

## Article

# How Personality Traits and Professional Skepticism Affect Auditor Quality? A Quantitative Model

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**Abstract:** A qualified auditor is responsible for auditing the financial information of the corporation and providing recommendations for the managerial level to improve operations management, risk management, inside control, and other related operations. The study of the effects of personality traits and professional skepticism on audit quality has become critical but has not been fully clarified for the success of the audit system. This study investigates the hypothesis regarding how audit quality is affected by personality traits and professional skepticism using a quantitative model. The Big Five Model and Hurtt Model are adopted in the proposed research framework. A questionnaire with a total of 254 samples is collected. The data are analyzed using multiple linear regression analysis to test the hypothesis. The results of this study indicate that the moderation effect between personality traits of “extroversion” and “professional skepticism” is significantly associated with audit quality. Additionally, this finding contributes to human resource management decisions in that one should be mindful of the increase in perceived audit risk that arises from the professional and personal attributes of the auditor when recruiting individuals to serve on their audit procedures. This research provides empirical evidence of the important relationship between personality traits and professional skepticism regarding auditor quality. The outcomes from the study will reduce the operations risk faced by auditors and improve auditing performances.

**Keywords:** audit quality; multiple linear regression analysis; personality traits; professional skepticism



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## 1. Introduction

An important part of the auditor’s responsibilities is to detect fraud by reviewing all key procedures [1]. For instance, the fact that the auditors can effectively reduce or avoid the company’s minimal operating risks is still an issue worthy of investigation. Additionally, through the audit procedure, one can guarantee the quality of the business and operations as well as social responsibility to communities [2]. Some stakeholders, e.g., internal and external auditors, audited units, the human resources department, and managers at the corporate level, showed particular interest in such an issue.

The behavioral inertia of the auditor, among other factors, is related to the effectiveness of audit quality [3,4]. The personality traits of auditors are highly valued as indispensable assets for promoting audit quality [5]. Several studies [6–8] (have explored the issue of enhancing the effectiveness of audit review and validating the performance of finance reports [9].

The relationship between the audit quality performance of its auditors and the financial performance of the enterprise is confirmed to be significant. Further, scholars have indicated professional skepticism has influenced the audit quality [10]. Albawwat et al. [4] explored auditors’ behavior to identify the relation between their personality traits and professional skepticism so as to effectively avoid management risks and improve the audit quality. Additionally, the relationship between the audit quality performance of its auditors and the financial performance of the enterprise is confirmed to be significant. However, prior

research [5] did not clearly indicate how personality traits and professional skepticism interact in the middle (i.e., the moderator or mediator effect).

This study aims to investigate the influence between personality traits and professional skepticism by examining their relationship to audit quality. This study is intended to identify the existence of a relationship between personality traits, professional skepticism, and audit quality. The data for this study were collected using the questionnaire measured by the Big Five model [11–15] and the Hurtt model [16].

The findings of the study will contribute to human resource management decisions to increase the perceived audit risk that arises from the professional and personal attributes of the auditor when recruiting individuals to serve on their audit procedures. This research will also provide empirical evidence of an important relationship between personality traits and professional skepticism regarding auditor quality. The outcomes from the study will reduce the operations risk faced by auditors and improve auditing performances.

The rest of this paper is organized as follows: Section 2 presents the theoretical background, literature, and research hypothesis; Section 3 states the methodology, variable definitions, and research design; Section 4 presents the results of this study; and Section 5 is the discussion and conclusions.

## 2. Theoretical Background, Literature, and Research Hypotheses

The attribution theory [17] reveals that personality traits and professional skepticism can be used as a reference for improving audit quality. Further, it is observed that professional skepticism exerts a significant influence on fraud detection [18,19]. Edwards [20] indicated that personal-job fit is often based on whether personality characteristics and abilities are compatible with a career. In addition, Refs. [21,22] argue that attitudes influence behaviors. The literature has developed some models based on quality theory [23,24].

Furthermore, can auditor personality traits, through the interaction of professional skepticism, contribute to the quality of auditing work? How personality traits, professional skepticism, and auditor quality influence each other is still unclear. Literatures, such as [25], have investigated personality and its relationship to job fit. The big-five model is the widely accepted taxonomy of personality in the behavioral sciences [11,12], explaining about 75% of the variance in behavioral traits [26]. In addition, the inertial behavior of auditors exposes the firms they serve to both positive and negative financial performance [27]. The correlation between auditor personality traits and professional skepticism is worthy of exploration and may improve audit quality.

