlations > .90, suggesting no risk of multicollinearity.

To assess and confirm the latent structure of the data by uncovering common factors, we conduct a factor analysis using ordinary least squares (OLS) to find the minimum residual (minres) solution on the data matrix (Floyd and Widaman, 1995; Gorsuch, 1990;

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Loehlin, 1990; Snook and Gorsuch, 1989). In particular, we conduct a factor analysis with varimax rotation of the 46 response items. These items comprise 7 items on an instrumental leader scale, 10 items on a supportive leader scale, 5 items on a participative leader scale, 12 items on an accounting manipulation scale, and 12 items (3×4) on the dark triad scale. These items encompass the dependent variable, independent variable, and items used to hide the independent variable scale.

Four factors with eigenvalues larger than 1 (i.e., the Kaiser criterion) emerge that in total explain 97% of the cumulative variance, as shown in Table 2. The factors are clearly interpretable: the first consists of large parts of the three leadership scales, the second consists of accounting manipulation, the third consists of the dark triad personality traits, and the fourth contains the remaining items of the leadership scales, in particular those of the instrumental leader scale. A potential fifth factor would come with an eigenvalue of only .83, and no item loads on a potential fifth factor with coefficients larger than .4. All twelve items of the accounting manipulation scale load on the second factor. With respect to the dark triad personality trait, we find 11 items load on the third factor with coefficients larger than .5, while the first item of the narcissism scale shows a coefficient of .38. Turning to the secondary leadership scales, we find that the instrumental leader scale splits between the first and the fourth factor, while the supportive and participative leader scales load only on the first factor. One item of the supportive leader scale and one item of the instrumental leader scale do not load on any particular factor, and one factor of the instrumental leader scale loads on both the first and the fourth factor.

Insert Table 2 here

In additional analyses, we conduct a second factor analysis that only considers the 34 items related to personality traits (see Table A.1). The results underline the findings described above. Three factors with eigenvalues larger than 1 emerge. The first factor consists of large parts of the three leadership scales, the second factor contains the 12 items of the dark triad personality trait (11 of those items have coefficients larger than .5), and the third factor comprises the remaining items of the leadership scales. We also conduct additional factor analyses on the 12 items from the dirty dozen scale and on the

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12 items of the accounting manipulation scale. For both analyses, we find one factor with an eigenvalue larger than 1 (see Table A.1). Overall, the results suggest good reliability and construct validity (Hair et al., 2010; Chenhall, 2005).

3.3 Variable Description

Table 3 shows descriptive statistics for the main variables used in the model. The supplementary material contains all survey questions, their corresponding items, and the Likert scales utilized in this study.

Insert Table 3 here

3.3.1 Accounting Manipulation

The dependent variable of interest, ACCMANIP, captures common actions undertaken by management to obscure and manipulate earnings figures. To our knowledge, there are no validated scales to measure the degree of accounting manipulation or fraud. Thus, we create a new scale based on observable practices in the accounting and finance departments. The practices are based on Schilit and Perler (2010)'s work on financial statement analysis that focuses on detecting earnings and cash flow manipulation practices. In the survey, we ask the respondents to indicate on a scale from one to five, with one being never and five being frequently (every quarter), how often their firm engages in twelve different practices. Specifically, we ask, "How frequently does your company engage in the following accounting practices? Your responses are completely anonymous." We do not provide participants with the "I do not know" option in order to avoid satisficing behavior for these questions (Krosnick et al., 2002). The accounting practices fall into the following five broad categories: (1) recording revenue prematurely, (2) recording revenue too late, (3) shifting current expenses to an earlier or later period, (4) shifting future expenses to the current period, and (5) failing to record or properly reduce liabilities. An example item for category 3 is "Capitalizing normal operating costs to reduce expenses." In total, the scale contains the following questions:

- Recording revenue prior to completing all services
- Recording revenue prior to product shipment
- Recording revenue for products that are not required to be purchased
- Recording revenue for sales that did not take place
- Amortizing costs too slowly
- Capitalizing normal operating costs to reduce expenses
- Failing to write down or write off impaired assets
- Failing to record expenses and liabilities when future services remain to be delivered
- Changing accounting assumptions to foster manipulation
- Creating a rainy day reserve as a revenue source to bolster future performance
- Holding back revenue
- Accelerating expenses into the current period

Factor analysis shows that the twelve items effectively capture actions that manipulate earnings figures. The Kaiser-Meyer-Olkin measure of sampling adequacy (0.95) and the Bartlett's test of sphericity ($\chi^2 = 132.91, p < 0.001$) both suggest that factor analysis is appropriate (see Table A.1 in the Appendix). We find that 82% of the variance is explained by one factor. A one factor solution is supported when using eigenvalues equal to or greater than 1 as the cutoff and when using parallel analysis. This is in contrast to our expectation, given that the twelve accounting practices fall into five broad categories. However, we posit that it could be due to the fact that all practices are clearly outside of generally accepted accounting practices. For example, companies that engage in aggressive revenue recognition are also more likely to avoid asset impairments given that they are already acting outside the boundaries of acceptable accounting practices. Consequently, we aggregate the answers for all items into a single variable by taking the arithmetic average (Cronbach's alpha = 0.96).

Figure 1 shows the distribution of our dependent variable, ACCMANIP. The variable exhibits a left skew in its distribution, suggesting that most respondents either never witness manipulative behavior or witness it very infrequently. ACCMANIP has a mean of 2.15 and median of 1.75 (see Table 3).

<div align="center">Insert Figure 1 here</div>

The preferred option that managers take if they want to influence reported earnings is to *record revenue prior to completing all services*. In our sample, 55.4% acknowledged

that they engage in this practice, and 23.2% answered that they perform this action every quarter.

3.3.2 Dark Triad Personality Traits

The primary independent variable of interest, DARKTRIAD, captures the dark personality traits of managers. Participants are asked to rate their manager's personality on the dirty dozen scale (Jonason and Webster, 2010). The dirty dozen is a widely used and validated scale (see, e.g., Miller et al., 2012; Webster and Jonason, 2013), mainly in the organizational psychology literature, for assessing dark triad personality traits. The dirty dozen scale is better suited for this study than the short dark triad scale (SD3) by Jones and Paulhus (2014), as some items in the SD3 scale do not lend themselves well to being used in informant ratings.

The literature critically discusses the ability of several existing academic scales to measure psychopathy and discriminate between the three personality traits of the dark triad (see, e.g., Jones and Hare, 2016). Specifically, many academic scales for measuring psychopathy focus on measuring the interpersonal and affective dimensions but do not capture the lifestyle and antisocial dimensions. This is problematic as i) psychopathy requires all four dimensions, according to the *Hare Psychopathy Checklist-Revised* (PCL-R), and ii) all three dark triad traits share features measured by the interpersonal and affective dimensions, meaning that it is difficult if not impossible to discriminate between them (Jones and Hare, 2016). However, as Jones and Hare (2016) nonetheless conclude that research findings using such scales are meaningful with respect to dark personalities in general and as the focus of our study is on all three dark triad traits and not specifically on psychopathy, the use of the dirty dozen scale is appropriate for our endeavor.

The dirty dozen scale comprises three separate 4-question subscales for Machiavellianism, narcissism, and psychopathy. Each question uses a 5-item Likert scale ranging from "Strongly disagree" to "Strongly agree". In line with the established scale, we do not allow for an "I do not know" option (see Jonason and Webster, 2010). We acknowledge that this may introduce measurement error for respondents who are indeed unable

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to accurately answer the question. However, such measurement error would bias our coefficient estimates toward zero (see Atanasov and Black, 2016).

