

Does Personality Relate to Job Performance of Audit Partners and Managers?

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Does Personality Relate to Job Performance of Audit Partners and Managers?*

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Abstract. We investigate if personality traits are associated with the skills and job performance of experienced auditors. Based on survey and internal audit firm data from 1,600 Dutch auditors from the Big 4 and six mid-sized audit firms, we first provide descriptive evidence of significant variation in auditors' personality traits. Personality traits vary between Big 4 and non-Big 4 auditors, and auditors become increasingly homogenous in higher function levels. Next, we find that personality traits predict distinct skills (commercial, technical, and leadership) that are part of the auditor's job. The tension that exists between the commercial and technical aspects of the audit is also reflected in opposing personality profiles that are beneficial for each of the skills. Finally, audit firm assessments of job performance are associated with personality, both directly, and indirectly through their effect on skills. Collectively, these results contribute to our limited understanding of personal characteristics and auditor performance.

JEL Classifications: M40; M42

Keywords: auditor personality; job performance; skills; audit partner; audit manager

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1. Introduction

This paper examines the relationship between auditors' personalities, skills, and job performance. Specifically, we investigate how personality traits of audit partners and managers are related to their performance, both directly and indirectly, through different skills.¹ If auditors with certain personality traits receive higher job evaluations, it follows that the work of these auditors is better and may be associated with higher quality audit outcomes. Studying the potential role of auditors' personality traits is important because audit outcomes vary significantly across individual auditors, yet demographic variables like age or gender account for very little of this variation. The lack of explanatory power suggests that other factors exist that affect the performance of individual auditors. To identify these factors, we rely on insights from psychology and organizational behavior (OB) research.

The literature in these two fields provides extensive evidence on the importance of personality in explaining individual behavior. Generally speaking, personality refers to "individual differences in characteristic patterns of thinking, feeling and behaving" (Kazdin, 2000) and is thus the part of our behavior that is constant across situations and stable over time (Barrick, Mount, & Li, 2013). In a professional context, personality traits have been shown to predict overall job performance, even after controlling for education level and inherent mental ability (McHenry et al., 1990; McManus & Kelly, 1999). In addition to being a direct antecedent to performance, personality traits further influence work-related attitudes, skills, and counterproductive work behavior, which in turn can affect job performance (Mount, Ilies, & Johnson, 2006; Rotundo & Sackett, 2002).

We do not study engagement-level audit quality, per se. However, discussions with the audit firms in the study indicate that the firms' job assessments of audit partners and managers

¹ We use the terms personality characteristics and traits interchangeably to refer to the following: the Big 5 personality traits (agreeableness, conscientiousness, emotional stability, extraversion, openness to experience), the Dark Triad, and Bravery, all of which are defined in the next section

consider engagement-level audit quality, and in limit auditors may be fired for low quality audits identified by firms' internal reviews and/or external inspection reviews.

Despite its potential importance to job performance, evidence on auditors' personality traits is scarce, and it is not clear *ex ante* if findings from the OB literature generalize to the auditing profession for the following reasons. First, the auditing profession is a specialized niche profession, which might exhibit little variation in the auditors' personality profile. Second, even if variations in personality traits exist across auditors, audit firms have tight quality controls in place to reduce the influence of idiosyncratic behavior. These controls might mute (subtle) differences in personality. Third, being an auditor involves a multitude of tasks, each requiring different skills and competencies. For example, besides having the technical skills and knowledge to perform a high-quality audit, an auditor needs to have leadership competencies to manage an engagement team, and commercial skills for client acquisition and management. The OB literature highlights that not all personality traits matter equally across professions, across tasks, and across performance criteria (Barrick, Mount, & Judge, 2001). Thus, different personality traits might be beneficial for the distinct skills an auditor requires to perform well. Fourth, the auditing profession is distinctly different from other professional services firms: While the auditor has a duty to serve the public, the auditor is paid by the client. This creates an inherent tension, and personality might therefore play an important role for auditors in balancing this conflict.

Taken together, it is an empirical question whether and how auditors' personality traits are related to their job performance. we address this question by examining how personality traits relate to performance, both directly, and indirectly, through three distinct skills (commercial, technical, and leadership). To do so, we collect data from audit partners and managers at the ten leading audit firms in the Netherlands, including the Big 4 firms and six medium-sized audit firms. We combine data from a survey instrument with internal audit firm data.

Specifically, we use a survey instrument to collect data on auditors' self-assessed personality traits and skills, and rely on the audit firms' internal data to obtain the firms' formal assessments of auditor job performance.

The primary finding is that personality traits are associated with auditors' overall job performance. Specifically, the results from a structural equation model show that personality traits are related to job performance both directly and indirectly through commercial and technical skills. The strongest direct predictor of job performance is extraversion: being a more outgoing individual with a greater natural talent to lead, is positively associated with job performance. Greater extraversion is also beneficial for commercial and leadership skills.

The results further highlight that several personality traits have opposing effects on skills and job performance: For example, agreeableness is positively related to commercial and leadership skills but has a strong negative association with technical skills and overall job performance. Another example is that individuals scoring high on the Dark Triad are associated with higher commercial skills, but the direct relationship between the Dark Triad and job performance is negative. Similarly, conscientiousness is positively associated with technical skills but has a negative effect on commercial skills. Thus, there is clearly some tension in how some of the personality traits affect skills and job performance.

Additional analyses look at unique aspects of the different personality traits, referred to as *facets*, and investigate how the relationship between personality and job performance varies across function levels. The most noteworthy difference is that audit partners, in contrast to directors and (senior) managers, are rewarded for their leadership skills rather than their commercial skills. A possible explanation for this finding is that in order to become a partner, individuals must demonstrate their commercial competencies. Thus, all partners have a sufficiently high level of commercial skills, and leadership skills become the differentiating factor in job performance.

This study contributes both to academic research and practice. We extend the current literature by offering insights that result in a deeper understanding of how the characteristics of individual auditors affect their performance. Combining archival auditing literature with insights from the OB and psychology literature, we collect a unique and rich data set that allows me to directly measure personal characteristics (beyond demographics) that are associated with auditor job performance. To the best of our knowledge, this is the first large sample study in an audit setting that measures personality traits and skills. With around 1,600 audit partners and managers from ten different audit firms, we can provide a comprehensive analysis and respond to calls for research on audit partner characteristics (e.g., Lennox & Wu, 2018).

The importance of individual auditors' characteristics has also been recognized in several audit quality frameworks, such as the *Framework for Audit Quality* (IAASB, 2014) and the *Audit Quality Framework* by the FRC (2008). Both frameworks acknowledge that an auditor's individual characteristics, such as skills, capabilities, and attitude, influence audit quality. However, given the lack of archival evidence, there is currently a limited understanding of how these characteristics actually play a role. Our findings provide a comprehensive analysis of how auditors' personality traits and their individual facets relate to different auditor skills, and ultimately their job performance, for which audit quality delivered at engagement level is a key performance evaluation criterion (Bik, Bouwens, Knechel, and Zou 2022).

The study also has implications for auditing practice. The results give audit firms insights into auditors' personality profiles and how personality is associated with different skills and firm-assessed job performance. We document that auditors become increasingly homogenous as they reach higher ranks, suggesting the existence of 'typical' partner characteristics. As the audit firms are actively trying to increase diversity in their higher ranks, the insights from this study may help the firms to re-think their performance evaluation systems, and to broaden their

job performance criteria². In addition, audit firms generally face tension between professional and commercial dimensions of audit practice. This tension is also reflected in the opposing personality traits that are beneficial for each of these skills. As audit firms ultimately need both skills for sustained success, they must find an effective way to manage the seeming incompatibility. A possible solution could be to develop more targeted training sessions that consider inherent differences in personality traits.

The remainder of the paper is structured as follows. Section 2 provides the background of the study and provides a conceptual framework, and Section 3 describes the sample and data collection process. Section 4 presents descriptive evidence on auditor's personality profiles by comparing auditors to the general population, and examining differences across audit firms and function levels. Section 5 tests the conceptual framework and presents the main results. Section 6 reports additional analyses, and section 7 concludes and discusses the implications of the findings.

2. Background and Conceptual Framework

Background

An emerging research stream in the audit literature investigates partner demographic characteristics to explain variation in audit outcomes (Lennox & Wu, 2018). However, the analyses in Gul et al. (2013) and Cameran, Campa, et al. (2022) show two important results. First, differential partner effects are important and explain more variation in audit outcomes than the combined effects of audit firms and offices. Second, while partner effects are very important, individual demographic variables have little or no explanatory power after

² All participating audit firms emphasize a strategic focus on increasing diversity. They further acknowledge that building a diverse workforce goes beyond increasing female representation. For example, PwC (2021) states in their transparency report "Together also means inclusive. Innovative thinkers, critical thinkers with different opinions: we recognize the importance of a greater diversity of colleagues in all respects".

simultaneously controlling for the effects of audit firms and offices. Thus, we need to go beyond publicly-available demographic variables to understand what it is about auditors that matters and drives differences in their job performance. To explore this, we rely on the OB and psychology literatures to identify factors that are connected to an individual's behavior. Reviewing this literature highlights the role of *personality* in determining an individual's behavior, in particular, job-related behavior and performance (Barrick & Mount, 1991; Barrick et al., 2001; Salgado, 1997, 2002).