Audit-quality modeling is based on several frameworks. Eisenhardt [28] indicated that agency theory conceptualizes two factors: control-characteristic behavior and the quality of the auditor. Additionally, in considering the prerequisites for effective auditing, some researchers have based their study on the perspectives of [29] and audit quality theory [23].

The measurement of personality traits helps managers and psychologists predict people's performance in terms of their ability to work, life expectancy, and type of work suitability [30–34]. In particular, researchers are increasingly interested in personality psychology in terms of health psychology and organizational psychology to understand whether personality traits are relevant to health and organization performance [35].

A number of studies address the fact that personality traits are more likely to detect fraudulent behavior [36]. Ponemon [37] pointed out that sensitivity to red flags will be influenced by the auditor's level of ethical reasoning. In addition, some studies provided empirical evidence that fraud training directly affects the effectiveness of auditors in their fraud detection operations [38].

Prior studies of personality in accounting education have used several models. The Myers-Briggs Type Indicator [39], which included auditors' experience, influences audit quality [40], while the Hurtt model can precisely classify internal auditors into high and low levels of skepticism according to their average responses.

The utility of personality and interest measures for understanding organizational behavior is significant [41], hence we used the well-acclaimed Big Five personality model

as the research basis in this study, and the auditor's professional skepticism was measured by the Hurtt Professional Skepticism Scale.

## 2.1. The Big-Five Model for Personality Traits

### 2.1.1. Conscientiousness

McCrae & Costa [42] indicate that people with a sense of responsibility are usually described as diligent, ambitious, energetic, persistent, highly responsible, meticulous, and possibly moral. Conscientious employees have personality traits that tend to be organizational, rigorous, disciplined, diligent, reliable, and methodical [43]. In other words, conscientious employees will do their best to complete the task and can take the initiative to solve problems and, at the same time, show job performance in compliance with company policy and focus on the task assigned.

Conscientiousness is a "classic dimension of character, (. . .) describing 'strong willed' versus 'weak-willed' individuals" [44]. Ref. [45] found that conscientiousness is correlated with the auditor's ability to detect fraud, which means that auditors with higher conscientiousness have a stronger ability to detect fraud.

### 2.1.2. Neuroticism

McCrae & Costa [42] pointed out that neuroticism arises from negative emotions and describes personality traits as insecurity, self-consciousness, and mood. Their behavior is characterized by inappropriate coping mechanisms, such as hostile responses induced by high self-defense or self-blame for dealing with negative emotions. Neuroticism is a characteristic of people who signify sadness and fear, as opposed to calm and stable people [46]. In other words, emotionally unstable people tend to be anxious, nervous, and prone to worrying situations, as well as moody, irrational, and perfectionistic [44].

Neuroticism contrasts emotional stability and even-tempereness with negative emotionality, such as feeling anxious, nervous, sad, and tense [47]. Neuroticism is mainly used to describe the degree of emotional stability of an individual, such as the ease of emotional fluctuations caused by subtle events.

### 2.1.3. Agreeableness

McCrae & Costa [42] described such personality traits as dependence and flattery. Agreeableness is a "classic dimension of character, describing 'good' versus 'evil' individuals" [44]. Its personality traits are often described as kindness, cooperation, and trust, and its most associated traits are altruism, gentleness, trust, and humility [47].

Amiable people are humble and look forward to getting along with others [48]. In addition, people with these personality traits are generally considerate, trusting, and trustworthy, and they like to promote cooperation and are altruistic, so they always consider the opinions of others.

### 2.1.4. Openness to Experience

Individual with openness experiences who tend to open up are described as "original, imaginative, broad-minded, daring, and intelligent" [42]. The conceptual nature of openness is also highly correlated with other personality traits such as creativity, curiosity, innovation, autonomy, intelligence, and receptiveness to change [12,44].

On the other hand, individuals who are more open to experience may exhibit special-valued tendencies in the work environment to which they belong, such as positively viewing workplace transitions [49]. In addition, [48] address a different view, arguing that these people are described as overly complex and innovative. This can lead to frustration that their colleagues do not understand, as abstract communication can leave recipients more confused than open-minded.

### 2.1.5. Extroversion

Extroversion can be used to predict the correlation between job and task performance and social connection [50]. These personality traits are mainly characterized by a desire to get along with others, being very sociable, joking, friendly, affectionate, talkative, and having other positive emotional responses [42,48]. In other words, they have positive emotions [47] and are able to draw energy from having these personality traits [48].