As the dirty dozen scale was developed using student samples, we use factor analysis to see whether the items load onto three distinct factors (Jonason and Webster, 2010). Both the Kaiser-Meyer-Olkin measure of sampling adequacy (0.95) and the Bartlett's test of sphericity ($\chi^2 = 39.099, p < 0.001$) suggest that factor analysis is appropriate (see Table A.1 in the Appendix). We find that 79% of the variance is explained by one factor. A one factor solution is supported when using eigenvalues equal to or greater than 1 as the cutoff and when using parallel analysis. This is in contrast to previous research, given that the dirty dozen scale should load onto three factors. However, our sample is professionals in accounting and finance departments who are rating their supervisors. Consequently, we believe that the sample differences can explain why the dirty dozen scale loads onto one factor in our case. Furthermore, it could also be that leaders with dark personality traits require a balance between the three dark traits in order to advance to senior levels in professional organizations. As a result, our independent variable is formed by the arithmetic average of the three subscales. The Cronbach's alpha of the dark triad scale is 0.93, indicating very high internal consistency.

As mentioned above, we hide the dirty dozen scale among a positively loaded 22-item scale that assesses general leadership behavior (from House and Dessler, 1974) and randomize the order of all questions to mitigate possible bias from negatively framed questions. All participants are asked the questions in the same order. For robustness, we also perform a factor analysis of the dirty dozen scale together with the items from the leadership scale and find that they load onto distinct factors (see Table A.1 in the Appendix).

Figures 2 through 4 show the distribution of our variable of interest, DARKTRIAD, and the three subscales that are the basis for the DARKTRIAD variable. DARKTRIAD, with a mean of 2.56 and median of 2.42, is slightly left skewed. This skewness is explained by both Machiavellianism and psychopathy, which are somewhat left skewed, with means/medians of 2.28/2.00 and 2.42/2.25, respectively. The narcissism scale is

almost symmetric, with a mean and a median of 2.98 and 3.00 and a standard deviation of 0.97.

<center>Insert Figures 2, 3, 4, and 5 here</center>

3.3.3 Internal Control Mechanism

We also ask participants about the presence of an internal audit function ("Does your organization have an internal audit function?"), creating a binary variable, Audit 0/1, where 1 indicates the existence of an internal audit function and 0 a lack thereof. Participants who indicate the existence of an internal audit function are then asked who provides the internal audit function (completely in-house, outsourced to an external firm, or a combination of an internal and external firm), creating a categorical variable, IAPROVIDER ("Who performs the internal audit function?"). We refer to the three options as in-house, outsourced, and mixed team throughout the paper.

Further, we ask participants about the presence of a whistleblower policy at their firm ("Does your organization have a whistleblowing policy?"), creating a binary variable, WBP 0/1, where 1 indicates the existence of a whistleblower policy and 0 a lack thereof. We allow participants to reply with "I don't know" to the questions about internal control mechanisms.

3.3.4 Control Variables

To further alleviate the concern that a negative relationship between a respondent and his or her supervisor could influence that respondents' ratings of the supervisor and, ultimately, our analyses, we control for the overall assessment of the supervisor's perceived leadership behavior using the instrumental leader scale, the supportive leader scale, and the participative leader scale by House and Dessler (1974). We reason that individuals who may have a negative relationship with their supervisor, or are dissatisfied with their job in general, will rate their supervisor poorly on the leadership items. Thus, the leadership control will capture (at least some of) the variation explained by the relationship between the respondent and his or her supervisor. As our factor analyses (see Table 2 and

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Table A.1) indicate that these three scales load on only two factors, we collapse the supportive and the participative leader scales to one variable, the supportive & participative leader scale, and form another control variable based on the instrumental leader scale. Respective Cronbach's alphas of 0.86 and 0.93 indicate very high internal consistency for both variables.

Finally, we collect information on the primary industry of the firm. The industry variable is based on the two-digit North American Industry Classification System (NAICS) codes and includes 21 industries (see Table 1). We directly ask the participants which industry they work in due to the anonymous nature of the survey, which precludes the option of later adding such information manually. Industry is an important control variable due to differences in regulatory requirements, the skill level of employees, and environmental uncertainty that can potentially impact managers' ability to engage in fraudulent practices. Finally, participants are asked to provide information about the size (annual sales) and number of employees of the company they work for as further control variables. We use a six-level categorical variable indicating the size of the respondent's company and an eight-level categorical variable indicating the number of employees in the respondent's firm.

3.4 Model Estimation

We aim to test the hypothesis that firms with managers who show a high degree of malevolent personality traits will engage in more accounting manipulation. Operationalized, we estimate the following main model using standard OLS regressions with robust standard errors (MacKinnon and White, 1985):

$$ACCMANIP_i = \alpha + \beta_1 DARKTRIAD_i + \beta_2 INSTR\_LEADER_i$$
$$+ \beta_3 SUPP\_PART\_LEAD_i + \beta_4 SALES_i + \beta_5 EMPL_i + \beta_6 INDUSTRY_i + \epsilon_i.$$

In addition, we hypothesize that having internal control mechanisms, such as an internal audit function and a whistleblower policy, can reduce the overall impact of managers with

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dark triad personality traits on accounting manipulation. To test our second hypothesis, we expand our main model with additional explanatory variables (AUDIT 0/1 + WBP 0/1) and interaction terms (DARKTRIAD × AUDIT 0/1 and DARKTRIAD × WBP 0/1).

4 Results

4.1 Pearson's Correlation Matrix

We begin our analysis with a look at bivariate correlations between our variables of interest. Table 4 reports the Pearson correlations. We observe a strong and positive correlation between the dark triad measure and the accounting manipulation measure. We also observe a very high positive correlation between the dark triad measure and each subscale (Machiavellianism, narcissism, and psychopathy). The correlations between the both leadership variables and the dark triad measure are significantly negative. While this may be surprising given that the literature argues that dark personality traits may facilitate a rise to leadership positions in organizations (Babiak and Hare, 2006; Rovelli and Curnis, 2020), Hogan and Hogan (2001) observe that dark personality traits are typically noticed first by subordinates. At the same time, it may be possible that employees who are dissatisfied with their jobs may judge their supervisor as a poor leader and having a dark personality. Additionally, we find a positive correlation between both the number of employees in a company and annual sales with a firm's tendency to have an internal audit function and a whistleblower policy.

Insert Table 4 here

4.2 Hypothesis Testing

Table 5 reports the main regression results. We begin with our first hypothesis.

Columns 1 to 3 indicate a positive correlation between narcissism and accounting manipulation, Machiavellianism and accounting manipulation, and psychopathy and accounting manipulation, respectively. For all three personality traits constituting the dark triad, we observe effect sizes of a similar magnitude. In Column 4, we estimate a model including all three personality traits. While in this model, only Machiavellianism and psychopathy show a positive coefficient, this can easily be explained by multicollinearity between the individual traits.[1] As indicated by Table 4, the correlations between the individual traits are high and range between 0.64 and 0.85. Studying variance inflation factors (VIFs) provides additional evidence for the notion of multicollinearity. As all three personality traits collapse on a single factor, are highly correlated, and seem to be correlated with accounting manipulation at the individual level, we thus conclude that an analysis at the aggregate level using DARKTRIAD constitutes a reasonable approach.

Column 5 indicates a positive correlation between dark triad personality traits and accounting manipulation. The regression coefficient is statistically highly significant (t-statistic of 16.81) and indicates that a one-unit increase in the dark triad scale is associated with an increase in the accounting manipulation scale of 0.66. While we discuss the effect sizes, it is, however, important to note that obtaining a precise estimate of the magnitude of the effect is not the goal of this survey paper and is a task better suited for large-scale empirical-archival research (Libby et al., 2002).