Kazdin (2000) defines personality as “individual differences in characteristic patterns of thinking, feeling and behaving”. These patterns are captured in different personality traits that influence behaviors in a way that is consistent over situations and time (Barrick et al., 2013), even after controlling for differences in education and mental ability (McHenry et al., 1990; McManus & Kelly, 1999). One's personality includes several distinctive factors, and different models of personality structures have evolved over time. In the 1980s, psychology research converged to the five-factor model of personality (often referred to as ‘Big 5’ personality traits or the ‘FFM’).³ The five factors included in the model are **agreeableness**, **emotional stability**, **extraversion**, **conscientiousness**, and **openness**. Agreeable individuals are good-natured, considerate, and tolerant, rather than antagonistic and uncooperative. Conscientiousness reflects dependability and achievement orientation. That is, being thorough, organized, and disciplined rather than sloppy, distractible, and disorganized. Emotionally stable individuals are more calm and secure rather than ill-tempered and anxious. An extrovert is characterized by being outgoing, dominant, and ambitious rather than shy, quiet, and reserved. Finally, highly open individuals are imaginative and creative and prefer novelty to routine. These five traits

³ More recently, a sixth factor (Honesty-Humility) was added to the traditional five factors (Ashton & Lee, 2007; Ashton et al., 2004). This factor is shown to have predicted power above and beyond the FFM, especially in Non-Western cultures. This factor was also measured in the survey, but an exploratory factor analysis on the data clearly confirms the existence of five factors and the sixth factor does not increase the variance explained. Hence, the focus is on the traditional FFM.

are considered to “comprehensively capture the critical stable individual differences in personality.” (Barrick et al., 2013, p. 134).

A considerable body of research has used the FFM to understand how personality traits are associated with employee behavior. For example, prior primary and meta-analytic studies show that while some personality traits are related to overall job performance in virtually all jobs, other traits relate to only certain aspects of job performance or job performance in specific types of jobs (Barrick & Mount, 1991; Barrick et al., 2001). In general, the two personality dimensions predictive of job performance across occupational groups and job criteria are conscientiousness and emotional stability (Barrick & Mount, 1991; Barrick et al., 2001). It seems intuitive that employees who are more dependable, thorough, persistent, and hard-working (high conscientiousness) and who are calmer, secure, and not depressed (high emotional stability) will perform better overall. The other personality dimensions are valid predictors of performance in some occupational groups or for a specific job performance criterion. For example, extraversion is positively associated with performance when the tasks involve a high degree of interaction, for instance, when the job involves mentoring or leading (Barrick et al., 2001). When interaction mainly consists of helping, cooperating, and nurturing others, more agreeable employees perform better (Mount, Barrick, & Stewart, 1998). Openness to experience (i.e., employees that are intellectual, curious, and imaginative) exhibits a positive association with willingness to learn, and hence training performance (Barrick & Mount, 1991).

In addition to the Big Five personality traits discussed above, we consider two additional personality factors that are potentially important for auditors: the **Dark Triad** and **Bravery**. While the traits in the FFM are considered a good indication of a ‘normal’ personality, psychology research identifies additional personality factors that extend the FFM. Paulhus and Williams (2002) introduce the ‘Dark Triad of Personality’, which captures malevolent qualities at a subclinical level. The Dark Triad consists of three factors, narcissism, Machiavellianism

and psychopathy. All three factors share a common theme with respect to a lack of appropriate empathy and emotionality in interactions with others (Paulhus & Williams, 2002). Individuals scoring high on the ‘Dark Triad’ often use manipulation “to ‘get ahead’ while disregarding ‘getting along’” (Rauthmann & Kolar, 2012, p. 1). In their meta-analysis, O’Boyle, Forsyth, Banks, Story, and White (2015) investigate how the Dark Triad affects work behavior, particularly job performance and counterproductive work behavior. They find that Machiavellianism and psychopathy are associated with decreased job performance, and counterproductive work behavior increases in all three components of the Dark Triad. This negative effect is in line with Bailey (2015), who shows that individuals exhibiting higher levels of psychopathy are more likely to accept unethical behavior. Despite these negative aspects of the Dark Triad, Hobson et al. (2020) argue, and show experimentally, that the Dark Triad traits can also be beneficial for an auditor, as high Dark Triad auditors are more resistant to lapses in professional skepticism arising from social interaction. Thus, we also consider the Dark Triad as part of an auditor’s personality profile.

Bravery is another personality factor associated with workplace behavior, especially in jobs that face conflicting pressures (Peterson & Seligman, 2004). It captures the extent to which “one is willing to accomplish goals in the face of opposition, either external or internal” (Peterson & Seligman, 2004). As an auditor’s job regularly involves speaking up, even when facing opposition (e.g., as part of exercising professional skepticism), this could potentially be an important trait for an auditor.

Conceptual Model

Prior behavioral research provides compelling evidence that personality is a stable predictor of performance. Yet insights on auditors’ personality traits are scarce and it is not clear ex ante

whether the insights from the OB literature generalize to auditors.⁴ Auditing is a specialized niche profession in which audit firms recruit from a narrow pool of similarly educated applicants. Prior studies using accounting and auditing students show little variation in personality (e.g., Kovar et al., 2003; Levy et al., 2011). If no significant variation in the personality traits of auditors exists, then personality cannot be an underlying driver of the observed differences in audit outcomes. In addition, audit firms have tight internal control systems to minimize the effects of extreme individual behaviors. Hence, it is an empirical question whether and how personality traits influence an auditor's job overall performance. Providing an answer to this question is the purpose of this study.

To explore the relationship between personality and job performance, we consider possible direct and indirect effects in line with prior studies in the OB literature (e.g., Berry, Ones, & Sackett, 2007; Mount et al., 2006). Prior research shows that personality traits are associated with proficiency in a variety of skills that ultimately result in higher performance (Blickle et al., 2008; Matthews, 1999; Maurer, Lippstreu, & Judge, 2008). As Matthews (1999) summarizes, two main channels for personality-skill associations have been established: On the one hand, personality traits can be seen as “fixed characteristics of the cognitive architecture” (Matthews, 1999). These predispositions can naturally make you more skilled in certain areas. For example, an extrovert is more naturally talented at handling social situations than an introvert. On the other hand, personality traits can also foster the development of different skills. If placed in an environment that fits their personality, individuals will strive,

⁴ Relatively few studies investigate auditors' personality traits. As audit professionals are hard to access, prior research predominantly examines staff accountants or accounting students. Earlier studies (e.g., Kovar, Ott, & Fisher, 2003; Schloemer & Schloemer, 1997; Wheeler, 2001) use the Myers-Brigg-Type-Indicator to assess personality types and generally find little variation in personality traits among accounting students. Kovar et al. (2003) further find that personality traits are not predictive of performance on exams. More recent studies investigate a single personality trait, like narcissism (e.g., Cameran, Lyu, & Perotti, 2022; T.-K. Chou, Pittman, & Zhuang, 2021; Kerckhofs, Vandenhoute, & Hardies, 2022), the Dark Triad (Hobson, Stern, & Zimbelman, 2020), or leadership ability (Dong, Kallunki, Nilsson, & Vanstraelen, 2023) but do not provide a comprehensive picture of auditors' personalities.

and more quickly develop traits that fit their personal disposition, as they will be more intrinsically motivated. For example, a highly conscientious individual will strive in an environment that requires consistent and organized effort. More agreeable individuals, in turn, will be able to develop their skills better in an environment that provides opportunities for cooperation.

We consider the indirect link to occur through the distinct skills required in auditing. For instance, an auditor's job includes a significant commercial component: Auditors should attract new business and maintain good client relations, while at the same time leading negotiations with the client during the audit (e.g., adjustments for misstatements). As this part of the job is characterized by a large degree of interaction, extraversion could be an important predictor of the skills needed to excel in this commercial task. Further, the auditor's job has an extensive technical component. Auditors need to possess detailed knowledge of accounting and auditing standards, be professionally skeptical, diligent and thorough. For the technical component, auditors scoring high on conscientiousness, i.e., being thorough, persistent and hard-working, might be beneficial. Furthermore, the majority of the work of an auditor will be conducted as part of a team. Hence, auditors need more leadership skills to manage and supervise a team, mentor less experienced team members, as well as deal with conflicts within the team. For this component of the job, traits like agreeableness and emotional stability are potentially important.

This discussion suggests that different personality traits may affect the distinct skills an auditor needs to ultimately perform well. Thus, to gain a comprehensive understanding of how personality might relate to an auditor's performance, we first examine the relationship between personality and different skills. To do this, we pose the following broad research question:

RQ1: *How do personality traits relate to the different skills of an auditor?*

Next, we turn to the relationship between personality and job performance. In line with the above argument, we consider how personality relates to performance both directly, and indirectly through the development of skills that are related to job performance. Stated formally, the second research question is:

RQ2: *How do personality traits relate to an auditor’s job performance, both (a) directly and (b) indirectly through skills?*

Figure 1 provides a conceptual framework that summarizes the different relationships that we examine in this study.

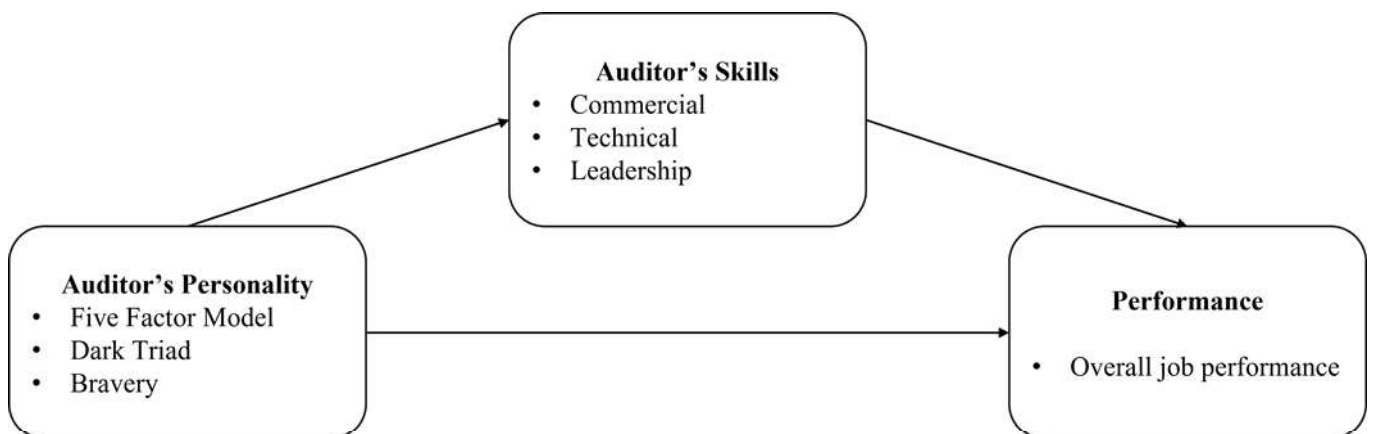


Figure 1: Conceptual Framework

3. Data Collection and Sample

We obtain data from ten audit firms in the Netherlands (the Big 4 and 6 medium-sized audit firms) through the Foundation for Auditing Research (FAR).⁵ we use two data sources: we collect data measuring auditor’s personality traits and skills via a survey, and complement the survey with internal firm data on the evaluation of overall job performance. Survey data are

