

Does Accounting Education Affect Professional Skepticism and Audit Judgment?

(Adakah Pendidikan Perakaunan Mempengaruhi Kecurigaan Profesional dan Penghakiman Audit?)

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ABSTRACT

This study examines the extent to which enrollment in accounting programs influences students' skepticism levels. We compare the skepticism scores between final-year accounting students in undergraduate and professional programs. This study also investigates the impacts of trait skepticism and situational skepticism on the participants' initial judgment of fraud or errors. Situational skepticism in this study is represented by audit experience from previous years. This study employs an experimental design of 2x3 between-subjects, where trait skepticism is divided into higher and lower levels, and the audit experience from previous years is manipulated into positive, negative and neutral. The participants in this study are 227 accounting students from both undergraduate and professional programs. The results of this study show that accounting students in the professional program are likely to exhibit higher levels of trait skepticism compared to their counterparts in the undergraduate program. The results also indicate that participants make an audit judgment based mainly on their prior experience with the client, not on their trait skepticism. This propensity is more salient particularly in the case of the less-skeptical participants. In sum, the higher that the formal education of a participant is, then the higher is his/her trait skepticism, and thus he/she is able to retain his/her skeptical judgments regardless of his/her prior experience with the client.

Keywords: Education and training; professional accounting program; trait skepticism; situational skepticism; Indonesia

ABSTRAK

Makalah ini mengkaji tahap sejauh mana pendaftaran dalam program perakaunan mempengaruhi tahap skeptisisme pelajar. Kami membandingkan skor skeptisisme di antara pelajar perakaunan akhir tahun dalam program sarjana dan profesional. Kajian ini juga menyelidik kesan skeptisisme bawaan dan skeptisisme keadaan terhadap penilaian awal peserta terhadap penipuan atau ralat. Skeptisisme keadaan dalam kajian ini diwakili oleh pengalaman audit dari tahun-tahun sebelumnya. Kajian ini menggunakan reka bentuk eksperimen 2x3 antara subjek, di mana skeptisisme bawaan dibahagikan kepada tahap yang tinggi dan rendah, dan pengalaman audit dari tahun-tahun sebelumnya dimanipulasi menjadi positif, negatif dan neutral. Peserta dalam kajian ini adalah terdiri daripada 227 pelajar perakaunan dari program sarjana dan profesional. Hasil kajian ini menunjukkan bahawa pelajar perakaunan dalam program profesional cenderung menunjukkan tahap skeptisisme bawaan yang lebih tinggi berbanding rakan sejawat mereka dalam program sarjana. Hasil kajian juga menunjukkan bahawa para peserta membuat penilaian audit berdasarkan pengalaman terdahulu mereka dengan klien, dan bukan berdasarkan skeptisisme bawaan mereka. Kecenderungan ini lebih menonjol, terutamanya untuk kes peserta yang kurang skeptikal. Kesimpulannya, semakin tinggi tahap pendidikan formal peserta, semakin tinggi skeptisisme bawaannya, dan dengan itu dapat mempertahankan penilaiannya skeptikalnya tanpa menghiraukan pengalaman terdahulunya dengan klien.

Kata kunci: Pendidikan dan latihan; program profesion perakaunan; skeptisisme bawaan; skeptisisme keadaan; Indonesia

INTRODUCTION

Professional skepticism is defined by International Standards on Auditing (ISA) 200 as the possession of a questioning mind and a critical assessment towards the evidence provided by an audit that may lead to an indication of possible misstatements due to errors or fraud (IAASB 2009a). A lack of professional skepticism is considered as one of the causal factors of audit failure (Beasley et al. 2001). Given the importance of professional

skepticism for auditors, a significant number of studies have attempted to identify the factors that influence auditors' professional skepticism (e.g., Carpenter & Reimers 2013; Hurr 2010; Payne & Ramsay 2005; Popova 2012). Importantly, Nelson (2009) integrates prior studies and provides a comprehensive model exploring the determinants of professional skepticism. He developed a model that describes how evidential inputs (i.e., audit evidence) combines with auditors' knowledge, traits, incentives, experience, and training are used to generate

judgments and actions that reflect professional skepticism. Specifically, he models auditors' fraud risk assessments as skeptical judgments and audit procedures to respond to the assessed risk as skeptical actions.