### 2.2. Professional Skepticism

The main responsibility of the auditor is usually focused on reducing possible operational risks during the audit operation and maintaining appropriate skepticism throughout the audit operation to proceed with the audit process. In short, the auditor's responsibility usually focuses on reducing fraud. The internal auditor assesses risks and helps ensure reliable accounting information for their organizations [51,52]. Perry & Bryan [53] advocated that "organizations should heighten the responsibilities of the internal auditor to include the duties of both monitor and investigator so that the organization can be better protected from internal fraud and fraudulent financial reporting." Hence, auditors have increased their desire to find additional facts while dealing with various types of fraud situations to assess the ability of the suspect to perform operations that may lead to improved fraud detection [54,55].

According to [5], agreeableness, conscientiousness, and openness are positively related to auditors' professional skepticism, while conscientiousness and neuroticism have a negative impact on audit quality. Their findings highlight that there is a diverse configuration of personality traits that lead to high (and low) audit quality. It also found that causal asymmetry confirms that personality traits are a combination of individual characteristics, and these characteristics have a differentiated and complex relationship with audit quality. In addition, the causal asymmetry confirms that personality traits are a combination of individual characteristics, and these characteristics have a differentiated and complex relationship with audit quality.

Professional skepticism is required to be investigated on the basis of auditing standards, but there are few corresponding measures of skepticism and empirical evidence of the measure of skepticism and its impact on audit performance [56]. Scholars have developed several models for skepticism, which are generally only specific to the subjects of particular experiments [57,58]. Ref. [16] developed and tested a comprehensive tool for measuring skepticism to analyze the level of professional skepticism.

### 2.3. Audit Quality

De Angelo [23] specified audit quality as "the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system and (b) report the breach" (p. 186). Several studies have attempted to explain the relationship between audit quality and organizational ownership. Ref. [59] found a negative correlation between institutional ownership and the quality of sharing in the Tunisian context.

Further, although audit research used a variety of perspectives to examine audit quality, the most commonly used proxies for audit quality were the "big five" indicator. For example, [60] addressed auditor independence, and [61] defined auditor tenure. In this study, we used the [62] method, which is based on eight attributes to measure the quality of auditing. The eight attributes of audit quality as a measure of audit standards are: auditor size, co-statutory, audit opinion, audit lag, audit specialization, auditor size and co-statutory, audit tenure, and audit experience. In addition, according to [3], the above-mentioned audit quality measures are well defined as indirect measures for audit quality. Riguen et al. [63] examined eight attributes (i.e., auditor size, co-statutory status, audit opinion, audit lag, audit specialization, auditor size and co-statutory status, audit tenure, and audit experience) to measure audit quality.

#### 2.4. Research Hypotheses

Albawwat et al. [3] pointed out that there is an interaction between internal auditor personality traits and internal audit quality (including professional skepticism) and also found that the interaction variables have an impact on the quality of financial reporting. Their results show that, except for extroversion, other personality traits significantly affect the effectiveness of internal audit quality. In addition, their study found that openness to experience, emotional stability, and conscientiousness traits were important factors for auditors. Previous studies have not clarified whether skepticism is a moderator or mediator of personality traits that influence audit quality. In other words, personality traits and professional skepticism have positive effects on auditing quality. However, few studies have investigated these aspects simultaneously, identifying their moderator and mediator relationships.

Weiner's [64] attribution theory explains how people explain why events occur and how they respond to them. The auditors' competence in fraud detection can be explained by attribution theory. The attribution theory was developed by Fritz Heider [65] in 1958 and is described as the cognitive processes that are used to draw conclusions about the factors that influence behavior [66]. In auditing, attribution theory is used to examine the application of professional skepticism and the ability of auditors to detect fraud. A person always analyzes the behavior of others from different angles in order to discover the hidden meaning behind the behavior. Just as this study explores the relationship between personality traits, professional doubt, and audit quality, therefore, the hypotheses of this study are detailed as follows, as well as depicted in Figure 1.