⁵ The survey and data collection are part of a bigger project under the 2019E01 FAR grant. In total, we collected data from three surveys, each complemented with internal firm data. All surveys have been approved by the corresponding institutional Review Boards prior to administering the surveys.

appropriate to study these research questions as it provides a direct measure of personality traits, which is impossible using archival data (Van der Stede, Young, & Chen, 2005).⁶

Prior studies on individual auditors focus mainly on audit partners, even though audit teams are effectively led by two key figures: a signing partner and an engagement manager. The engagement manager is typically more directly involved in the day-to-day activities while the partner assumes a more supervisory role and bears the ultimate responsibility to sign the audit opinion. Thus, we are interested in personality and job performance of partners and managers, so the population of interest is all auditors acting as signing auditors (i.e., equity partners and directors) and engagement managers (i.e., managers and senior managers).

In order to obtain a representative sample from this pool, we rely on participating audit firms' internal meeting structures (e.g., audit technical trainings, summer schools, or partner-director meetings) and hand out a paper-pencil survey at these meetings. This non-probability sampling approach was chosen because the target audience (i.e., higher level auditors) is generally hard to reach. Using the internal meetings along with the official endorsement of the audit firms' leadership ensures a high participation in the survey. This approach reduces potential non-response bias, a common threat to validity in survey studies.

To safeguard anonymity while simultaneously allowing us to match survey responses to internal firm data, the audit firms shared a list of pre-registered attendants with an independent datacenter (CentERdata). CentERdata created unique IDs for each respondent and shared this ID via e-mail on the day of the survey distribution. Respondents were asked to fill in their ID on the front page of the survey. In total, the research team attended 28 internal firm meetings between May 2019 and April 2020, resulting in the collection of 2,163 paper-pencil surveys. In case of non-attendance, an online invitation to the survey was sent out, resulting in 152

⁶ we am aware of recent developments that use machine learning and big data to measure personality traits (e.g., Bleidorn & Hopwood, 2019). However, given the limited publicly available personal data on individual auditors, this approach seems not feasible when studying auditors' personality profiles.

additional surveys.⁷ The paper-pencil surveys were digitized by four research assistants, who were all blind to the purpose of the study. A total of 100 paper-pencil surveys were double coded to assess the error rate of manually digitizing the paper-pencil surveys. The double-coding revealed in total 65 differences, which is equivalent to an error rate of 0.40% (= 65 differences/ (163 Questions * 100 Surveys)). Manual inspection of the errors revealed no systematic patterns, i.e., they were randomly distributed across all surveys and research assistants. Overall, the final sample for this study consists of 1,608 surveys, excluding empty and incomplete surveys, surveys from senior audit staff (who attended some of the meetings), and responses that showed evidence of insufficient attention/effort.⁸

Table 1 provides an overview of the sample composition. The sample represents highly experienced auditors with an average professional experience of 16.1 years. The percentage (number) of responses by rank is 16.85% (271) for partners, 16.54% (266) for directors, 28.48% (458) for senior managers, and 38.12% (613) for managers. In total, 84% (1,351) responses are from Big 4 firms and 26.3% (423) of all respondents identify as female.

⁷ This only applies to three out of the ten audit firms.

⁸ To detect insufficient effort responses, the responses to the demographic questions were scanned for non-sense responses (e.g., Nationality: Human; Office Location: Planet Earth). In addition, we used the reverse-scored survey items to look for possible straight-lining. This analysis resulted in five responses being dropped. As respondents filled out a paper-pencil version of the survey, we do not have a measure of how much (or little) time each individual took to complete the survey.

Table 1: Descriptive Statistics Sample

	Partner n = 271		Director n = 266		Senior Manager n = 458		Manager n = 613		Overall n = 1,608	
	Mean (Median)	SD	Mean (Median)	SD	Mean (Median)	SD	Mean (Median)	SD	Mean (Median)	SD
Age	48.1 (48.0)	5.70	44.3 (43.0)	6.96	39.4 (37.0)	7.78	31.9 (31.0)	4.78	38.8 (37.0)	8.8
Female	0.118		0.233		0.266		0.338		0.263	
Function Tenure	9.96 (9.0)	7.13	4.68 (3.0)	4.99	4.84 (3.0)	6.46	1.91 (1.0)	2.33	4.56 (2.0)	5.84
Firm Tenure	20.4 (21)	9.11	16.0 (16.0)	9.39	12.8 (11.2)	9.17	6.42 (6.0)	4.48	12.2 (10.0)	9.31
Professional Experience	25.5 (25.0)	5.81	21.4 (20.0)	7.34	16.8 (14.0)	7.94	8.96 (8.0)	4.11	16.1 (14.0)	8.83

Survey Instrument

The survey measured key constructs related to an auditor's personality, skill set, and demographic factors. Appendix A includes an overview of all constructs and survey items. All questions were asked on a 5-point Likert scale. If a construct consists of multiple items, we report Cronbach's alphas and factor loadings, and the final score is the average of all items in the construct.

We rely on previously validated instruments to measure an auditor's personality: The five factor personality trait model is assessed with 65 items from the Personal Characteristics Inventory (PCI; Mount, Barrick, Laffitte, & Callans, 1999). Prior studies demonstrate the PCI's convergent validity and divergent validity with other FFM measures (Mount et al., 1999). To assess the *Dark Triad*, we rely on the 12-question scale of Jonason and Webster (2010). *Bravery* is measured using the seven-item scale from Peterson and Seligman (2004). The order of all personality items was randomized to reduce bias and survey fatigue. In addition to using previously validated scales, we conduct reliability and factor analyses for all constructs.⁹ Cronbach alphas are generally all above the threshold of 0.7 (Taber, 2018), and eigenvalues exceed one (see Appendix A).

As the skills required to perform the job of an auditor are unique to the profession, a new measurement scale was developed. The scale is built around the set of skills the Big 4 audit firms use to describe the expected competencies of their partners and managers.¹⁰ The

⁹ All personality scales include several reverse-scored items. Reversed items are commonly used to avoid response bias, however, psychometric research demonstrates that these questions are often harder to answer and do not measure the same underlying construct as non-reversed items (Netemeyer, Bearden, & Sharma, 2003). Seven reversed items were excluded from the final scales, as these items showed extremely low factor loadings and reduced the reliability of the construct.

¹⁰ All Big 4 firms employ internal competency mapping frameworks that detail the different capabilities the firms desire in their employees and that are needed to succeed in the organization. To illustrate, the framework of one of the Big 4 firms (name excluded for confidentiality purposes) includes four dimensions and is used when hiring, rewarding and promoting individuals. The capabilities described by the firm can be broadly classified as (1) technical and professional capabilities to deliver quality and value, (2) business acumen to innovate and create value for the firm, (3) leading others and being a mentor, and (4) delivering client service excellence and building sustained client relationships. The other Big 4 firms use similar frameworks that serve as the underlying guide in developing out scale.

developed scale initially included four dimensions (three questions each): Competencies related to (1) the firm, (2) managing client relationships, (3) managing an audit team, and (4) delivering audit quality. Participants were asked to self-assess their skills across these four competencies, using a scale from 1 = Needs Improvement to 5 = Outstanding.¹¹ The scale validation (using exploratory factor analysis) on the collected responses reveals three instead of four distinct factors (i.e., factors with an eigenvalue exceeding one).¹² The two factors intended to capture representing the firm and managing client relationships are highly correlated and the individual items loaded on one factor instead of two. Thus, we combine these two factors into one for the analysis in the paper. Based on the content of the questions, we refer to these three factors as *Commercial*, *Technical*, and *Leadership* skills. The *Commercial* skills factor ($\alpha = 0.65$, EV = 1.97) captures capabilities related to acquiring business, building a client-portfolio and representing the firm to clients and in public. The *Technical* skills factor ($\alpha = 0.66$, EV = 1.79) relates to the actual job of the auditor and the technical requirements to deliver a high-quality audit. The *Leadership* skills factor ($\alpha = 0.69$, EV = 1.87) relates to leadership, teamwork and coaching capabilities. Appendix A provides an overview of the individual items.

Internal Firm Data

Internal audit firm data complement the survey data. In particular, we use the audit firms' data to construct the dependent variable of interest, overall job performance, and to obtain demographic data used as controls. Combining these two data sources has two key methodological advantages over pure survey data: 1) Using an external performance assessment is more objective than using a self-assessed survey measure of performance; 2)

¹¹ In another survey of the 2019E01 project, audit engagement team members were asked to assess the skills of their partner/manager. Hence, for a subsample of respondents (n = 233) we have self-assessed and team-assessed skills (requiring at least three observers for a consistent rating).

¹² we conducted a number of analyses to confirm the existence of three instead factors: The team-assessed ratings similarly revealed three instead of four factors and this was further confirmed by running the factor analysis on subsamples split by function level. For each subsample, the analysis revealed three consistent factors.

Using a different data source for the dependent variable circumvents common method bias, which is a potential threat to quality in survey research.