Later, Hurtt et al. (2013) expand Nelson's model by replacing those factors with broader categories that include auditors' characteristics (Cohen et al. 2017; Hurtt 2010; Quadackers et al. 2014; Rose 2007), the characteristics of evidence (Fukukawa & Mock 2011; Mubako & O'Donnell 2017), clients' characteristics (Payne & Ramsay 2005; Popova 2012; Robertson 2010), and environmental characteristics (Carpenter & Reimers 2013; Iskandar et al. 2016; Kim & Trotman 2015). Specifically, Hurtt et al. (2013) classify individual differences or traits, experience and expertise, training, motivation, and moral reasoning as part of an auditor's individual characteristics that influence the auditor's level of professional skepticism, thus affecting his/her judgment. Of particular relevance to the current study are the individual traits of auditors (that can be influenced by formal education) and the clients' characteristics, which are listed as factors that affect professional skepticism.

Although a significant number of studies have explored professional skepticism and its antecedents, the influence of education on professional skepticism remains understudied and inconclusive (Hurtt et al. 2013). Accordingly, this study is a response to Hurtt et al.'s (2013) call for further work concerning the effect of education on enhancing our understanding of professional skepticism. Specifically, this study examines whether their admission into professional accounting programs affects the students' levels of professional skepticism. We investigate this by comparing the scores from Hurtt's (2010) skepticism scale between accounting students in undergraduate and professional programs. Professional accounting program is a continuous accounting education designated for students who wish to pursue careers as professional accountants and be registered as national accountant under the Ministry of Finance. This study is conducted in a major university in Indonesia, wherein the curriculum of its professional accounting program has been aligned with the Certified Public Accountant (CPA) modules. In particular, students who graduate from professional program in this university can waive more than 80% of the CPA exam modules and thus more rapidly become CPA permit holders.

Additionally, this study extends a previous study by Popova (2012), which provides an understanding of the impacts of professional skepticism on auditors' initial judgments regarding fraud or errors, within the context of undergraduate accounting and professional programs. Professional skepticism is examined as both a personality trait developed before the formal experience of undertaking an audit (i.e., trait skepticism) and as skepticism induced by the experience of undertaking previous audits for a client (i.e., situational skepticism). The effects of these two types of professional skepticism on the participants' judgments are then examined. We do this by utilizing an experimental design of 2x3, where the participants'

trait skepticism is divided into higher vs. lower levels, and their situational skepticism is manipulated at three levels: Positive, negative and neutral experience with the client.

Consistent with prior studies (such as Chan & Leung 2006; Farag & Elias 2012; Fleming et al. 2010; Geiger & Ogilby 2000; Hughes et al. 2009; Kwock et al. 2016; Ying & Patel 2016), this study uses final-year accounting students in both undergraduate and professional programs as proxies for entry-level auditors. Final-year students are used because they have not been influenced by, or directly exposed to, the organizational cultures of audit firms. Therefore, the possible confounding influences of the subjects' professional experience and the organizational culture of the audit firms on their judgment can be controlled to a large extent (Patel & Psaros 2000; Peecher & Solomon 2001). In total, 227 accounting students in undergraduate and professional programs participate in this study. The results indicate that the participants who have a higher level of formal education in accounting are likely to have higher levels of trait skepticism. This study also shows that the participants' initial judgments on fraud or errors are significantly affected by their situational skepticism rather than their trait skepticism. This propensity is more noticeable particularly in the case of less-skeptical participants. In other words, the higher the formal education of a participant is, the higher his/her trait skepticism is, and thus he/she is able to retain his/her skeptical judgments regardless of his/her prior experience with a client.

Investigating the effects of accounting education on auditors' professional skepticism and judgments is important for at least three reasons. First, there are few prior studies on the effects of training and education on professional skepticism (Hurtt et al. 2013). This study provides empirical evidence and contributes to the existing literature on one of the ways to improve auditors' trait skepticism. Our results suggest that the higher the level of the participants' formal education is, the higher their trait skepticism level will be. The results also respond to Glover and Prawitt's (2014) call for further research in respect of the influence of education and training on improving professional skepticism.