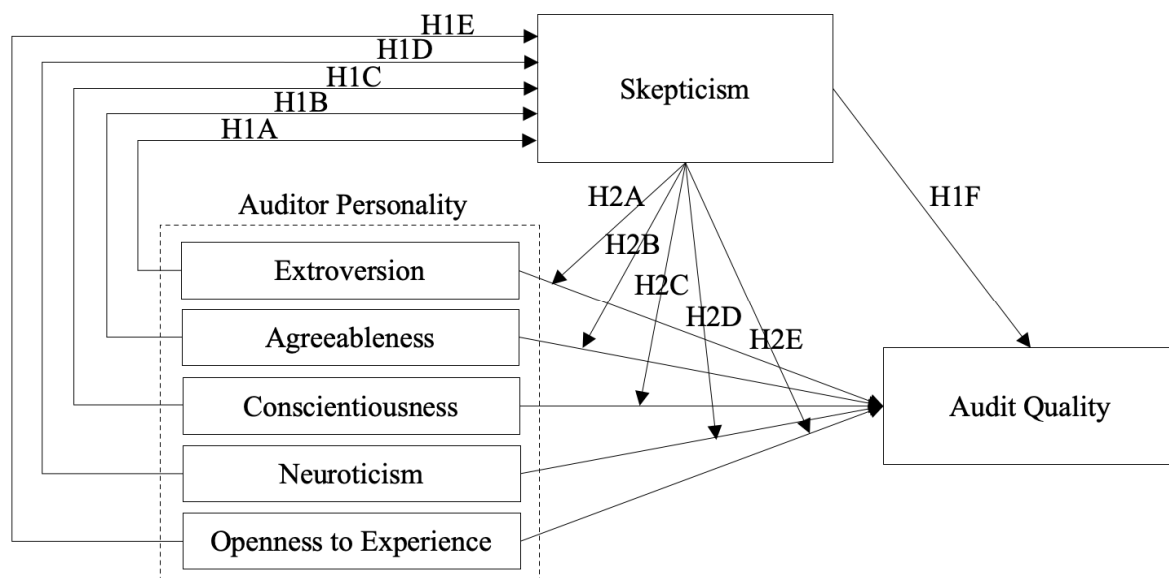


Figure 1. Proposed hypotheses framework.

**Hypothesis 1:** Professional skepticism has a mediating effect between audit personality traits and audit quality.

**Hypothesis 2:** Professional skepticism has a moderating between audit personality traits and audit quality.

### 3. Method

The proposed hypotheses are tested statistically. We considered the possible variables of personality traits and professional skepticism measures to improve estimates and control for professional skepticism effects. Therefore, multiple linear regression models were used to identify audit quality characteristics.



### 3.1. Variables and Measurement

#### 3.1.1. Personality Measures

This study measured the Big-Five model factors of personality using the International Personality Item Pool [67,68], a scale commonly used in behavioral science research [69] (Aguinis et al., 2009). The variable of skepticism proposed by [16] is used to analyze the level of professional skepticism. Further, each dimension on a five-point Likert scale was assessed via 10 items anchored by “strongly agree” to “strongly disagree.”

First, the respondents were asked to assess the 50-item personality questionnaire based on the question, “To what extent do the following statements accurately describe you?” [13]. The first 10 items assessed the extroversion dimension, with subsequent groupings of 10 items measuring extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience, respectively. Meanwhile, the averages of the 10 items within each personality dimension were used for data analysis.

Additionally, after assessing the participants’ big-five personality traits, a summary of the auditor responsibilities was assessed, which stated: “Auditors examine the financial information of a company to ensure that information is reasonably stated., Besides, auditors often provide recommendations to management to improve operations, risk management, and internal controls.” [13] (p. 10). Further, after the guides were read, the respondents assessed an additional 50-item personality questionnaire that tapped their perceptions of auditors’ personality traits in response to the questions: “To what extent would the following statements describe the ideal auditor?” [13].

#### 3.1.2. Skepticism Measures

Hurttt [16] indicated a theoretical model of professional skepticism grounded in both the philosophy of skepticism and professional accounting literature. This professional skepticism model is a multi-dimensional construct with six characteristics. First, the three characteristics deal with examining evidence, which includes (1) questioning the mind, (2) suspending judgment, and (3) searching for knowledge. Hurttt further focused on these characteristics as they define skeptics, who do not accept information and situations at face value but rather initiate inquiries to obtain reasons, evidence, justification, or proof about the subjects in question. Additionally, Hurttt argued that skeptics suspend judgments and decisions for other inquiries, deliberations, and information searches. They showed that a skeptic is generally curious and enjoys the learning and exploring process.

The fourth characteristic deals with understanding the evidence provider, which includes interpersonal understanding. They contend that a skeptic understands that different individuals may have different perceptions of the same event. Meanwhile, those perceptions can lead to individuals providing inaccurate, biased, or misleading information.

The final two characteristics of the model deal with the skeptic’s personal initiative to take action as the evidence suggests: (5) self-confidence and (6) self-determination. These characteristics enable skeptics to add value with their own mindset, argue another’s assumptions, and demand sufficient information to resolve any contradictions and fallacies presented by others.