In Column 6, we add the internal control measures. We still observe a large and highly significant correlation with DARKTRIAD. Interestingly, both internal control dummy variables are not statistically different from zero in this specification. The results are consistent with Hypothesis 1: Fraudulent accounting actions are significantly more common in firms with managers who score high on the dark triad scale than in firms with managers who score low on the scale.

<center>Insert Table 5 here</center>

We continue with our second hypothesis and Table 6. Columns 1 to 3 present regressions that include the interaction effects between managerial personality traits and internal control mechanisms. While Column 1 includes only the interaction effect with

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AUDIT 0/1 and Column 2 includes only the interaction effect with WBP 0/1, Column 3 includes both interactions. For all models, we observe a statistically significant positive coefficient on DARKTRIAD. Interestingly, the interaction effects indicate that in companies with an internal audit function, the detrimental effect of managers with dark triad traits is stronger than in companies without an internal audit function. For companies without an internal audit function, a one-unit increase in the dark triad scale is associated with an increase in the accounting manipulation scale of 0.42. In companies with an internal audit function, however, the effect is significantly larger. Here, a one-unit increase in the dark triad scale corresponds to a 0.70 increase in the accounting manipulation scale.

Insert Table 6 here

One concern is that multicollinearity between the dark triad and internal audit variable drives the results in the interaction model. To check for this issue, we estimate another model, comparing subsamples of companies with and without internal audit functions. Splitting the sample has two effects: (i) we are no longer able to specifically look at interaction variables with differing intercepts and slopes, but (ii) we can still compare differences in slopes for the dark triad variable depending on whether or not the company that the manager works for has an internal audit function, without the concern of multicollinearity between DARKTRIAD and internal audit variables. The results in Table 7 indicate that managers scoring higher on the dark triad scale engage in more accounting manipulation, both in the subset of companies without an internal audit department (Column 1) and in the subset of companies with such a department (Column 2). However, in the former case, a one-unit increase on the dark triad scale leads to only a 0.42 increase (t-statistic of 3.65) on the accounting manipulation scale, compared to a 0.68 increase (t-statistic of 12.85) on the accounting manipulation scale for companies with an internal audit department.

Insert Table 7 here

Surprisingly, our results are not consistent with Hypotheses 2a and 2b. We do not find any evidence that the effect of dark personality managers is more pronounced in firms without an internal audit function than in firms with an internal audit function. Instead, the effect of managers with dark triad traits is significantly stronger in firms with an internal audit function. With respect to the impact of whistleblower policies, we do not find any significant results. Thus, having a whistleblower policy in place does not seem to matter.

Our most surprising result is that for managers with a high dark triad score, there is a higher correlation of engaging in accounting manipulation if the company has an internal audit function. To investigate this further, we look at the nature of the internal audit function in a more detailed analysis. In particular, we focus on the structure of the internal audit function instead of its mere presence. Table 8 summarizes the results of this analysis. The models include all 397 observations where participants indicated that their company has an internal audit function.

In line with Table 6, our results indicate a positive correlation between managers with dark triad personality traits and accounting manipulation activity. In particular, a one-unit increase in DARKTRIAD corresponds to a 0.66 increase on the accounting manipulation scale (Column 1, t-statistic of 11.79), compared to a 0.70 increase in the interaction specification of internal audits in Column 3 of Table 6. Interestingly, using an outsourced team for the internal audit function, however, seems to help mitigate the negative impact of dark personality traits on accounting manipulation (Column 2). The negative interaction effect of DARKTRIAD and outsourced internal audit functions (Column 2, -0.33, t-statistic of 2.37) shows that a one-unit increase in the dark triad score corresponds to *only* a 0.47 (=0.80-0.33) increase on the accounting manipulation scale. The baseline in this case is an internal audit function that is staffed by internal personnel. For this baseline, we observe a slope of 0.80. Thus, compared to the baseline, when the internal audit function is outsourced and staffed by external personnel, it reduces the impact of managerial dark personality traits by approximately 41%. It appears that an internal audit function is effective in taming the adverse effects of managers with

dark triad traits only if it is outsourced and staffed with external personnel. As survey answers are the basis of the results, the findings are correlational, not causal. A discussion of potential consequences and related limitations follows in Section 5.

Insert Table 8 here

The ethical behavior of the financial industry has been subjected to extreme scrutiny, especially since the global financial crisis starting in 2007. Due to the poor reputation of the financial industry and the fact that a large degree (35% in the whole sample) of our survey respondents work in the finance or insurance industries (see Table 1), a potential concern may be that our results are driven by industry-specific effects. However, we already control for industry-specific effects by including industry dummies in our main specification. To further address this concern, we split the sample and compare respondents who work in the finance or insurance industries and respondents who work in non-finance-related industries. Table 9 indicates that managers who score higher on the dark triad scale engage in more accounting manipulation, both in the finance and insurance industries and in non-finance-related industries. Both coefficients are highly significant. We do, however, observe a larger coefficient in the financial industry sample (0.80 compared to 0.63; Columns 1 and 2). Interestingly, we observe the interaction effects with the internal audit function only for non-financial firms (Column 4), which may be explained by the stricter regulatory environment in place for financial institutions.

Insert Table 9 here

5 Discussion

From upper echelons theory (Hambrick and Mason, 1984) to the managerial style effects literature starting with Bertrand and Schoar (2003), research has shown that personality traits, especially of top management personnel, can influence how an organization makes decisions and can ultimately affect firm outcomes. Specifically, the accounting research looking at malevolent personality traits has so far comprised archival studies investigating

narcissism and its impact on real earnings management (Olsen et al., 2014), studies focusing on narcissism and reporting quality (Ham et al., 2017; Capalbo et al., 2018; Buchholz et al., 2019), and experimental evidence from accounting students on Machiavellianism and the rationalization of misreporting (Murphy, 2012). Further experimental evidence has established that requiring range disclosures for managerial estimates reduces aggressive reporting by management and that the effect is strongest for managers who score high on all three dark triad personality traits (Majors, 2016).

We contribute to this literature and examine the relation between the dark triad personality traits of managers in the accounting and finance departments of US companies and a firm's tendency to engage in accounting manipulation. Effectively, we use committed but undiscovered accounting fraud, thereby emphasizing practices that are clearly outside the discretion provided by GAAP. We use a survey setting in which participants rate their immediate superiors on dark triad personality traits and answer questions about how prevalent certain accounting manipulation practices are in their company. Our results indicate that all three dark personality traits are positively associated with accounting manipulation when controlling for industry, firm size, and the number of employees in the company. Our finding that all three subscales of the dark triad load on the same factor is in contrast to Jonason and Webster (2010). However, while Jonason and Webster (2010) study student samples, we consider US professionals working in supervisory roles in accounting and finance departments. In addition to sample differences, one potential explanation is that advancing in a professional organization as a dark leader requires the person to display characteristics of all three traits. So, for example, having only narcissistic traits without psychopathic or Machiavellian traits may make it difficult for a dark leader to progress in an organization.

We further investigate whether internal control mechanisms are able to effectively contain the negative impact of managers with dark triad personality traits. While whistleblower policies and an internal audit function that is composed of in-house personnel do not seem to be effective in curbing the detrimental impact of managers with dark triad traits, having an outsourced internal audit function that is staffed with external

personnel can mitigate the degree of manipulation by such managers. In particular, our results indicate that an outsourced internal audit department can reduce the impact of dark personality traits among managers by approximately 41%.