The dependent variable is the firm's internal assessment of *Overall Performance*. The overall performance assessment is conducted annually and is performed by an assessment committee, also referred to as calibration committee. The committee, which typically consists of higher-ranked auditors, reviews the individual's performance ratings on all engagements, potentially adjusts them and derives an overall performance measure. This measure is thus reflective of the individual's performance across engagements. While the committees take multiple criteria into consideration, a key performance evaluation criterion is the delivered quality on the engagements (Bik, Bouwens, Knechel, & Zou, 2022).

Performance data is available for seven out of ten participating audit firms, which reduces the sample size to 1,369 for all analyses using performance data. Each firm has its own rating scale to assess their employees' overall performance. This firm-specific scale further differs per function level, so it is not comparable per se (e.g., for one Big 4 firm, partners are rated on a scale from 1 to 3, whereas managers and senior managers are rated on a scale from 1 to 5).¹³ Therefore, we standardize the score by function level and audit firm to arrive at a comparable score. That is, for each function level-firm combination the mean is equal to zero and the standard deviation equals one. The audit firms also provide data on several demographic variables, *Age*, *Female (Gender)*, and *Function Tenure*, which we include as control variables when estimating the different relationships depicted in Figure 1. Appendix B lists all variable definitions.

¹³ The scales typically include qualitative descriptions too. For the 3-point scales the descriptions are 1 = below norm, 2 = meets the norm/expectation, 3 = above norm.

4. Descriptive Statistics

Table 2 presents the descriptive statistics and correlations for the variables of interest. The statistics provide a first indication that variation in auditors' personality traits exists despite being a specialized profession. Compared to a representative sample ($n = 5,021$) of the Dutch population, auditors are significantly more homogenous, measured by significantly lower variation in the majority of the FFM traits.¹⁴ In addition, it is noteworthy that auditors score, on average, significantly higher on four of five dimensions of the FFM: Auditors are more agreeable, conscientious, extroverted, and open to experiences than the general Dutch population.¹⁵ Comparing the Dutch auditors to US executives (Colbert, Barrick, & Bradley, 2014), specifically CEOs and other top management team members, shows that executives score even higher on all FFM traits, except agreeableness, indicating that executives have even larger values for the personality traits than auditors. The correlations in Table 2 provide some initial evidence that personality traits are related to the different skills and overall job performance.

As evidence on auditors' personality traits is scarce, we provide detailed descriptive statistics to obtain a more comprehensive picture of auditors' personality profiles. Specifically, we consider differences in personality traits and skills along two main dimensions: Big 4 vs. non-Big 4 firms, and across different function levels. These comparisons can help to understand which personality traits are prevalent in different types of audit firms, as well as whether certain traits become more pronounced as auditors move up the career ladder in an audit firm.

¹⁴ We obtain the data for this comparison from the Longitudinal Internet studies for the Social Sciences (LISS) panel from CentERdata. Based on a probability sample drawn from the population register by Statistics Netherlands, CentERdata collects data on a number of measures, among which are the Big 5 Personality traits. we use the annual survey from 2019 for this comparison.

¹⁵ Mean comparison is done using an independent two sample t-test, assuming unequal variances.

Table 2: Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
Overall													
1 Performance	0.00	0.97	1.00										
2 Commercial	3.23	0.62	0.11	1.00									
3 Technical	3.70	0.55	0.13	0.23	1.00								
4 Leadership	3.66	0.59	0.10	0.36	0.31	1.00							
5 Agreeableness	3.97	0.40	0.01	0.14	-0.02	0.43	1.00						
6 Conscientiousness	3.84	0.37	0.12	0.04	0.29	0.10	0.21	1.00					
7 Emotional Stability	3.46	0.52	0.05	0.15	0.05	0.09	0.09	-0.10	1.00				
8 Extraversion	3.53	0.51	0.18	0.40	0.22	0.29	0.20	0.36	0.05	1.00			
9 Openness	3.60	0.51	0.08	0.27	0.15	0.26	0.33	0.080	0.21	0.45	1.00		
10 Dark Triad	2.43	0.46	0.03	0.20	0.01	-0.02	-0.26	-0.07	-0.18	0.30	0.00	1.00	
11 Bravery	3.58	0.49	0.07	0.24	0.15	0.22	0.18	0.18	0.20	0.37	0.34	-0.10	1.00
12 Age	38.8	8.8	0.01	0.2	-0.01	-0.03	-0.06	-0.12	0.15	-0.05	0.02	-0.08	0.13

This table presents the Pearson correlation coefficients. Significant correlations ($p < 0.01$) in **bold**.

Table 3: Differences in Personality Traits & Skills

Panel A: Comparison Non-Big 4 vs. Big 4

	Non- Big 4 n = 257		Big 4 n = 1,351		Difference
	Mean	SD	Mean	SD	p-value
Personality Traits					
Agreeableness	3.83	0.44	4.00	0.39	<0.001***
Conscientiousness	3.74	0.37	3.86	0.37	<0.001***
Emotional Stability	3.47	0.50	3.46	0.52	0.735
Extraversion	3.43	0.48	3.55	0.52	<0.001***
Openness	3.53	0.50	3.61	0.51	0.029**
Dark Triad	2.55	0.54	2.41	0.44	<0.001***
Bravery	3.57	0.48	3.58	0.49	0.743
Skills					
Commercial	3.33	0.62	3.21	0.61	0.006***
Technical	3.62	0.56	3.71	0.55	0.012**
Leadership	3.49	0.59	3.69	0.58	<0.001***

Panel B: Comparison across Function Levels

	A Partner n = 271		B Director n = 266		C Senior Manager n = 458	
	Mean	SD	Mean	SD	Mean	SD
Personality						
Agreeableness	4.00 ^C	0.40	3.97	0.37	3.92 ^{A, D}	0.43
Conscientiousness	3.80	0.37	3.83	0.36	3.85	0.36
Emotional Stability	3.59 ^{C, D}	0.46	3.53 ^D	0.47	3.48 ^{A, D}	0.49
Extraversion	3.67 ^{C, D}	0.45	3.59 ^D	0.44	3.50 ^A	0.49
Openness	3.72 ^{C, D}	0.44	3.62	0.49	3.55 ^A	0.53
Dark Triad	2.40	0.45	2.43	0.43	2.44	0.45
Bravery	3.74 ^{B, C, D}	0.43	3.64 ^{A, D}	0.43	3.57 ^{A, D}	0.46
Skills						
Commercial	3.63 ^{B, C, D}	0.53	3.35 ^{A, C, D}	0.52	3.19 ^{A, B, D}	0.56
Technical	3.71 ^D	0.56	3.74 ^D	0.49	3.77 ^D	0.57
Leadership	3.80 ^{C, D}	0.53	3.73 ^{C, D}	0.56	3.61 ^{A, B}	0.57

We compare the Big 4 and non-Big 4 firms because prior literature documents differences in audit outcomes between these firms, and anecdotally they also attract different types of people. Indeed, Table 3, Panel A reveals differences in personality traits between Big 4 and non-Big 4 auditors. Auditors at Big 4 firms are, on average, more agreeable (4.00 vs. 3.83, $p < 0.01$), conscientious (3.86 vs. 3.74, $p < 0.01$), extroverted (3.55 vs. 3.43, $p < 0.01$), open to experiences (3.61 vs. 3.53, $p < 0.05$) and score lower on the Dark Triad (2.41 vs. 2.55, $p < 0.01$) than their non-Big 4 counterparts. Big 4 auditors assess themselves higher on their *technical* skills (3.71 vs. 3.62, $p < 0.05$) and *leadership* skills (3.69 vs. 3.49, $p < 0.01$), while non-Big 4 auditors assess themselves higher on *commercial* skills (3.33 vs. 3.21, $p < 0.01$). The differences in the skill assessment combined with a higher score on *Conscientiousness* (i.e., being more diligent and thorough) could be a potential reason why Big 4 firms are associated with higher quality audits (the so-called “Big N effect”, as documented by a large body of literature, e.g., Francis, Maydew, and Sparks (1999)).¹⁶ An untabulated comparison within the Big 4 firms reveals that these firms are more homogenous, as indicated by almost no significant differences in personality traits and skills. A possible explanation for this could be that the Big 4 firms as a group recruit from a common pool of applicants.

Table 3, Panel B compares the four different function levels. Given the up-or-out promotion system commonly used in audit firms, this comparison highlights whether certain personality traits and skills become more pronounced in the higher ranks. In accordance with such a promotion system, we note that the distributions become significantly more narrowly distributed around the mean at the top of the hierarchy, as demonstrated by a Levene’s test of equality of variances. This implies that audit partners are more homogenous than the lower level professionals. This selection effect is strongest for *Extraversion*, *Openness to Experience*

¹⁶ The majority of studies that provide evidence on the existence of this Big N effect investigate the US audit market. However, there is also empirical evidence from the Dutch audit market that suggests that Big 4 audit firms similarly provide higher quality audits in the Netherlands (Blay, Notbohm, Schelleman, & Valencia, 2014), which is also in line with the findings from the Dutch inspection body AFM.

and *Bravery*, suggesting that these are potentially three important characteristics for becoming a partner. The mean comparisons further reinforce this observation. The results indicate that the higher you climb the career ladder, the more the personality traits will tend to favor the relationship aspect in an auditor-client relationship (i.e., higher values of *Extraversion* and *Openness*). This pattern corresponds to Downar, Ernstberger, and Koch (2020), who show that an auditor's economic capital (i.e., revenue-generating ability and winning a large public client) and social capital (i.e., connectedness within the audit firm, as well as participation in formal and informal networking activities) will increase the likelihood of making partner at a Big 4 audit firm. *Extraversion* and *Openness to Experience* are two personality traits that are potentially beneficial for an auditor's economic and social capital.

Similarly, partners score highest for *Bravery* (3.74 vs. 3.50 for Managers), i.e., they speak up for their beliefs and do not hesitate to express an unpopular opinion. This trait could be beneficial when negotiating with clients during the audit process. Audit partners further exhibit the highest level of *Emotional Stability*. This is in line with findings in the OB literature documenting that being emotionally stable is positively associated with leadership ability (Hogan, Curphy, & Hogan, 1994).