### 3.2. Design of the Experiment and the Subject

The survey was held in anonymity with a total of 254 samples that were volunteered to enhance the generalizability of our findings. Among them, 103 subjects who served as auditors met the requirements of this study.

The auditors were required to undergo professional training courses and pass the test before they could perform audit operations. The subjects of this research are auditors who have worked as auditors for more than 10 years, and more than 70% of them work for large companies. Additionally, with regard to the auditing job requirements for those who work in large companies, regular on-the-job education and training and regular job rotation are required in accordance with regulations to ensure the stability and legality of auditing work quality.

This survey was conducted using a Google form. The participants were given standard instructions, which were also the general aims of the survey. They were also given instructions as to the completion of the self-report questionnaire, since confidentiality and anonymity of the answers were absolutely ensured.

The Social Sciences (SPSS) were used to analyze the data obtained. In this study, the Z-score model was employed to conduct a standardized analysis of the variables in the moderating effect. Based on the hypotheses of this research, the model detects the correlation between personality characteristics, occupational suspicion, and audit quality.

### 3.3. Reliability Test

This research investigates whether a correlation exists between audit quality and skepticism based on two typical facet scales: personality traits and occupational skepticism values. Cronbach's Alpha index is used to conduct consistency testing of the questions of the questionnaire. Ghozali [70] examined the Cronbach's alpha according to the following criteria to test the validity of the research questionnaire: If the Cronbach's Alpha value is less than 0.6, the answer in the questionnaire is not valid.

The tests for reliability are used in the present study to test the reliability of questionnaires using the defined variables to ensure that the respondents are consistent in their responses over time [70]. Goldberg [68] specified the five personality traits of Cronbach's alphas as follows: conscientiousness: 0.79; openness to experience: 0.84; emotional stability: 0.86; extroversion: 0.87; and agreeableness: 0.82. However, Ref. [71] designated the professional skepticism Cronbach's alphas as follows: Examination of evidence characteristics (EEC) section, which is questioning mind: 0.638, suspension of judgment: 0.832, search for knowledge: 0.958; understanding evidence providers (UEV), which is interpersonal understanding: 0.883; characteristics to act on the evidence (CAE), which is self-confidence: 0.933; self-determination: 0.779.

Further, a replication study ensures that a study is repeated using the same method but with different subjects. The replication character of the preset study is verified by a series of pre-test procedures for the proposed questionnaire. A statistical test is conducted to confirm the consistency of different subjects.

### 3.4. Research Procedure

This study uses both descriptive and quantitative research methods. The purpose of descriptive research is to determine the value of an independent variable or multiple independent variables, and to explain the relationship between the values in order to interpret the phenomenon found by the analysis. This study used the Likert scale [72]. Based on attribution theory [17], this paper analyzes how auditors' personality traits and professional skepticism are related and whether they can improve audit quality.

The construct comprised two patterns adapted from [13,71] and depended on the audit quality index proposed by [63]. Furthermore, a multiple regression model is used to measure whether the interaction between variables is significant. The model tests the predictor effect on auditor quality for significant figures (personality traits and professional skepticism) in auditor quality.

A number of scholars have indicated that a dichotomous independent variable's effect on the dependent variable is a function of another dichotomy. The analysis is a  $2 \times 2$  ANOVA, and moderation is indicated by an interaction. Therefore, this study did not use an ANOVA because the variables were continuous, which dealt with multicollinearity through a Z-score model. The simple effects of the independent variable were measured across the different levels of the moderator [73] (pp. 435–436), whereas these should be measured only if the moderator and independent variable interact to cause the dependent variable.

Further, the social psychological theory is not precise enough to define the additional advantage of gradually eliminating functional occurrences. This model followed [74] finding of the moderator-mediator variable in social psychological research to test the mediation effect of auditor quality. First, in moderation, the relationship between the

independent variable and the dependent variable is hypothesized to be causal. Second, the statistical analysis measures and tests the differential effect of the independent variable on the dependent as a function of the moderator.

Consequently, a model was designed that considered the auditor quality of relationships with significant figures (personality traits and professional skepticism) as an elevated measure of auditor quality. Therefore, the moderating effect of auditor quality was tested.

The analysis was developed in accordance with the Z-score to test the hypothesis. First, standardize variables (both independent variable X and moderator M are converted into Z scores). This is a technique of mean centering to avoid collinearity [75,76]. Then we multiply the two Z-scores together to create a new cross-multiplication.