Our finding with respect to the importance of the provider of the internal audit function is particularly interesting. We posit that there are three factors that could explain this finding. First, managers who exhibit dark triad traits are likely to be skilled at manipulating internal personnel involved in the audit function, whereas an external provider creates a layer of protection against manipulation. While managers could, in theory, manipulate external providers as well, internal personnel may be more accessible and less likely to be rotated to other assignments. Second, internal personnel may fear their manager due to her callous or insensitive nature. While internal audit functions are meant to be independent, even when performed internally, there may still be fear of retribution if the manager is perceived to be powerful within the organization. External providers and their team members may have less fear of retribution, as, for them, it is merely another client, and thus, the risk of not reporting wrongdoing puts the reputation of the external provider as a whole at risk. Third, in line with the notion of Harris et al. (2021) that organizations may specifically hire some managers with dark personality traits who are willing to push ethical boundaries in alignment with organizational objectives, not only hiring decisions but also internal control mechanisms may be affected by such considerations.

Our results have important practical implications. In particular, our results are consistent with the notion that managers with dark triad personality traits may be able to manipulate and take advantage of internal audit functions that are staffed with in-house personnel. Hence, our results underscore the importance of having an *outsourced* internal audit department staffed with *external* personnel to be able to effectively curtail unethical and illegal managerial behavior. Our results also shed new light on whistleblower policies, which are believed to be invaluable in detecting fraud and curbing many forms of illegal or unethical behavior (Coram et al., 2008; Feltovich and Hamaguchi, 2018; Morgan, 2005). Our results, however, suggest that such policies are not very effective in the context of

dark personality traits. It may be that managers with pronounced dark triad personality traits successfully manipulate potential whistleblowers to prevent them from blowing the whistle. Alternatively, perhaps their insensitivity and cruel disregard for others leads to a fear of retribution.

Our study also highlights the importance of practitioners, corporate governance bodies, and regulators in recognizing the role of the individual. People with divergent traits and personality characteristics may react differently to the existing set of rules and incentives. Putting practices in place to increase awareness of managers' predispositions may be a valuable first step. Furthermore, educational programs and companies may be able to screen for these dark personality traits effectively (see also Bailey, 2017). In addition, highlighting the high ethical values of the accounting profession may prompt individuals who score high on dark personality traits to self-select to other professions (see also Bailey, 2017).

Notwithstanding its contributions and practical implications, our study has a number of caveats. First, a directly observable measure of management personality would be ideal. As self-rated measures and professional psychological assessments of managers are difficult to come by (Koch and Biemann, 2014), we employ informant-based ratings via the dirty dozen scale. The dirty dozen scale is a commonly used and validated measure of personality characteristics (Jonason et al., 2013; Webster and Jonason, 2013). To reduce social desirability bias, we ask survey respondents to answer the questions not about themselves but about their immediate superior (Crowne and Marlowe, 1964; Rokeach, 1985), and we hide the questions within nondescript items. In this way, participants do not immediately sense that they are being asked about a potentially negative personality trait. Importantly, such observer ratings have been shown to accurately capture personality traits (see, e.g., Cragun et al., 2020; Connelly and Ones, 2010; Oh et al., 2011). Nonetheless, such observer ratings may be influenced by the relationship between the supervisor and the respondent or by the respondents' overall job satisfaction.

Second, financial reporting manipulation is a hard-to-measure and context-specific construct. Standard (calculated) proxies used in archival research, such as earnings man-

agement, earnings smoothness, and the number of material weaknesses, are impossible to employ in survey-based research. However, using a survey-based approach may yield noisy measurements, and choosing a self-developed scale for financial reporting fraud makes it difficult to compare our findings directly with studies in the field. The advantage of our proxy, however, is its unique nature. We are aware of no other study focused on accounting fraud that can detect ongoing yet undiscovered fraudulent actions in the corporate setting. On a scale that ranges from the highest quality and transparent reporting to (arguably) "unnecessary" smooth—but legal—managed earnings and finally to fraudulent activity, our proxy sits at the bottom of the spectrum. As the majority of the research in this area is motivated by corporate scandals such as those involving Enron and WorldCom, we believe that our scale is better suited to measuring similar types of unethical behavior than traditional earnings-management-type measures. As for the comparability of the findings, the results are in line with extant research that argues that the dark triad traits of top executives have a detrimental effect on reporting quality (Buchholz et al., 2019; Capalbo et al., 2018; Ham et al., 2017; Murphy, 2012; Clarke, 1993).

Third, a common concern in survey-based research is that the results are affected by endogeneity issues. Given the data, we are able to discuss correlations between the variables of interest but cannot make causal claims about the stated relationship between managers with dark triad traits and accounting fraud. We cannot rule out the possibility that the correlation we find might have a causal arrow that points the other way and that managers with dark personality traits self-select into firms that engage in accounting fraud. However, we see few reasons why the causation would run this way. One reason that dark triad personalities specifically choose to work in companies with reporting quality shortcomings might be their need for attention and thrill-seeking (Paulhus and Jones, 2015). On the one hand, being able to change a company and be viewed as a star turnaround manager might be a motivation to join such a company. On the other hand, putting company interests before their own interests is atypical for individuals with dark personalities. Thus, we are cautiously optimistic about the validity of our findings.

Nevertheless, the alternative explanation may be a fruitful avenue for future time- and manager-matched panel-based research.

In addition to the reverse causality issue, there may be omitted variable bias, such that the managerial personality variable is picking up only unobserved firm effects. The anonymity of survey participants presents a trade-off between obtaining the most accurate measurements of the variables of interest and not being able to control for a broad variety of firm-specific effects. Even though we can control for the specific industry and size of the company, there may still be unobserved firm characteristics affecting the presence and intensity of fraud. This issue is of particular concern for the moderating effect of internal audit departments. It could be the case that the dummy variable for having an internal audit department or not is picking up on "high fraud risk" in general because high fraud risk might lead to a company having an internal audit department. However, together with the results on the composition of internal audit functions, this seems unlikely. We are not aware of any research indicating that having an in-house or outsourced internal audit function is consistently related to higher or lower fraud risk rather than just being a matter of company preference. For example, James (2003) show that outsourcing does not affect investor perception of fraud protection. Although the findings on the composition of internal audit departments strengthen the plausibility of the main results, they are still contrary to the findings of Coram et al. (2008), who show that organizations are more likely to detect and report fraud if their internal audit function is in-house. In their study of 491 companies in Australia and New Zealand on internal controls and the misappropriation of assets, however, managerial personality traits were not part of the research focus. Thus, our finding is an important contribution towards gaining a better understanding of the role of internal audit functions. Having a high degree of managers with dark triad personality traits within the company might reverse the prior findings of Coram et al. (2008). Thus, our findings highlight the importance of investors and regulators choosing appropriate internal control mechanisms based on companies' executive teams.

Keeping these concerns in mind, our study design offers new and unique insights into

the relationship between managerial effects and reporting manipulation that nicely complement recent findings with experimental data and existing archival proxies, such as signature or picture size, relative compensation, and the use of first-person pronouns in earnings calls (see, e.g., Ham et al., 2017; Olsen et al., 2014; Chatterjee and Hambrick, 2007). Asking practitioners directly about their assessment of the personality of their manager and the frequency of certain fraudulent actions helps show the important role of executive personality. The survey design also enables us to study undetected fraud, which is almost impossible to examine with experimental or archival data. Being able to investigate ongoing fraudulent actions—information that would be impossible to obtain by any other data-gathering method—is an important contribution to the existing literature. This is particularly true given that fraudulent reporting tends to remain hidden for long periods of time or even indefinitely (Zingales, 2015).