Looking at the self-assessed skills, it seems intuitive that skills increase in rank. Indeed, partners and directors score highest on *Commercial* and *Leadership* skills. However, there is no significant difference in *Technical* skills between partners, directors, and senior managers, only between managers and the higher ranks. This is in accordance with all auditors having achieved their professional competencies by the time they reach the senior manager level. Therefore, moving from senior manager to a higher function level seems driven by *Commercial* and *Leadership* skills. *Commercial* ability also seems to differentiate partners from directors. This corresponds with the view that in order to become partner one needs to be a salesperson too, while directors are often viewed as technical experts.

We repeat the comparisons across function levels separately for Big 4 and non-Big 4 firms to understand whether different personality profiles are more pronounced at the top of these firms (untabulated). This analysis generally reveals similar patterns as discussed above, with one noteworthy difference. While audit partners at the Big 4 firms score lowest on the *Dark Triad* compared to all other ranks, partners at non-Big 4 firms score highest on this trait.¹⁷

In summary, the descriptive statistics reveal significant differences in personality traits and skills across auditors. we conclude there is variation in auditors' personality traits, although the variation becomes smaller and certain traits (*Extraversion, Openness to Experience, and Bravery*) become more pronounced as auditors move from manager to partner.

5. Multivariate Analysis

Research Question 1 – Personality and Skills

We now investigate whether the documented differences in personality matter in terms of job performance. we first test whether personality traits are associated with the three job skills (RQ1). To do so, we estimate three OLS regression models using each of the three skills (*Commercial, Technical, and Leadership*) as dependent variables. we regress each skill factor on all previously mentioned personality traits. we include several demographic control variables that prior literature has shown are associated with different audit outcomes.¹⁸ *Female* is an indicator equal to one if the respondent is female. *Age* captures the respondent's age in years. Given the documented differences between Big 4 and non-Big 4 firms, and across the

¹⁷ This could be another reason why Big 4 and non-Big 4 firms provide differential levels of audit quality. Audit partners are instrumental in setting a quality-oriented tone at the top, which may be influenced by their Dark Triad personality traits.

¹⁸ Prior literature also shows associations between audit outcomes and an auditor's education and experience. we did not include the auditor's education in analysis, as there is very little variation in the data. Almost 95% of all respondents are certified auditors, given that these are highly experienced auditors. we do not have more detailed data on their education. we do not include their professional experience in my regressions because this variable is highly correlated with age.

different function levels, we also control for *Big 4* and *Function Level* in all regressions. Table 4 presents the regression results for RQ1.

Table 4: Regression Results for Auditors' Skills

	Dependent Variable Skills		
	Commercial (1)	Technical (2)	Leadership (3)
Intercept	0.791*** (0.037)	2.341*** (0.036)	1.191*** (0.036)
Agreeableness	0.206*** (0.039)	-0.190*** (0.036)	0.574*** (0.036)
Conscientiousness	-0.081** (0.039)	0.405*** (0.039)	-0.089** (0.038)
Emotional Stability	0.057** (0.028)	0.005 (0.027)	-0.006 (0.027)
Extraversion	0.313*** (0.035)	0.070*** (0.034)	0.154*** (0.034)
Openness to Experience	0.072** (0.031)	0.130*** (0.033)	0.038 (0.033)
Dark Triad	0.188*** (0.034)	-0.048 (0.033)	0.031 (0.033)
Bravery	0.083*** (0.030)	0.048 (0.030)	0.100*** (0.029)
<i>Controls</i>			
Female	-0.185*** (0.033)	-0.139*** (0.032)	-0.126*** (0.032)
Age	0.001 (0.002)	-0.006*** (0.002)	-0.011*** (0.002)
Big 4	-0.086** (0.037)	0.080** (0.036)	0.106*** (0.036)
Function Level	Yes	Yes	Yes
Observations	1,608	1,608	1,608
Adj. R2	0.296	0.144	0.261
F-Statistic (df = 13; 1,594)	53.026***	21.874***	44.634***

This table presents the results of OLS regressions of the different (self-assessed) skills, regressed on personality traits, controlling for demographic characteristics, Big 4 and function level. Standard errors are reported in parentheses below the coefficients, ***, **, and * indicate significance at 1%, 5% and 10% level (two-tailed), respectively.

The results indicate that various personality traits are associated with each of the three (self-assessed) skills. For the *Commercial* factor (Table 4, Column 1), *Extraversion* (0.313, $p < 0.01$) and *Agreeableness* (0.206, $p < 0.01$) are the strongest predictors. The positive associations are in line with the OB literature documenting that extroverted, and more agreeable people are generally more sociable and talkative, which is beneficial for interactions with others. Surprisingly, *Dark Triad* (0.188, $p < 0.01$) is also positively associated with commercial skills. Even though the *Dark Triad* generally captures malevolent characteristics, prior research shows that individuals who exhibit these traits, also embody many desirable characteristics like charm, assertiveness, and impression management skills (Jonason, Slomski, & Partyka, 2012). This side of the *Dark Triad* may be useful for commercial skills. Other positive predictors are *Bravery* (0.083, $p < 0.01$) and *Emotional Stability* (0.057, $p < 0.05$). In contrast, *Conscientiousness* (-0.081, $p < 0.05$) is negatively associated with commercial skills. Witt, Burke, Barrick, and Mount (2002) provide evidence that highly conscientious individuals are often ineffective in tasks involving interaction, as they might lack interpersonal sensitivity.

Column 2 presents the results for the *Technical* skills factor. *Conscientiousness* (0.405, $p < 0.01$) exhibits the strongest positive relationship with *Technical*. This seems intuitive because the tasks of assessing the reliability and validity of the client's financial statements involves a lot of detailed work. Hence, being more thorough and diligent is beneficial. In contrast to the *Commercial* skills, *Agreeableness* (-0.190, $p < 0.01$) is negatively associated with *Technical* skills. *Openness to Experience* (0.130, $p < 0.01$) has a positive relationship with *Technical* skills. Individuals who score higher on *Openness to Experience* are open-minded and demonstrate a high willingness to learn (Barrick & Mount, 1991). Given the continuous on-the-job learning in the auditing profession, the positive relationship suggests that *Openness to Experience* is beneficial in learning and developing technical skills. *Extraversion* (0.07, $p < 0.01$) is also positive and significant, but smaller in magnitude than the other personality traits.

The results for the third skills factor, *Leadership*, are presented in Column 3. *Agreeableness* (0.574, $p < 0.01$) has the strongest positive association. This is in line with prior research documenting *Agreeableness* as an important predictor for job performance criteria involving coaching and mentoring others (Barrick & Mount, 1991), which is part of the *Leadership* factor. Similarly, *Extraversion* is positive and significant (0.154, $p < 0.01$), which confirms that this trait is beneficial when social interactions are involved. Similarly, *Bravery* is positive and significant (0.10, $p < 0.01$), while *Conscientiousness* (-0.089, $p < 0.01$) is negative and significant. This negative relation might indicate that in order to thrive in a cooperative task, highly conscientious individuals also need interpersonal sensitivity (Witt et al., 2002).

Looking at all three columns, personality traits explain more of the variance of the *commercial* (Adj. $R^2 = 0.296$) and *leadership* (Adj. $R^2 = 0.261$) skills than of the *technical* skills factor (Adj. $R^2 = 0.144$). A possible explanation is that technical capabilities are easier to develop through education and training, and hence less influenced by one's personality. The coefficient for *Female* is negative and significant in all three regressions, indicating a lower level of self-assessed skills across the three dimensions.¹⁹

In summary, the analysis provides evidence that auditors' personality traits are associated with job skills of auditors. However, both *Agreeableness* and *Conscientiousness* show contradicting results in the individual regressions: While *Agreeableness* is positively related to skills involving interaction (*Commercial* and *Leadership* skills), it is negatively associated with *Technical skills*. The opposite is the case for *Conscientiousness*. It remains to be seen how these contradictory relationships will play out in the full model predicting overall job performance.

¹⁹ In another survey of the same FAR project, audit engagement team members were asked to assess the skills of their partner/manager. Hence, for a subsample of respondents ($n = 233$) we also have team-assessed skills (requiring at least three observers for a consistent rating). When using the team-assessed skills we generally obtain similar results, except for gender. The negative effect of gender disappears when using the team-assessed skills rather than the self-assessed skills. This is in line with prior research that demonstrates the existence of gender differences in self-confidence (Barber & Odean, 2001).

Research Question 2 – Personality and Performance

Turning to the analysis on the relationship between personality and performance, we explore how personality is associated with job performance, both directly and indirectly through skills (see Figure 1). To do so, we follow the steps of a traditional mediation model (Baron & Kenny, 1986). That is, we initially test the direct relationship between personality and job performance without including the intervening variables. Next, we estimate the relationship between the three mediating variables and performance. Lastly, the full model is estimated as shown in Figure 1, which includes the personality traits, as well as the different skills as possible intervening variables. The full model is estimated using a path model (SEM) with bootstrapping (Hayes, 2009), and allows us to disaggregate the total effect of personality on job performance into direct and indirect effects. Models include the same controls as before.

Table 5 presents the OLS regression results for the set-up models. The results reveal that *Extraversion* (0.294, $p < 0.01$) has the strongest direct relationship with performance. Although the stereotypical image of an accountant might not include extraversion, it is intuitive that extraversion is beneficial to the job performance of experienced auditors. All audits are conducted within an engagement team and auditors are typically part of multiple fluid teams. Hence, their job is characterized by a large degree of interaction, both within the team but also with the client. Being outgoing and sociable thus leads to a higher performance. *Conscientiousness* (0.137, $p < 0.1$) and *Emotional Stability* (0.096, $p < 0.1$) show a marginally significant and positive relationship with performance. This result is in line with prior evidence in the OB literature that documents that these two traits are associated with performance in virtually all jobs (Barrick & Mount, 1991; Barrick et al., 2001). *Agreeableness* (-0.145, $p < 0.05$) is negatively related to overall performance. A potential reason for this could be that in order to perform well as a manager or partner, one needs to be comfortable with speaking up and managing conflicts with the client during negotiations about misstatements.