Second, the moderation effect test must depend on whether the multiplication term of the independent variable (personality traits) and the moderator variable (professional skepticism) has a significant effect on the dependent variable (audit quality). However, the multiplication term (independent variable  $\times$  moderator variable) may appear multivariate [77]. For this reason, this study used the above-mentioned method, which is commonly used in academic research, to solve the multicollinearity of the interaction term.

## 4. Results

### 4.1. Descriptive Statistics

According to the results of a questionnaire survey of 103 respondents (refer to Table 1 for subject profiles), 57 were male respondents and 46 were female respondents. Additionally, by their positions, 11 respondents were managers or above, 20 respondents were supervisors, 59 respondents were internal auditors, and 36 respondents held other positions. Further, 10 respondents were under 40 years old, 78 respondents were between 41 and 57 years old, and 15 respondents were over 58 years old. In terms of working experience, 55 respondents have worked for less than 10 years, and 48 respondents have worked for more than 10 years.

**Table 1.** Subject characteristics.

Characteristic	Metric	Frequency	%
Career	Entrepreneurship	5	4.85%
	Accounting	29	28.16%
	Management	33	32.03%
	other	36	34.95%
Age	Less than or equal to 40 years	10	9.7%
	Between 41 and 57	78	75.7%
	More than or equal to 58	15	14.6%
Experience in auditing	Less than or equal to 10 years	55	53.39%
	More than or equal 10 year	48	46.61%
Gender	Female	57	55.33%
	Male	46	44.67%

The descriptive statistics for the personality measures are stated in Table 2. The mean measure for participants' "ideal auditors" of the big-five personality traits was 3.1, 3.04, 3.38, 2.58, and 3.16 for extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience, respectively.

Subsequent to the reliability test of this research topic, the Cronbach's alpha values all exceeded 0.6, as shown in Table 2. It indicates that the Cronbach's Alpha values for all variables are greater than required. In addition, the Cronbach's Alpha value of each statement item is greater than 0.6, so it can be said that all question-oriented variables are reliable.



**Table 2.** Descriptive Statistics.

	Min	Max	Mean	SD	Cronbach's $\alpha$
AudExt	1.63	4.38	3.1735	0.51724	0.624
AudAgr	1.56	4	3.0453	0.48042	0.645
AudCon	1.75	4.38	3.3883	0.50485	0.671
AudNeur	1.3	4.1	2.5816	0.56251	0.753
AudOpen	1.56	4.22	3.1683	0.49099	0.623
Questioning Mind	1	5	3.1618	0.83217	0.704
Suspension of Judgment	1	5	3.8175	0.77414	0.882
Search for Knowledge	1	5	4.089	0.81142	0.969
Interpersonal Understanding	1.4	5	3.6738	0.70959	0.826
Self-Confidence	1.6	5	3.6485	0.69252	0.848
Self-Determination	1.6	4.6	3.2058	0.55268	0.638
SKE	1.8	4.73	3.6537	0.47296	0.907
AudWorkExp	0.5	31	9.303	7.3925	
AccWorkExp	0	31	6.153	8.9775	
AudQ	0.13	0.88	0.574	0.21469	

Note: Variables are defined as follows: AudExt, AugAgr, AudCon, AudNeur, and AudOpen are the averages of the participants' personality assessments of questions related to the extroversion, agreeableness, conscientiousness, neuroticism, and openness personality dimensions, respectively, of the ideal auditor. Questioning Mind, Suspension of Judgment, Search for Knowledge, Interpersonal Understanding, Self-Confidence, and Self-Determination are the averages of the participants' assessments of the skepticism dimension. SKE is the assessment of a question related to professional skepticism. AudWorkExp is the number of years of auditing work experience. AccWorkExp is the number of years of accounting work experience. AudQ is the assessment of questions related to the audit quality.

#### 4.2. Correlation Analysis

Table 3 indicates that Spearman's correlation and Pearson's correlation yielded similar results. Correlations indicated that personality traits and professional skepticism were not statistically significantly related, and the H1 hypothesis is rejected. Meanwhile, respondents who showed longer audit work experience were more likely to engage in audit work ( $r = 0.25$ ,  $p = 0.011$ ). The interviewees with higher expectations for audit work think that the ideal auditor is easy-going, serious, and outgoing ( $p < 0.001$ ), which is also consistent with the export-oriented description found in the successful auditor reports of [78].

Further, the personality traits that are significantly related to professional doubt are conscientiousness and extroversion, and there is no mediation effect, but it is found that there is a moderating effect (see Table 3 for details).