We contribute to the literature by exploring an important issue with regulatory implications in the triangle between personality traits, disclosure quality, and internal control mechanisms. Future research may seek to follow up with studies on the composition of internal audit functions and their effectiveness in preventing fraud in different managerial style settings. Borrowing from the existing literature on audit committee effectiveness, future research on internal audit effectiveness may find comparable results on the limited effectiveness of internal controls if the controls are not strictly independent (see, e.g., Abbott and Parker, 2000; Bronson et al., 2009; Karamanou and Vafeas, 2005). Future research may also shed light on accounting manipulation that has been uncovered, for example, by using data from court cases and analyze whether dark personality traits may have played a role in those cases.

Notes

[1]The observation that narcissism is no longer a statistically significant determinant of fraudulent activities once a control for psychopathy is included in the model is also consistent with findings by Bailey (2019).

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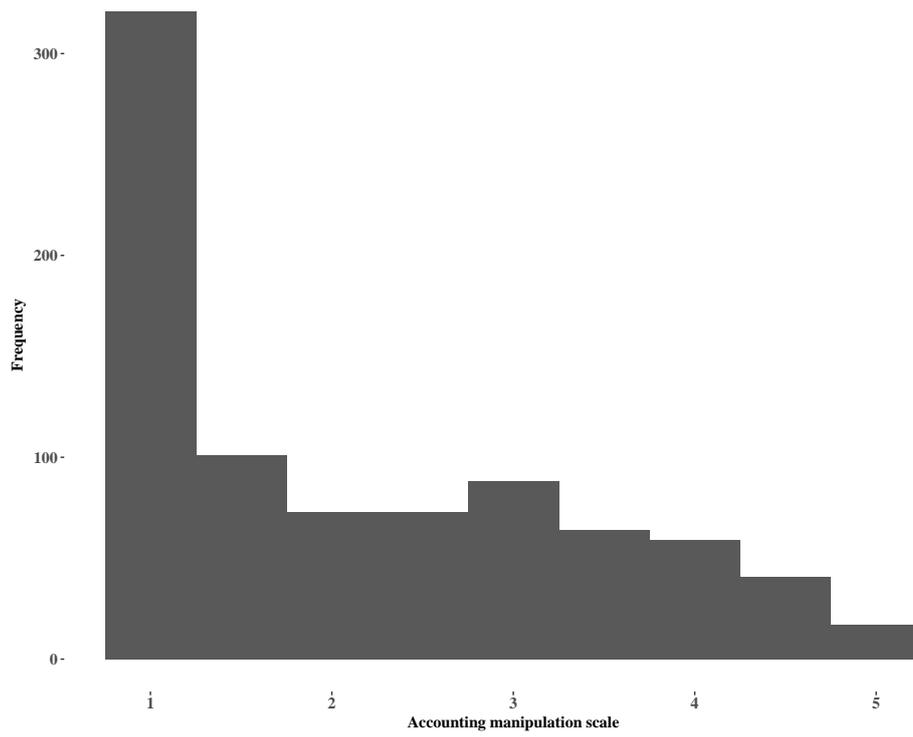
Figure 1: Distribution of Dependent Variable "Accounting Manipulation"
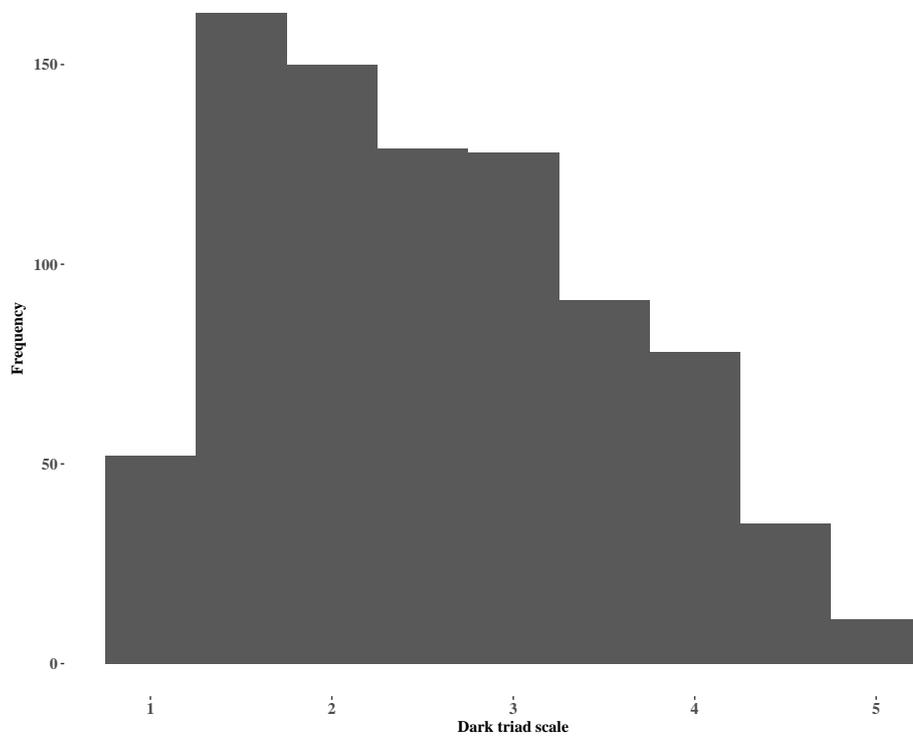
Figure 2: Distribution of Independent Variable "Dark Triad"
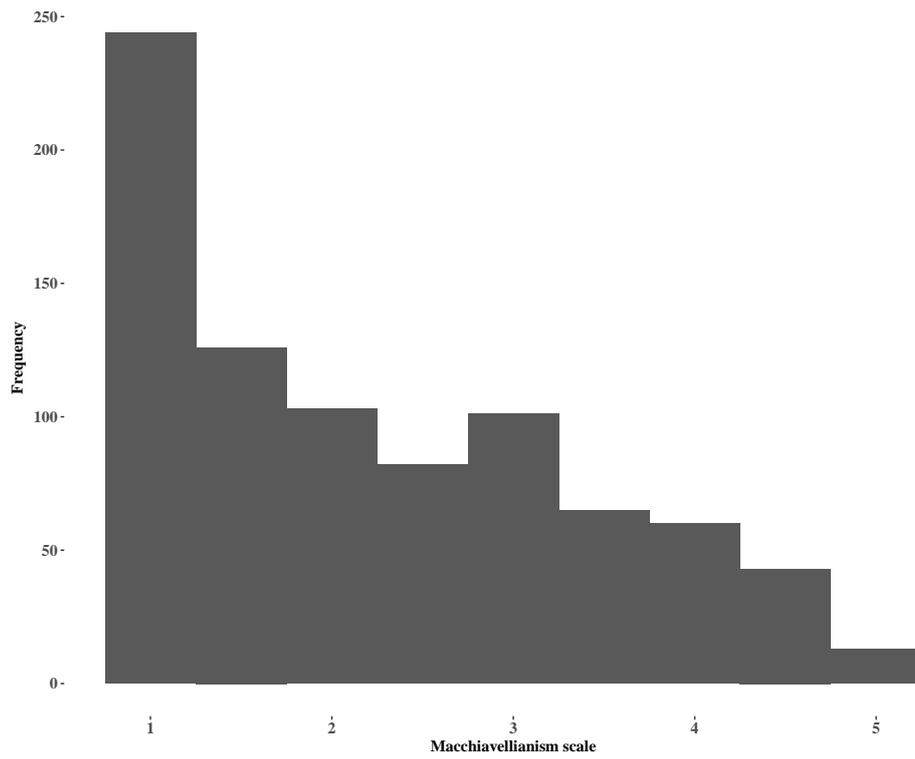
Figure 3: Distribution of Scores on Machiavellianism Scale
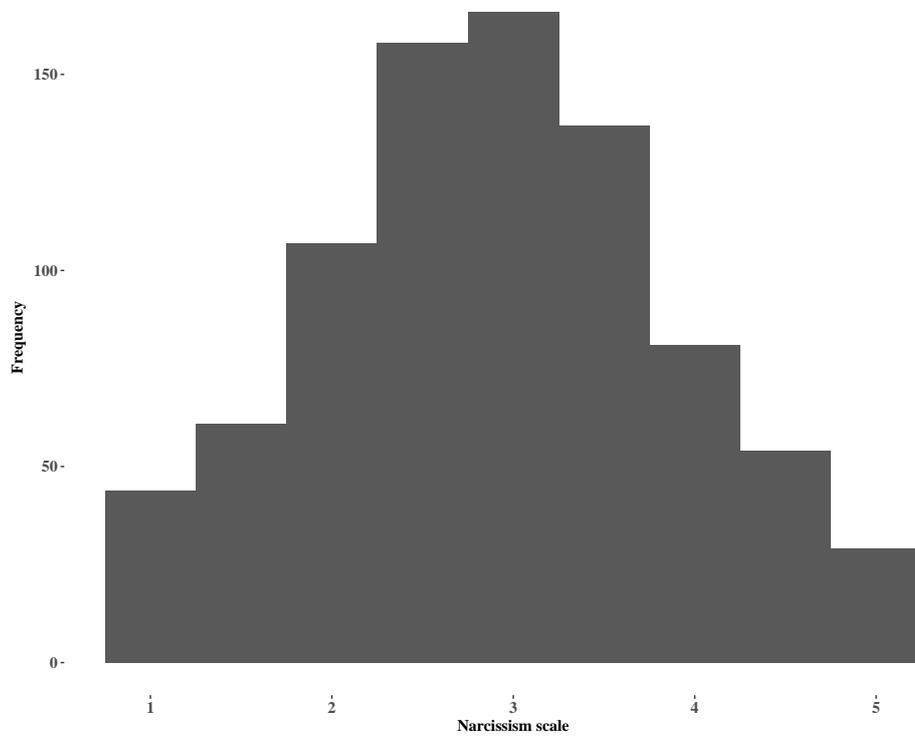
Figure 4: Distribution of Scores on Narcissism Scale
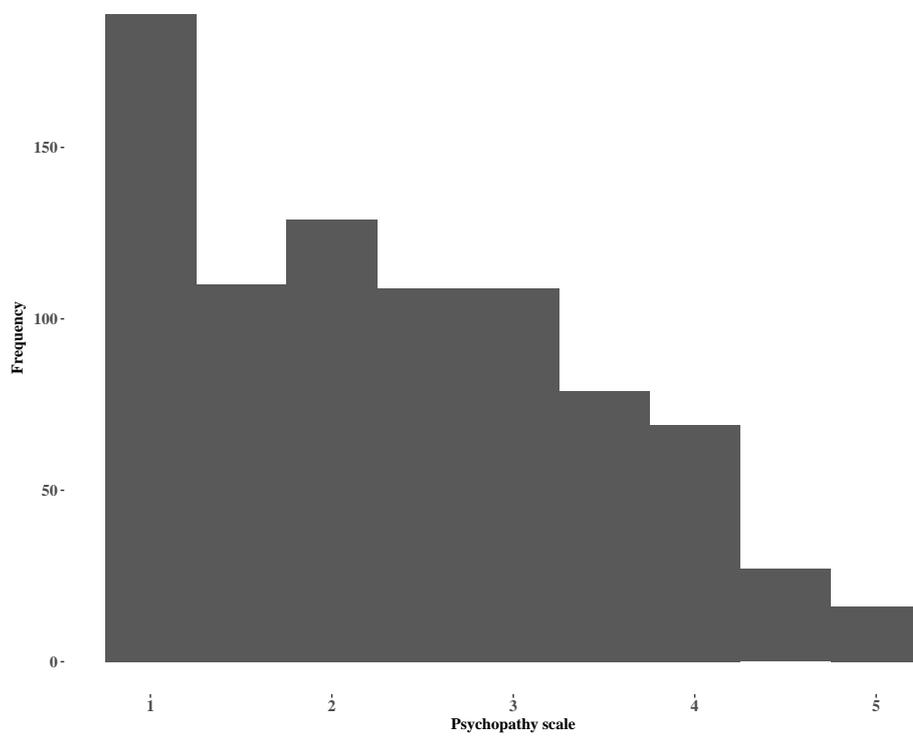
Figure 5: Distribution of Scores on Psychopathy Scale