Table 5: Regression Results for Overall Performance

	Dependent Variable Overall Performance	
	(1)	(2)
Intercept	-0.673 (0.483)	-0.593** (0.251)
Agreeableness	-0.145** (0.072)	
Conscientiousness	0.137* (0.077)	
Emotional Stability	0.096* (0.054)	
Extraversion	0.294*** (0.068)	
Openness to Experience	-0.009 (0.061)	
Dark Triad	-0.098 (0.067)	
Bravery	0.027 (0.058)	
Commercial		0.153*** (0.048)
Technical		0.164*** (0.050)
Leadership		0.016 (0.049)
<i>Controls</i>		
Female	0.004 (0.063)	0.020 (0.059)
Age	-0.034*** (0.003)	-0.036*** (0.003)
Big 4	-0.105 (0.088)	-0.067 (0.087)
Function Level	Yes	Yes
Observations	1,369	1,369
Adj. R2	0.075	0.067
F-Statistic	9.496*** (df = 13; 1,355)	11.979*** (df = 9; 1,359)

This table presents the results of OLS regressions of overall performance (assessed by the firms) on the personality traits and skills. Standard errors are reported in parentheses below the coefficients, ***, **, and * indicate significance at 1%, 5%, and 10% level (two-tailed), respectively.

Highly agreeable individuals might not be comfortable with this, as they usually seek out harmony. The coefficients on the variables for *Openness to Experience*, *Dark Triad*, and *Bravery* are insignificant, indicating no direct relationship with performance for these traits.

Table 5, Column 2 includes the results for the relationship between overall performance, and the three different skills. *Commercial* (0.153, $p < 0.01$) and *Technical* skills (0.164, $p < 0.01$) are both positive and significant predictors of performance. However, *Leadership* is insignificant, which is surprising given that audit firms explicitly list leadership skills as part of their internal competency frameworks they also use in order to evaluate performance.²⁰ The results in this model suggest that the focus in the performance evaluation system is predominantly on *Commercial* and *Technical* skills.

These two regressions serve as a preliminary analysis to set up the complete model estimated using path modeling. The results are visually depicted in Figure 3. Table 6 shows the standardized regression weights (Panel A), as well as the direct, indirect, and total effects on job performance (Panel B), based on bootstrapping.

Similar to the previous results, the full model in Table 6 reveals that only *Commercial* (0.073, $p < 0.05$) and *Technical* (0.056, $p < 0.10$) skills are positively associated with performance assessment. The results further highlight that *Extraversion* is the strongest predictor of performance, and it affects performance both directly (0.134, $p < 0.01$) and indirectly (0.021, $p < 0.01$) through *Commercial* skills. This is in line with the rationale discussed above: the auditor's job involves a significant degree of interaction, especially at the manager and partner level. While the relationship between *Extraversion* and the different skills and performance is consistently positive, other traits exhibit more conflicting relationships:

²⁰ As we show in section VI, leadership skills do matter for the performance evaluation of partners.

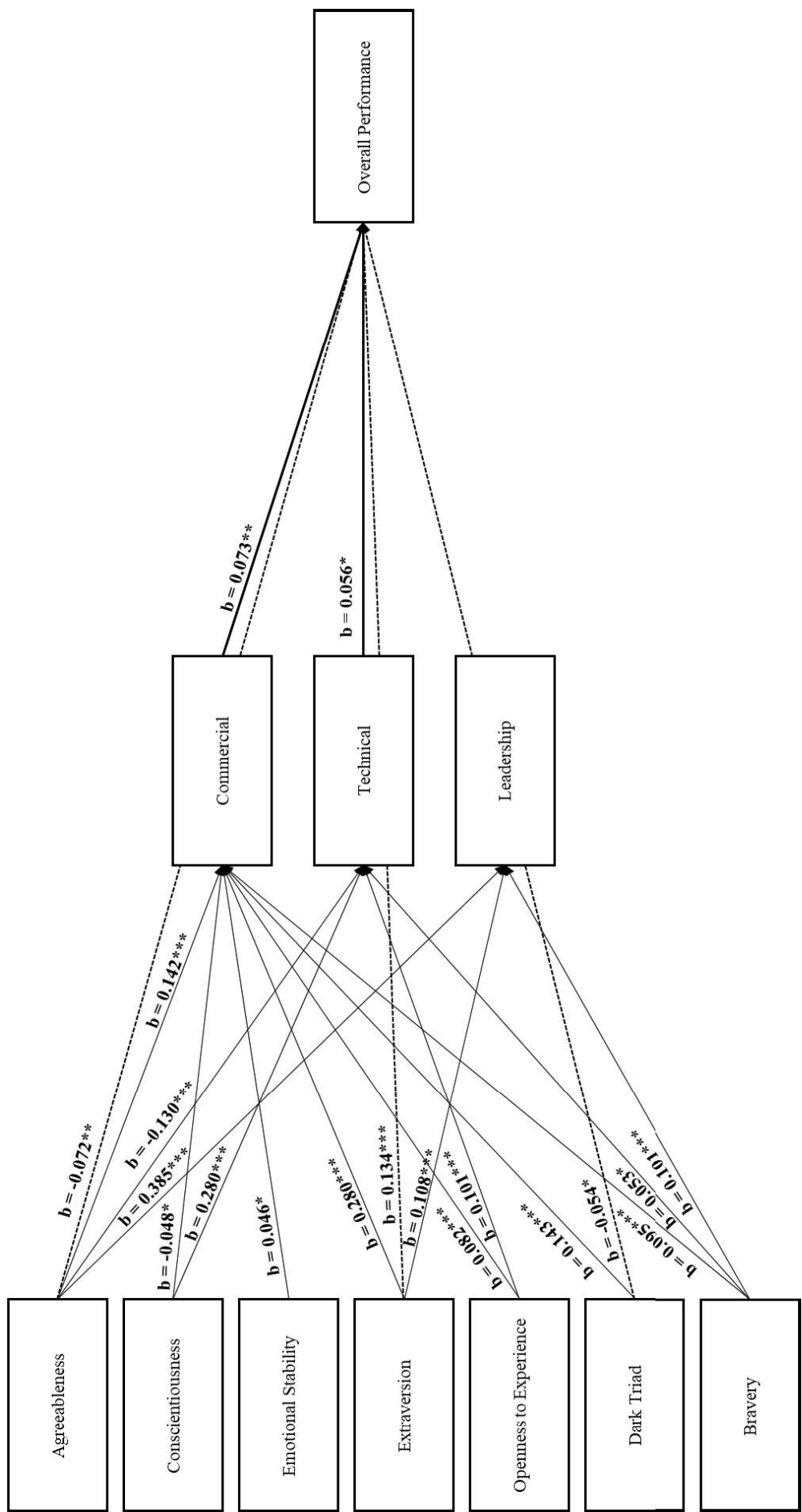


Figure 2: Visual Representation of full path model (the figure is a simplified version of the model, it only includes the main variables of interest and the (marginally) significant relationships).

Table 6*Panel A: SEM Model RQ 2*

	Path			
	(1)	(2)	(3)	(4)
	Commercial	Technical	Leadership	Performance
<i>Personality Traits</i>				
Agreeableness	0.142***	-0.130***	0.385***	-0.072**
Conscientiousness	-0.048*	0.28***	-0.043	0.042
Emotional Stability	0.046*	0.017	0.01	0.047
Extraversion	0.216***	0.055	0.108***	0.134***
Openness to Experience	0.082***	0.101***	0.033	-0.017
Dark Triad	0.143***	-0.040	0.008	-0.054*
Bravery	0.095***	0.053*	0.101***	0.002
<i>Skills</i>				
Commercial				0.073**
Technical				0.056*
Leadership				0.022
<i>Controls</i>				
	Yes	Yes	Yes	Yes

The coefficients in this table are the standardized regression weights in the full SEM Model. Commercial, Technical, and Leadership Skills are positioned as mediating variables. ***, **, and * indicate significance at 1%, 5% and 10% level (two-tailed), respectively.

Panel B: Direct, Indirect and Total Effects of Personality on Performance

	Dependent Variable		
	Overall Performance		
	Direct Effect	Indirect Effect	Total Effect
<i>Personality</i>			
Agreeableness	-0.072**	0.012	-0.060
Conscientiousness	0.042	0.011	0.053*
Emotional Stability	0.047	0.004	0.052*
Extraversion	0.134***	0.021***	0.155***
Openness to Experience	-0.017	0.012**	-0.005
Dark Triad	-0.054*	0.008	-0.046
Bravery	0.002	0.012***	0.014
<i>Skills</i>			
Commercial	0.073**		0.073**
Technical	0.056*		0.056*
Team	0.022		0.022

While *Agreeableness* is positively associated with *Commercial* (0.142, $p < 0.01$) and *Leadership* skills (0.385, $p < 0.01$), it is strongly negatively associated with *Technical* skills (-0.13, $p < 0.01$) and overall performance (-0.072, $p < 0.05$). These opposing results suggest that for skills involving interaction, *Agreeableness* is indeed beneficial, but it is harmful for technical parts and overall performance. A possible explanation, as mentioned above, is that a need for harmony might result in auditors being less comfortable with more “tough” conversations that are part of the auditor's job at the manager and partner level. Further research is needed to understand these opposing associations.

Similarly, the *Dark Triad* is positively associated with *Commercial* skills (0.143, $p < 0.01$), but has a marginally direct negative relationship with overall job performance (-0.054, $p < 0.1$). This finding suggests that even though high *Dark Triad* individuals might be able to use their charm and manipulation to have higher *Commercial* skills, the malevolent traits of the *Dark Triad*

ultimately is negatively associated with the performance assessment. *Conscientiousness*, in turn, is a significant positive predictor of *Technical* skills (0.28, $p < 0.01$) and also has a total positive relationship with performance (0.053, $p < 0.1$), but has a marginal negative association with *Commercial* skills (-0.048, $p < 0.1$). Taken together, these conflicting relationships seemingly mirror the tension that generally exists between the technical and commercial aspects of auditing: For the commercial aspect, a personality that is more outgoing, not so careful and even has some dark elements seems to be beneficial, while the technical component benefits from an individual who is more careful and diligent, and less agreeable.