#### 4.3. Moderating Interaction Effect

Both the moderator variable and the independent variable are continuous. If one believes that the moderator alters the independent-dependent variable relation in a step function as shown in Figure 1, we can dichotomize the moderator at the point where the step takes place.

We measured the simple effects of the independent variable across the levels of the moderator [73]. It is worthy of note that the moderation effect should be assessed only if there is no mediation and there is an interaction between the moderator and independent variables. The basic technology of construction analysis is used with multiple regression. There should be the pre-concept of covariate analysis and mediation and moderation model analysis. In this study, our potential variables used three constructs from the Big Five personality traits: professional skepticism and audit quality.

**Table 3.** Bivariate Correlation Matrix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1)AudExt								
(2)AudAgr	0.366 <b>&lt;0.001</b>							
(3)AudCon	0.461 <b>&lt;0.001</b>	0.357 <b>&lt;0.001</b>						
(4)AudNeur	0.049 0.623	0.238 <b>0.016</b>	0.010 0.924					
(5)AudOpen	0.198 <b>0.045</b>	0.402 <b>&lt;0.001</b>	0.340 <b>&lt;0.001</b>	0.143 0.150				
(6)AudWorkEx	0.208 <b>0.035</b>	0.102 0.307	0.149 0.134	−0.009 0.925	−0.119 0.230			
(7)AccWorkEx	0.026 0.798	0.094 0.342	−0.079 0.426	0.142 0.152	−0.012 0.906	0.250 <b>0.011</b>		
(8)SKE	0.334 <b>&lt;0.001</b>	0.247 <b>0.012</b>	0.630 <b>&lt;0.001</b>	−0.060 0.546	0.139 0.160	0.038 0.700	−0.137 0.169	
(9)AudQ	0.119 0.230	0.147 0.139	0.123 0.217	−0.166 0.095	0.029 0.774	0.002 0.988	−0.187 0.059	0.048 0.633

Notes: Spearman correlations are reported. Pearson correlations (not reported) yield qualitatively similar results. Two-tailed significance levels are reported below the correlation coefficients. Significant *p*-values are in bolded italics.

Cohen and Aiken [79] indicated the linear hypothesis is tested by adding the product of the moderator and the dichotomous independent variable to the regression equation. The results regarding model fit show that in the mediation effect between the three constructs, the path coefficients are not significant, so the H1A to H1F hypothesis needs to be rejected (see Table 4 for details). However, after standardizing the independent variables, moderator, and the crossed interaction between the independent variables and the moderator to a Z-score and using multiple regression to test whether moderation was significant, we confirm that the H2A hypothesis is accepted (see Table 5 for details). According to the H2A hypothesis, it is accepted that the ideal auditor should have extroverted personality traits, which, under the regulation of professional suspicion, will help to improve the quality of auditing.

Additionally, another finding in the study was that a high degree of extraversion personality traits combined with a low degree of professional skepticism actually improved audit quality, as illustrated in Figure 2. Hence, the effect of extraversion on audit quality is more positive when there is a low degree of professional skepticism. The other four insignificant personality traits, conscientiousness, openness to experience, agreeableness, and neuroticism, cannot significantly improve audit quality in terms of ideal auditor needs.

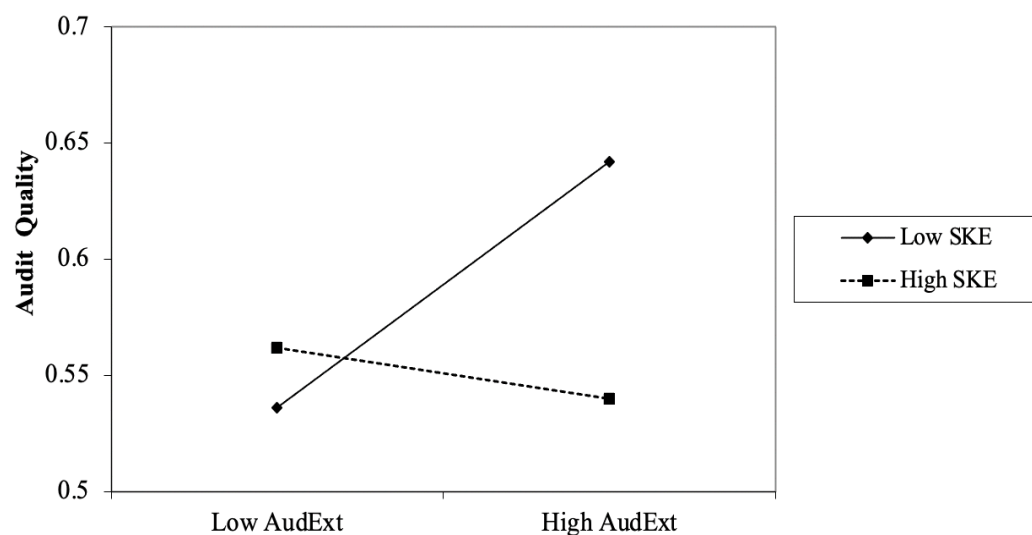
**Table 4.** Result of Testing the Mediation Model.