Table 1: Observations by Industry

	Industry	n
1	Finance or insurance	293
2	Professional, scientific or technical services	80
3	Other services (except public administration)	75
4	Manufacturing	55
5	Health care or social assistance	48
6	Retail trade	40
7	Educational services	36
8	NGOs or nonprofit organizations	32
9	Unclassified establishments	31
10	Construction	24
11	Management of companies or enterprises	24
12	Utilities	18
13	Wholesale trade	18
14	Real estate or rental and leasing	14
15	Arts, entertainment or recreation	12
16	Admin, support, waste management or remediation services	11
17	Transportation or warehousing	8
18	Accommodation or food services	7
19	Forestry, fishing, hunting or agriculture support	6
20	Information	4
21	Mining	1

Table 2: Factor Analysis

	1	2	3	4
N1	0.06	0.05	0.38	0.30
N2	-0.15	0.17	**0.65**	0.18
N3	-0.06	0.15	**0.54**	0.22
N4	-0.12	0.23	**0.74**	-0.02
M1	-0.28	0.23	**0.72**	0.00
M2	-0.20	0.30	**0.75**	-0.14
M3	-0.06	0.25	**0.72**	0.01
M4	-0.25	0.25	**0.77**	-0.07
P1	-0.26	0.18	**0.66**	-0.05
P2	-0.30	0.23	**0.72**	0.01
P3	-0.17	0.20	**0.62**	-0.12
P4	-0.30	0.19	**0.69**	-0.01
acctmanip1	0.04	**0.80**	0.07	0.09
acctmanip2	0.04	**0.82**	0.09	0.09
acctmanip3	0.09	**0.85**	0.16	0.06
acctmanip4	0.10	**0.82**	0.22	0.01
acctmanip5	0.01	**0.78**	0.27	0.02
acctmanip6	0.03	**0.79**	0.18	0.06
acctmanip7	0.00	**0.72**	0.31	-0.02
acctmanip8	-0.04	**0.74**	0.33	0.01
acctmanip9	0.04	**0.73**	0.37	-0.03
acctmanip10	0.06	**0.73**	0.25	0.04
acctmanip11	0.08	**0.73**	0.36	-0.05
acctmanip12	0.04	**0.75**	0.32	0.02
instrleader1	**0.57**	-0.04	-0.22	0.47
instrleader2	0.22	0.06	0.13	**0.57**
instrleader3	0.44	0.02	-0.03	**0.58**
instrleader4	0.27	0.13	0.18	**0.56**
instrleader5	**0.55**	-0.03	-0.14	**0.57**
instrleader6	0.44	-0.05	-0.17	0.48
instrleader7	**0.52**	0.10	-0.08	**0.50**
suppleader1	**0.65**	-0.02	-0.32	0.16
suppleader2	**0.52**	0.03	-0.04	0.08
suppleader3	**0.75**	0.02	-0.08	0.17
suppleader4	**0.77**	0.05	-0.25	0.08
suppleader5	**0.69**	0.06	-0.18	0.22
suppleader6$^-$	0.00	-0.20	-0.45	0.07
suppleader7	**0.70**	-0.02	-0.23	0.19
suppleader8	**0.65**	-0.04	-0.17	0.21
suppleader9	**0.63**	0.03	-0.18	0.20
suppleader10	**0.76**	0.07	-0.22	0.20
partleader18	**0.72**	0.01	-0.07	0.10
partleader19	**0.83**	0.03	-0.13	0.03
partleader20	**0.83**	0.03	-0.09	0.03
partleader1	**0.79**	0.06	-0.02	0.00
partleader2	**0.78**	0.10	0.02	0.05
KMO	0.96			
Bartlett's K-squared	1344.3			
Bartlett's K-squared, df	45			
Bartlett's K-squared, p-value	0.000			
Rotation	varimax			
Eigenvalues	12.9517	9.7014	2.6720	1.3452
Proportion Variance	0.34	0.28	0.25	0.09
Cumulative Variance	0.34	0.62	0.88	0.97