The other traits, *Emotional Stability*, *Openness to Experience*, and *Bravery*, are each positively associated with one or more skills, but have no direct relationship with overall performance. In particular, *Bravery* is positively associated with each of the three skills, and thus has a significant indirect effect on performance. This suggests that being willing to speak up, even when facing opposition, is beneficial for the skills and ultimately for performance, but is not directly rewarded in the performance evaluation system.

Collectively, the findings provide evidence that personality characteristics predict the job performance of audit partners and managers, either directly or indirectly through skills.

6. Additional Analyses

Differences Across Function Levels

The descriptives in Section IV document significant differences in personality traits and skills across function levels. The extent to which each skill plays a role in the day-to-day work likely changes over the career of an auditor. This implies that different personality traits might be more or less important for performance and success at different stages in an auditor's career. Therefore,

we use a multi-group SEM analysis to assess whether the relationship between personality and performance varies across function levels. In particular, we compare audit partners to all other function levels. we chose this comparison because the audit partners in this study are all equity partners, whereas the directors and (senior) managers are employees of the audit firm. Thus, the tasks and responsibilities of audit partners, as owners of the firm, differ significantly from the other function levels. Table 7 provides a summary of the differences in the multi-group analysis.²¹

Table 7: Multigroup Analysis - Partner vs. Rest

Path	Standardized Regression Weights Coefficients		Chi Square
	Partner	Rest	
Conscientiousness → Commercial	0.071	-0.059**	3.196*
Extraversion → Commercial	0.103*	0.271***	3.821*
Openness to Experience → Commercial	0.208***	0.067**	3.344*
Bravery → Technical	0.164**	0.035	3.346*
Agreeableness → Leadership	0.529***	0.363***	2.802*
Agreeableness → Performance	-0.232***	-0.06*	3.270*
Emotional Stability → Performance	-0.091	0.081**	4.889**
Commercial → Performance	-0.061	0.104***	3.817*
Leadership → Performance	0.227***	0.005	6.454**

The analysis reveals two key differences. First, audit partners are rewarded for their *Leadership* skills (0.227, $p < 0.01$), but not for their *Commercial* skills (-0.061, $p > 0.1$). A possible explanation for this finding is that to become partner the individuals are required to demonstrate their commercial competencies. Thus, all equity partners will have a sufficiently high and similar level of *Commercial* skills, Second, the negative direct relationship between *Agreeableness* and *Performance* is significantly stronger for audit partners (-0.232, $p < 0.01$ vs. -0.06, $p < 0.1$).

²¹ For brevity, we only tabulate the (marginal) significant differences.

Similarly, the positive relationship between *Agreeableness* and *Leadership* skills is also greater for partners (0.529, $p < 0.01$ vs. 0.363, $p < 0.01$). This indicates that even though being agreeable is beneficial for leadership skills (which are rewarded for partners), the negative direct effect of *Agreeableness* remains.

In addition, the results confirm that *Bravery* is an important trait for audit partners' *Technical* skills (0.164, $p < 0.01$). As the partner is ultimately in charge of the engagement, she will lead the discussions with client management about the most complex and material items. Thus, it seems intuitive that one's natural disposition to be willing to face opposition is beneficial for audit partners. In combination with the descriptive statistics in Table 4, this analysis provides additional evidence that personality traits differ across function levels, as does the relationship between personality traits and performance.

Personality Traits – Facets

The previous results in Tables 4 – 7 analyze the personality traits of the FFM, the Dark Triad, and Bravery. However, each of the traits in the FFM consist of multiple specific and unique aspects, referred to as facets (Costa & McCrae, 1995). In the next analysis, we break down the overarching traits of the FFM into different facets.^{22,23} This allows us to gain a more granular understanding of which aspect of the trait drives the previously documented relationship with performance.

Untabulated results using SEM indicate the following. Two facets of *Agreeableness* are *Cooperation* and *Altruism*. *Cooperation* captures the extent to which an individual values

²² Including all possible facets of each trait was not possible as the time to complete the survey had to be between 20 and 30 minutes. Thus, we included facets that prior research has investigated in relation to workplace behavior.

²³ We only use the facets that have a sufficiently high reliability (Cronbach's alpha > 0.7). This means that we will not use the facets of Emotional Stability and Openness to Experience. The Dark Triad generally also consists of three dimensions (hence triad), but the reliability analysis suggests to not use the dimensions individually.

cooperation and seeks close relationships with others, whereas *Altruism* represents “the tendency towards selflessness, interpersonal motivation and concern for others (Costa Jr, McCrae, & Dye, 1991). The additional analysis reveals that the documented negative direct relationship with performance is driven by the *Altruism* facet (-0.113, $p < 0.01$). This supports the argument that being focused on the well-being of others and striving for harmony might be counterproductive in an audit setting, even though both facets are positively associated with *Commercial* and *Leadership* skills.

Next, we measure two distinct facets of *Conscientiousness*: *Dependability* and *Achievement Striving*. *Dependability* captures the part of conscientiousness linked to being organized, controlled, and detail-oriented, whereas individuals striving for achievement are working tirelessly to get things done. Similar to the main analysis, the effect of *Dependability* and *Achievement* on job performance is fully mediated by *Technical Skills*. Both facets predict *Technical Skills*, but the effect of *Dependability* is larger in magnitude (0.195, $p < 0.01$ vs. 0.114, $p < 0.01$). This suggests that both facets are beneficial for developing this ability, but given that the work of an auditor is by nature detail-oriented, people’s inherent tendency to be thorough is even more advantageous.

Moving to *Extraversion*, we consider two facets, which we refer to as *Ambition* and *Leaderlike*. *Ambition* captures an individual’s desire to get ahead of others. *Leaderlike* refers to social boldness, i.e., the extent to which an individual enjoys being outgoing and leading others. Both facets are positively related to *Commercial skills*. Intuitively, *Leadership skills* is predicted by one’s inclination to be a leader, as captured by *Leaderlike*. The main analysis documents a direct positive relationship between *Extraversion* and performance, which is driven by the *Leaderlike* (0.150, $p < 0.01$) component of *Extraversion* rather than by the desire to get ahead (0.031, $p > 0.1$).

Overall, the analysis of the facets provides a more granular exploration of the relationship between personality and performance by highlighting which unique aspects of personality traits influence performance.

7. Discussion and Conclusion

Using a proprietary dataset with over 1,600 experienced auditors in the Netherlands (partners and managers), we examine whether and how auditors' personality traits are associated with individual job performance, both directly, and indirectly through their effects on job skills. The analyses reveal that even though auditing is a niche profession and auditors are perhaps more homogenous than the general Dutch population, significant variation exists in the innate personal characteristics of auditors. These differences are important, as they are associated with self-assessed job skills and the firm's overall job performance evaluation. The job performance measure includes engagement-level audit quality of partners and managers as part of the assessment criteria, and thus a higher job performance assessment should be indicative of higher quality audit outcomes.

The findings are relevant for the auditing profession and have implications for the audit firms' human resource management practices, including hiring, training, and performance evaluation systems. The results of the path model suggest that the tension between the commercial and technical side of auditing is reflected in the personality traits that are beneficial for each of the skills. While *Agreeableness* and the *Dark Triad* are associated with higher commercial skills, they have a negative relationship with technical skills and/or job performance. *Conscientiousness*, in turn, positively affects technical skills, but has the opposite effect on commercial skills. Technical skills it seems are benefited by being less outgoing and careful, while commercial skills are benefited by cheerfulness, being not so careful, and having a dark side. Despite the inherent tension

and seeming incompatibility, both skills are needed for sustained success in the audit firms. Effectively managing this tension is a challenge for audit firms and could potentially be achieved by hiring auditors with more diverse profiles or through more targeted job training. For example, the negative effect of *Agreeableness* is driven by an individual's altruistic orientation, i.e., the caring for others' well-being and need for harmony. To counteract possible negative effects of being too agreeable, the audit firms can consider more targeted training in how to raise problems and handle conflicts, which could help highly agreeable individuals to be more comfortable with interactions that risk the harmony in a team.

The analyses further highlight differences in personality profiles across audit firms and function levels. A key finding is that auditors become increasingly homogenous in the higher function levels, which suggests the existence of 'typical' characteristics desired in an audit partner. This finding should alarm the audit firms who are actively trying to increase diversity across function levels. They consider diversity to be more than gender equality and actively promote diversity in a number of attributes.²⁴ Yet, the results provide audit firms with empirical evidence that, on average, they promote similar individuals. As the findings are descriptive of "what is" rather than "what should be" important in the assessments, it is possible that the current systems overvalue certain traits, such as *Extraversion*. It is the single-most dominant personality trait across all analyses. An extrovert's tendency to stand out in a crowd might bias assessments, resulting in a lack of diversity in personality traits among higher function levels. Hence, if diversity in personality profiles among partners is truly desired, the firms may need to re-evaluate their performance evaluation systems.

²⁴ For example, "Together also means inclusive. Innovative thinkers, critical thinkers with different opinions: we recognize the importance of a greater diversity of colleagues in all respects" (PwC, 2021)

A multi-group analysis reveals that leadership skills are only taken into consideration for audit partners but not the other function levels. As auditors are already involved in leadership roles at the manager level, it seems problematic that the firms only include this factor in their performance evaluation at the partner level. With the current evaluation system, the firms do not incentivize the development of leadership ability prior to becoming partner. This further implies that the firms may overlook candidates with good leadership skills. This is in line with Dong et al. (2023) finding that younger auditors' leadership ability is not well-compensated.