Structural Relations	Beta	SE	T Value	<i>p</i> -Value	Test
H1A: AudExt -> AudQ	0.056	0.047	0.492	0.624	Rejected
H1B: AudAgr -> AudQ	0.194	0.052	1.667	0.099	Rejected
H1C: AudCon -> AudQ	0.03	0.05	0.257	0.798	Rejected
H1D: AudNeur -> AudQ	−0.183	0.039	−1.799	0.075	Rejected
H1E: AudOpen -> AudQ	−0.047	0.049	−0.417	0.677	Rejected
H1F: SKE -> AudQ	0.048	0.045	0.479	0.633	Rejected

**Table 5.** Result of Testing the Moderation Model (Z-Score).

Structural Relations	Beta	SE	t Value	p-Value	Test
H2A: AudExt X SKE -> AudQ	−0.241	0.014	−2.226	0.028	Accepted
H2B: AudAgr X SKE -> AudQ	−0.1	0.016	−0.963	0.338	Rejected
H2C: AudCon X SKE -> AudQ	−0.231	0.014	−1.908	0.059	Rejected
H2D: AudNeur X SKE -> AudQ	−0.007	0.019	−0.071	0.943	Rejected
H2E: AudOpen X SKE -> AudQ	0.106	0.016	1.027	0.307	Rejected

Note: Each interaction term is calculated by the Z-score.

**Figure 2.** Audit quality moderating effect.

## 5. Conclusions

This paper analyzes how audit-positive habitual behavior can help improve audit quality. This study used the quantitative model as our research method. Through the analysis, we identified the relationship between the personality traits, professional skepticism, and audit quality. The personality trait and professional skepticism have no significant mediating effect on audit quality. In other words, the personality trait and professional skepticism were not statistically related to audit quality. However, auditors with extroverted personality traits and the moderating effect of professional suspicion will help improve audit quality. The findings contribute to the literature as this study of the determinants of an auditor with an extraversion personality trait will improve the audit quality and thereby reduce the relevant operating procedures of corporations.

This research provides empirical evidence of the relationship between personality traits and professional skepticism regarding auditor quality. In addition, it reveals a distinct result, as the study found by [4]. This study complements previous studies on auditors by identifying drivers of audit quality that have not been considered and providing support for firms' decision-making about the combination of relevant personality traits that auditors must possess to achieve excellent audit quality. Further, the results may be useful for decision-makers when configuring new requirements and recommendations regarding corporate governance structures.

Inaam et al. [80] found that the important relationships of audit quality, such as independence, size, expertise, and number of meetings of the audit committee, were negatively related to earnings management. Moreover, there is a similar negative relationship between the size of auditor allocation, specialization, and earnings management. This further verifies the conclusion of this study that an ideal auditor should have an extroverted personality, and the weaker the strength of professional suspicion, the better the quality of auditing.

The limitations of this research can be summarized as follows: A larger sample size can aid in obtaining a more comprehensive observation as compared to the present study.

First, the sample size may have an impact on the model's construction and subsequent process analysis tasks. Additionally, the sample size also affects the statistical tests, which are preferably larger than 100 [81], despite the fact that our study complied with the sample size requirement of greater than 100. Other limitations include the fact that this study considers the specificity of geographic focus and the lack of control variables. It will be a natural extension because it will be applied in different cultural contexts (that is, in countries with common law systems). Future research may analyze whether different types of auditors, such as the Big Four auditing companies (Big4 and non-Big4), or external variables such as time pressure, organizational climate, or organizational culture will affect the relationship between personality traits and audit quality relevance. Further, audit quality indicators can incorporate more cognitive agents or explore different types of auditors, such as information system audits, accounting audits. Further work is also encouraged to validate the audit quality metrics using other proxies, such as external audit fees and internal governance perceptions. The results of this study need to be verified by more replication studies in the future.

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