Coefficients > 0.5 are in bold. The extraction method is a factor analysis using ordinary least squares to find the minimum residual (minres) solution. Interpretations of the factors: (1) supportive and participative leader scales; (2) accounting manipulation; (3) dark triad personality; (4) instrumental leader scale. The supplementary material contains all survey questions.

Table 3: Summary Statistics

	n	mean	sd	min	q25	median	q75	max
Accounting Manipulation	837	2.179	1.209	1	1	1.8	3.1	5
Darktriad	837	2.600	0.985	1.000	1.750	2.500	3.333	5.000
Machiavellianism	837	2.323	1.165	1.000	1.250	2.000	3.250	5.000
Narcissism	837	3.024	0.976	1.000	2.250	3.000	3.750	5.000
Psychopathy	837	2.454	1.109	1.000	1.500	2.250	3.250	5.000
Instrumental Leader	837	3.870	0.789	1	3.4	4	4.4	5
Supportive & Participative Leader	837	3.621	0.832	1.133	3.133	3.733	4.200	5.000
	n	0	1	2	3			
Audit 0/1	837	224	613					
WBP 0/1	597	255	342					
Internal-audit-who	580		202	143	235			

Variable definitions: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010); Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Machiavellianism = Subscale focused on Machiavellianism based on Jonason and Webster (2010); Narcissism = Subscale focused on narcissism based on Jonason and Webster (2010); Psychopathy = Subscale focused on psychopathy based on Jonason and Webster (2010); Instrumental Leader = Composite scale ranging from 1 to 5 measuring leadership qualities based on House and Dessler (1974); Supportive & Participative Leader = Composite scale ranging from 1 to 5 measuring leadership qualities based on House and Dessler (1974); Audit 0/1 = Dummy variable indicating a company with or without an internal audit department; WBP 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Internal-audit-who- = Categorical variable indicating the staffing structure of the internal audit department.

Table 4: Pearson's Correlation Table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) Accounting Manipulation										
(2) Darktriad	0.50***									
(3) Machiavellianism	0.51***	0.95***								
(4) Narcissism	0.41***	0.85***	0.71***							
(5) Psychopathy	0.44***	0.92***	0.85***	0.64***						
(6) Instrumental Leader	0.08*	-0.16***	-0.20***	0.04	-0.24***					
(7) Supportive & Participative	0.01	-0.41***	-0.41***	-0.21***	-0.48***	0.66***				
(8) Audit 0/1	0.09*	0.05	0.04	0.09**	0.00	0.12***	0.15***			
(9) WBP 0/1	0.08	0.11*	0.07	0.14***	0.08*	0.10*	0.12**	0.50***		
(10) Number of Employees	0.08*	0.04	0.03	0.05	0.04	-0.03	-0.03	0.37***	0.45***	
(11) Annual Sales	0.01	0.03	0.02	0.04	0.02	-0.03	-0.06	0.31***	0.27***	0.58***

Variable definitions: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010); Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Machiavellianism, Narcissism, and Psychopathy = 4-item subscales from the Darktriad measure based on Jonason and Webster (2010); Instrumental Leader = Composite scale ranging from 1 to 5 measuring leadership qualities based on House and Dessler (1974); Supportive & Participative Leader = Composite scale ranging from 1 to 5 measuring leadership qualities based on House and Dessler (1974); Audit 0/1 = Dummy variable indicating a company with or without an internal audit department; WBP 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Number of Employees = 8-level variable indicating the number of employees in the respondent's firm; Annual Sales = 6-level variable indicating the size (annual revenue) of the respondent's company. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 5: OLS Regressions: Managerial Dark Triad Personality and Accounting Manipulation

	(1)	(2)	(3)	(4)	(5)	(6)
(Intercept)	−0.12	−1.07*	−1.14*	−1.30**	−1.30**	−1.68**
	(−0.24)	(−2.24)	(−2.78)	(−2.86)	(−2.96)	(−3.80)
Narcissism	0.45***			0.02		
	(10.85)			(0.40)		
Machiavellianism		0.56***		0.43***		
		(17.10)		(6.80)		
Psychopathy			0.55***	0.16**		
			(14.95)	(2.54)		
Darktriad					0.66***	0.63***
					(16.81)	(13.79)
Audit 0/1						−0.13
						(−1.16)
WBP 0/1						−0.08
						(−0.76)
Controls	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
Industry Effects	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
Adj. R^2	0.25	0.36	0.32	0.37	0.35	0.38
Obs.	837	837	837	837	837	597

Regression coefficients are presented with t-values in parentheses and robust standard errors (MacKinnon and White, 1985). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Variable definitions: Machiavellianism = Subscale focused on Machiavellianism based on Jonason and Webster (2010); Narcissism = Subscale focused on narcissism based on Jonason and Webster (2010); Psychopathy = Subscale focused on psychopathy based on Jonason and Webster (2010); Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Internal Audit 0/1 = Dummy variable indicating a company with or without an internal audit department; WBP 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Controls = Composite scales measuring instrumental leadership and supportive & participative leadership based on House and Dessler (1974) and dummy variables for annual sales and number of employees; Industry Effects = Dummy variable for industry; Dependent variable: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010).

Table 6: OLS Regressions: Interaction Effects

	(1)	(2)	(3)
(Intercept)	−1.04	−1.40*	−1.04
	(−2.06)	(−2.83)	(−1.98)
Darktriad	0.42***	0.55***	0.42***
	(4.53)	(7.21)	(4.23)
Audit 0/1	−0.87**	−0.12	−0.87**
	(−2.85)	(−1.08)	(−2.85)
Darktriad x Audit 0/1	0.28**		0.28**
	(2.76)		(2.73)
WBP 0/1	−0.08	−0.41	−0.08
	(−0.74)	(−1.51)	(−0.29)
Darktriad x WBP 0/1		0.12	−0.00
		(1.36)	(−0.00)
Adj. R^2	0.38	0.38	0.38
Obs.	597	597	597

Regression coefficients are presented with t-values in parentheses and robust standard errors (MacKinnon and White, 1985). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Variable definitions: Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Internal Audit 0/1 = Dummy variable indicating a company with or without an internal audit department; WBP 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Controls = Composite scales measuring instrumental leadership and supportive & participative leadership based on House and Dessler (1974) and dummy variables for annual sales and number of employees; Industry Effects = Dummy variable for industry; Dependent variable: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010).