Taken together, this study deepens our understanding of the role of auditors' personality traits. Hence, it directly contributes to the growing literature on the role of individual auditor characteristics. Unlike other studies on auditor characteristics, this study directly measures the key variable of interest rather than relying on a proxy for publicly available data sources. The sample further includes multiple function levels and can therefore produce a more comprehensive picture of the role of personality in the auditing profession. we document which personality traits seem important for becoming partner and further document how the relationship between personality traits and performance differs across function levels.

Finally, we recognize the limitations of this study. we focus on individual performance as the dependent variable. Even though the audit firms explicitly recognize and reward the ability to deliver a high-quality audit in their performance assessment, we do not test whether the performance assessment is indeed indicative of engagement-level audit quality. Further, we cannot conclude with certainty that the performance assessments of the audit firms are without any bias, although performance assessments are conducted by assessment committees and not by one individual supervisor. Prior research on the use of these committees (e.g., Grabner, Künneke, & Moers, 2020) provides evidence that calibration committees reduce performance evaluation bias,

which should alleviate some concerns about a lack of objectivity. In addition, we use performance data from seven different audit firms, and it is unlikely that all of their performance evaluation systems are biased in a similar way.

This study only studies associations, so we do not make claims of causality. We document which traits are associated with the self-assessed skills and firm-assessed performance. Thus, these results only document what traits are currently associated with performance, not which ones *should* be. Yet, the insights can help the audit firms to identify any potential biases in their assessments. As previously mentioned, they might not be aware that they are promoting a certain personality profile in the individuals who become partner.

Finally, we only consider personality traits at the individual level. However, an audit engagement is ultimately conducted by an entire team. We cannot speak to how different personality profiles work together in a team, and how diversity in personality traits influences team performance and audit quality. This is an important avenue for future research.

Appendix A: Survey Items

Five Factor Model	
All FFM personality questions from PCI (Mount, Barrick, Laffitte, & Callans, 1999). The final score is the average of all items as listed below.	
Conscientiousness (Cronbach's alpha: 0.84 , EV: 5.16)	Factor Loadings
I am very thorough in any work I do.	0.56
I like order and keep things tidy.	0.41
I demand perfection in others.	0.52
I want every detail taken care of.	0.53
I want everything to be "just right".	0.28
I set high standards of quality for myself and others.	0.67
I want to be dependable and reliable.	0.30
I like to continue until everything is perfect.	0.62
I try to be decisive and consistent.	0.36
I always want things to proceed according to plan.	0.45
I demand quality and perfection from myself and others.	0.63
I finish what I start.	0.48
I set high standards of performance for others and myself.	0.64
I value hard work and am results-oriented.	0.56
I get energized when I get a lot accomplished at work.	0.45
I am a very persistent person.	0.36
I like to do the best I can, even if it requires a lot of extra effort.	0.58
I can always be counted on to get the job done.	0.51
I push myself very hard to succeed.	0.56
It bothers me when I do not complete my work on time.	0.45
Extraversion (Cronbach's alpha: 0.79 , EV: 3.43)	Factor Loadings
I have a strong desire to get ahead.	0.64
I like to compete and get ahead of others.	0.7
I like to earn bonuses and incentives and get ahead of others.	0.6
I want to be seen as the best at what I do.	0.59
I expect to compete and seek to stand out at work.	0.69
I am a "take charge" type of person.	0.52
I like to seek and maintain the role of a leader in a group.	0.68
I have a natural talent of influencing people.	0.5
I enjoy leading and influencing others at work.	0.59
Agreeableness (Cronbach's alpha: 0.81 , EV: 3.98)	Factor Loadings
I like to develop cooperative, collaborative relationships at work.	0.66
Others see me as a teamplayer, one who is committed to the team.	0.6
I tend to seek close relationships with others.	0.59
I value cooperation over competition.	0.49
I am good at cooperating and collaborating with others.	0.67
I really like being able to collaborate with others.	0.64
I like the opportunity to mentor and help others.	0.6
I am the kind of person who goes out of my way to help others.	0.49
I am good at understanding the feelings of others.	0.59
I believe in helping others who are down on their luck.	0.51
I like to show my gratitude.	0.51
I am generally seen by others as being quite cheerful.	0.5
Emotional Stability (Cronbach's alpha: 0.73 , EV: 2.97)	Factor Loadings
I worry about being embarrassed. (r)	0.38
I do not worry about things that have already happened.	0.5
I keep my emotions under control.	0.72
I often worry about things that turn out to be unimportant. (r)	0.65
Others have described me as very steady emotionally.	0.65
I have frequent mood swings. (r)	0.68
I experience my emotions intensely. (r)	0.65
I am not easily annoyed.	0.45
I adjust easily.	0.33

Openess to Experience (Cronbach's alpha: 0.74, EV: 3.11)	Factor Loadings
I prefer change to the traditional way of doing things.	0.6
I prefer variety to routine.	0.63
I like to visit new places and try new things.	0.61
I like to experiment with new and different ways of doing things.	0.81
I enjoy discussing books and movies with others.	0.22
I like working with difficult concepts and ideas.	0.61
I like to think up new ideas and solve problems.	0.73
People tend to think of me as a very creative and inventive person.	0.62

Dark Triad (Cronbach's alpha: 0.73, EV: 3.23)	Factor Loadings
Jonason, P. K., & Webster, G. D. (2010). The Dirty Dozen: A Concise Measure of the Dark Triad. <i>Psychological Assessment</i> , 22(2), 420–432.	
I tend to lack remorse. (<i>Psychopathy</i>)	0.48
I tend to be insensitive to the feelings of others. (<i>Psychopathy</i>)	0.46
I tend to not be too concerned with morality or the morality of my actions. (<i>Psychopathy</i>)	0.59
I tend to be cynical. (<i>Psychopathy</i>)	0.29
I want others to admire me. (<i>Narcissism</i>)	0.36
I like it when others pay attention to me. (<i>Narcissism</i>)	0.25
I seek prestige or status. (<i>Narcissism</i>)	0.49
I expect special favors from others. (<i>Narcissism</i>)	0.65
I tend to use deceit or have lied to get my way. (<i>Machiaveillanism</i>)	0.67
I tend to manipulate others to get my way. (<i>Machiaveillanism</i>)	0.66
I have used flattery to get my way. (<i>Machiaveillanism</i>)	0.38
I tend to exploit others towards my own end. (<i>Machiaveillanism</i>)	0.68

Bravery (Cronbach's alpha: 0.70, EV: 2.52)	Factor Loadings
Peterson, C., & Seligman, M. E. P. (2004). <i>Character strengths and virtues: A handbook and classification</i> . Oxford University Press.	
I have taken frequent stands in the face of strong criticism.	0.44
I don't hesitate to express an unpopular opinion.	0.7
I speak up in protest when I hear someone make an incorrect statement.	0.6
I often avoid dealing with awkward situations. (r)	0.61
I often do not stand up for my beliefs. (r)	0.57
I don't freely speak my mind when there might be negative results. (r)	0.6
I am a brave person who stands up for what I believe	0.65

Skills (Self-Assessed)
 Respondents were asked to self-assess their skills in different audit-related areas. The questions are self-developed and based on participating audit firm's competency frameworks.

Commercial (Cronbach's alpha: 0.65, EV: 1.97)	Factor Loadings
I establish and maintain relevant networks/markets and acquire future sales and business.	0.78
I contribute to organizational image, represent the firm to clients and in the public debate, participate in community and social affairs.	0.65
I manage client relationships and build a portfolio.	0.74
I provide exceptional client services and impact.	0.62

Technical (Cronbach's alpha: 0.66 , EV: 1.79)	Factor Loadings
I am proficient at technical requirements, know what it takes to do the job, have recognized expertise.	0.8
I effectively manage compliance and risks to the firm.	0.73
I understand processes linked to audit engagement effectiveness, and am able to deliver a high-quality audit.	0.79

Leadership (Cronbach's alpha: 0.69, EV: 1.87)	Factor Loadings
I place an emphasis on visible leadership and building high performance teamwork.	0.72
I enhance employee motivation, satisfaction, and inclusiveness, and manage performance feedback	0.85
I develop and coach subordinates, and increase retention.	0.79

Appendix B: Descriptions of Main Variables

Variable	Description	
<i>Personality (Scale 1 - 5)</i>		
Agreeableness Conscientiousness Emotional Stability Extraversion Openness to Experience	Measure of Big Five Personality Traits (Personal Characteristics Inventory, Mount et al. 1991); measured as the mean score of answers to the underlying items.	
Dark Triad		Measure of Dark Triad (Jonason & Webster, 2012); measured as the mean score of answers to the underlying items.
Bravery		Measure of how willing one is to accomplish goals in the face of opposition, either external or internal (Peterson & Seligman, 2004); measured as the mean score of answers to the underlying items.
<i>Skills (Scale 1 -5)</i>		
Commercial		Skill factor capturing the auditor's capability to establish, maintain networks, generate revenue, manage client relationships, and build a portfolio, represent the audit firm.
Technical	Skill factor capturing the auditor's capability to provide high quality audit services, manage risks and compliance, and being technical proficient.	
Leadership	Skill factor capturing the auditor's capability to manage a team, increase motivation and job satisfaction, mentor, and coach subordinates.	
<i>Dependent Variable</i>		
Overall Performance	Overall performance score, based on the firm's internal performance data. The score is standardized per rank within the same firm.	
<i>Demographic Variables</i>		
Age	Age in years, retrieved from the audit firm data (where available; otherwise taken from the survey).	
Big 4	Indicator variable equal to one if the auditor is from one of the Big 4 audit firms.	
Female	Indicator variable equal to one if the auditor is female.	

Firm Tenure	# of years since the auditor works for his current audit firm.
Function Tenure	# of years since when the respondent works in his/her current function level
Function Level	Auditor's current function level: Audit partner (<u>only</u> equity partners), director (at some firms also referred to as salary partner), senior manager and manager.
Professional Experience	# of Years since when the respondent works in the auditing profession