Second, using the continuous accounting education context as the empirical research-setting, our results suggest that participants with a higher level of education, hence higher level of trait skepticism are more likely to exercise audit judgment properly regardless of their prior experience with the client, thereby reducing the risks of an audit failure. Our results indicate that prior experience with a client affects the less-skeptical participants more than the more-skeptical ones. The participants with higher levels of trait skepticism are able to maintain their judgment despite their prior audit experiences. These results strengthen Popova's (2012) findings of the different stages of trait skepticism and situational skepticism affecting the participants' audit judgment.

Third, our results provide insights for standard-setters and practitioners into the importance of accounting

education to enhance auditors' professional skepticism. Specifically, CPA firms may prefer to recruit professional program graduates who have higher levels of professional skepticism as junior auditor so as to reduce the amount they spend on training to improve their skepticism and audit judgments. Further, the unique research-setting undertaken in this study implies that the continuous accounting education scheme needs to be retained and it might be adopted in similar emerging economies context such as those in the ASEAN region. The remainder of this paper is organized as follows. Section two discusses prior studies that have been done in relation to education and professional skepticism by which hypotheses are then developed. Section three describes the research methods. Section four presents the results. Section five concludes this study as well as explains its limitations and offers suggestions for future research.

RESEARCH SETTING, LITERATURE REVIEW, AND HYPOTHESES

INSTITUTIONAL SETTING

Indonesia is one of the emerging economies in the ASEAN region that has signed a joint agreement to form the ASEAN Economic Community (AEC). The AEC aims to enhance economic growth by removing trade barriers within the region, to facilitate the free movement of goods, services, capital, and skilled labor, including members of the accounting and auditing profession. Although it has a large population, Indonesia has a relatively low number of CPAs and accounting firms operating within the country, compared to those of neighboring countries such as Singapore, Malaysia, Thailand, and the Philippines.¹

Public accountants in Indonesia should be licensed as CPAs if they seek to open an accounting firm and sign audit reports. Before 2002, only four major universities in Indonesia were entitled to award the title of "accountant" together with their bachelor degrees, while other universities must follow the national accounting exam to earn the title. Title of the accountant was a prerequisite for those who wish to sit for CPA exam and become CPA permit holder. After 2002, however, the Ministry of National Education revised the accounting curriculum, and none of the Indonesian universities were entitled to give the "accountant" title with their bachelor degrees. Bachelor holders who wish to earn the "accountant" title and pursue a career as professional accountants must take a professional accounting program. Professional program is a continuous non-degree accounting program. The curriculum of this program is designed by the professional accounting association, and among the subjects offered are corporate reporting, auditing and assurance services, advanced managerial accounting, tax management, and advanced financial management. Prior to graduation, it is mandatory for students in this program to do an internship, to be exposed to current accounting practices; while

internships for undergraduate students are not mandatory. Accordingly, students in the professional program might have more opportunities to develop their practical skills and theoretical knowledge in accounting, compared to their counterparts in the undergraduate program.

Upon successful completion of the professional program, students are able to register themselves as registered national accountants under the Ministry of Finance. They are also able to sit for the CPA exam, to enable them to be certified as a CPA in Indonesia. Of importance for this study, the major university where this study took place is the only university in Indonesia wherein the curriculum for its professional accounting program has been aligned with the CPA exam. Specifically, students who graduate from this university's professional program are granted a waiver for nine out of eleven modules for the CPA exam. Meanwhile, students who graduate from the undergraduate program must sit all eleven of the modules in the CPA exam to be qualified as a CPA in Indonesia.