Table 7: Subsample OLS Regressions: Internal Audit

	(1)	(2)
	No internal audit	Internal audit
(Intercept)	−1.61	−0.81
	(−2.36)	(−1.80)
Darktriad	0.42***	0.68***
	(3.65)	(12.85)
WBP 0/1	−0.31	0.00
	(−1.17)	(0.02)
Controls	*yes*	*yes*
Industry Effects	*yes*	*yes*
Adj. R^2	0.29	0.44
Obs.	187	410

Regression coefficients are presented with t-values in parentheses and robust standard errors (MacKinnon and White, 1985). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Subset definition: The sample is split into respondents who work in firms with an internal audit department and respondents who work in firms without an internal audit department. Variable definitions: Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Whistleblowing Policy 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Controls = Composite scales measuring instrumental leadership and supportive & participative leadership based on House and Dessler (1974) and dummy variables for annual sales and number of employees; Industry Effects = Dummy variable for industry; Dependent variable: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010).

Table 8: OLS Regressions: Who Runs the Internal Audit Function?

	(1)	(2)
(Intercept)	−0.68	−0.99
	(−1.40)	(−1.85)
Darktriad	0.66***	0.80***
	(11.79)	(7.80)
Internal Audit -Outsourced-	−0.22	0.76
	(−1.58)	(1.72)
Internal Audit -Mixed Team-	−0.16	0.08
	(−1.34)	(0.28)
WBP 0/1	−0.01	0.23
	(−0.06)	(0.76)
Darktriad x WBP 0/1		−0.08
		(−0.84)
Darktriad x IA -Outsourced-		−0.33*
		(−2.37)
Darktriad x IA -Mixed Team-		−0.08
		(−0.74)
Controls	*yes*	*yes*
Industry Effects	*yes*	*yes*
Adj. R^2	0.44	0.45
Obs.	397	397

Regression coefficients are presented with t-values in parentheses and with robust standard errors (MacKinnon and White, 1985). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Variable definitions: Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Internal Audit - Outsourced - = Dummy variable indicating a company with an internal audit department that is outsourced and staffed by external people; Internal Audit - Mixed Team - = Dummy variable indicating a company with an internal audit department that is staffed by both internal and (outsourced) external people; WBP 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Controls = Composite scales measuring instrumental leadership and supportive & participative leadership based on House and Dessler (1974) and dummy variables for annual sales and number of employees; Industry effects = Dummy variable for industry; Dependent variable: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010).

Table 9: Subsample OLS Regressions: Financial Industry

	(1) Financial Firms	(2) Non-Financial Firms	(3) Financial Firms	(4) Non-Financial Firms
(Intercept)	−1.02	−1.42***	−0.46	−0.61
	(−1.81)	(−3.65)	(−0.60)	(−1.22)
Darktriad	0.80***	0.63***	0.57**	0.37***
	(12.51)	(10.07)	(2.95)	(3.16)
Audit 0/1	−0.34	−0.06	−1.09	−1.03**
	(−1.70)	(−0.43)	(−1.80)	(−2.97)
WBP 0/1	−0.21	−0.05	−0.21	−0.02
	(−1.20)	(−0.39)	(−0.46)	(−0.06)
Darktriad x Audit 0/1			0.27	0.38**
			(1.39)	(3.01)
Darktriad x WBP 0/1			0.01	−0.02
			(0.07)	(−0.13)
Controls	*yes*	*yes*	*yes*	*yes*
Industry Effects	*yes*	*yes*	*yes*	*yes*
Adj. R^2	0.38	0.30	0.38	0.32
Obs.	212	385	212	385

Regression coefficients are presented with t-values in parentheses and robust standard errors (MacKinnon and White, 1985). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Subset definition: The sample is split into respondents who work in the finance/insurance industries and respondents who work in other industries. Variable definitions: Darktriad = Composite scale ranging from 1 to 5 measuring managerial personality traits (Machiavellianism, narcissism, psychopathy) based on Jonason and Webster (2010); Internal Audit 0/1 = Dummy variable indicating a company with or without an internal audit department; Whistleblowing Policy 0/1 = Dummy variable indicating a company with or without a whistleblowing policy; Controls = Composite scales measuring instrumental leadership and supportive & participative leadership based on House and Dessler (1974) and dummy variables for annual sales and number of employees; Industry Effects = Dummy variable for industry; Dependent variable: Accounting Manipulation = 12-item scale ranging from 1 to 5 measuring illegal accounting practices based on Schilit and Perler (2010).

Table A.1: Factor Analyses

	Panel A: Accounting Manipulation	Panel B: Dark Triad	Panel C: Dark Triad & Perceived Leadership Scale		
	Factor 1	Factor 1	Factor 1	Factor 2	Factor 3
acctmanip1	**0.78**				
acctmanip2	**0.80**				
acctmanip3	**0.85**				
acctmanip4	**0.85**				
acctmanip5	**0.86**				
acctmanip6	**0.80**				
acctmanip7	**0.80**				
acctmanip8	**0.83**				
acctmanip9	**0.82**				
acctmanip10	**0.78**				
acctmanip11	**0.82**				
acctmanip12	**0.82**				
N1		0.37	0.06	0.31	0.18
N2		**0.69**	-0.12	**0.63**	0.08
N3		**0.61**	-0.05	**0.51**	0.15
N4		**0.78**	-0.08	**0.76**	-0.04
M1		**0.79**	-0.25	**0.77**	0.02
M2		**0.85**	-0.15	**0.85**	-0.09
M3		**0.75**	-0.01	**0.76**	-0.03
M4		**0.84**	-0.21	**0.81**	-0.05
P1		**0.72**	-0.23	**0.69**	-0.05
P2		**0.81**	-0.28	**0.77**	0.02
P3		**0.68**	-0.13	**0.69**	-0.07
P4		**0.77**	-0.28	**0.72**	0.00
instrleader1			**0.51**	-0.27	**0.50**
instrleader2			0.15	0.11	**0.64**
instrleader3			0.38	-0.08	**0.61**
instrleader4			0.21	0.19	**0.65**
instrleader5			0.48	-0.19	**0.59**
instrleader6			0.38	-0.24	0.47
instrleader7			0.46	-0.06	**0.59**
suppleader1			**0.64**	-0.33	0.15
suppleader2			**0.51**	-0.04	0.12
suppleader3			**0.73**	-0.12	0.22
suppleader4			**0.75**	-0.23	0.17
suppleader5			**0.66**	-0.16	0.32
suppleader6$^-$			-0.02	**-0.50**	0.04
suppleader7			**0.68**	-0.24	0.22
suppleader8			**0.63**	-0.23	0.22
suppleader9			**0.62**	-0.18	0.22
suppleader10			**0.75**	-0.20	0.25
partleader1			**0.70**	-0.12	0.18
partleader2			**0.82**	-0.16	0.14
partleader3			**0.82**	-0.13	0.14
partleader4			**0.79**	-0.05	0.12
partleader5			**0.78**	0.01	0.18
KMO	0.95	0.95	0.96		
Bartlett's K-squared	132.91	39.099	585.41		
Bartlett's K-squared, df	11	11	33		
Bartlett's K-squared, p-value	0.000	0.000	0.000		
Rotation	none	none	varimax		
Eigenvalues	8.0191	6.4298	12.0436	5.1907	1.4005
Proportion Variance	0.82	0.79	0.43	0.35	0.15
Cumulative Variance	0.82	0.79	0.43	0.78	0.93

Results from three factor analyses. Coefficients > 0.5 are in bold. The extraction method is a factor analysis using ordinary least squares to find the minimum residual (minres) solution. Interpretations of the factors: Panel A: (1) accounting manipulation; Panel B: (1) dark triad personality; Panel C: (1) supportive and participative leader; (2) instrumental leader. The supplementary material contains all survey questions.