PROFESSIONAL SKEPTICISM: TRAIT AND SITUATIONAL

Accounting researchers have attempted to define professional skepticism and sought to understand it in various ways. For instance, Shaub (1996) and Shaub and Lawrence (1996) define auditors' professional skepticism as a function of their disposition, experience, and situational factors. Similarly, Hurtt (2010) describes skepticism as "a multi-dimensional individual characteristic" and thereby can be attributed as a combination of both trait and situational (state) factors. Specifically, he refers to trait skepticism as a relatively stable and enduring aspect of an individual's personality, while situational (state) skepticism is a temporary condition that exists because of the circumstances and contextual features in a given situation (Cohen et al. 2017; Hurtt 2010; Westermann et al. 2016). Thus, in general, researchers seem to agree that professional skepticism is determined by dispositional (such as a trait) and situational factors (Shaub 1996; Shaub & Lawrence 1996; Hurtt 2010), and is reflected in the auditors' skeptical judgments and actions (e.g., Hurtt et al. 2013; Nelson 2009; Nolder & Kadous 2014).

Given the importance of both dispositional and situational factors in eliciting auditors' skeptical judgments and actions, this study aims to examine the impacts of trait skepticism and situational skepticism toward skeptical judgments of the assessment of the risk of fraud. Indeed, Cohen et al. (2017) argue that trait skepticism is likely to influence critical job attitudes and job outcomes, including judgments, within the auditing profession. Nevertheless, prior studies such as that by Shaub (1996) report that situational skepticism is more prevalent than trait skepticism in setting the levels of professional skepticism. As such, the interplay between trait skepticism and situational skepticism is also examined in this study to provide insights into how those two types of skepticism interact to influence decision making.

AUDIT JUDGEMENT – INITIAL EXPECTATION OF
FRAUD OR ERROR

Beasley et al. (2001) assert that a lack of professional skepticism is considered to be one of the factors that could lead to audit failure. Therefore, auditing standards require auditors to apply professional skepticism throughout their audit, from its initial planning until the reporting phase, to enhance the audit's quality and thereby reduce the risk of audit failure. Specifically, during the planning phase of an audit, auditors should determine their initial expectations regarding the risk of material misstatements in the financial statements, as well as the causes of those misstatements. Auditing standards distinguish two types or causes of misstatements, not caring if they are material or immaterial, which are fraud and error. ISA 240.3 defines fraud as an intentional action that leads to misstatements in financial statements (IAASB 2009b); and is further categorized into two further actions: The misappropriation of assets (or employee embezzlement), and fraudulent financial reporting. Whereas error is defined as an unintentional misstatement that can result from a miscalculation, or omissions, misunderstandings and the misapplication of describing and concluding the accounting standards (Arens et al. 2016). Nevertheless, the auditing standards do not distinguish the auditors' responsibility to seek and find material misstatements either caused by fraud or error.

According to ISA 240.12, however, auditors should consider financial misstatements which are caused by fraud as their primary concern. It is argued that for the same amount of money, the impact of fraud is deemed to be more hazardous to a company as a going concern compared to that of any unintentional errors. It is due to the intentional action to violate others' properties and rights (Arens et al. 2016). Moreover, fraud tends to be concealed so that it is more challenging to uncover. As time passes, unrevealed fraud will continue to grow and harm the company until the company eventually goes bankrupt. Therefore, during the risk assessment process in the planning stage of an audit, auditors should assess the risk of material misstatements, including their causes. Auditors develop their initial expectations of the risk of material misstatements, and whether they are caused by fraud or error.

Additionally, professional skepticism and background information on the client play significant roles in determining the initial expectations of the possibility of fraud or errors (Whittington & Pany 2010). Auditors may develop their initial expectations about fraud (intentional mistakes) or errors (unintentional mistakes) based on their level of trait skepticism and their previous experience with their clients. However, a high level of professional skepticism should be possessed by auditors regardless of their experiences with clients in previous years. ISA 240.A8 asserts that professional skepticism should be maintained regardless of the auditor's experience with the client and their belief about the management's honesty and integrity. This requirement is due to the possibility and the

risk that material misstatements resulting from fraud or error may exist in the current year's accounts.

EDUCATION AND TRAIT SKEPTICISM

Auditors are considered as professionals because they have unique expertise acquired through education and training, and they are also committed to lifelong learning. As such, the profession has increasingly emphasized the importance of continuing education and training programs, conducted within the accounting firms or in other institutions, to make auditors keep abreast of the latest standards and techniques, both in auditing and accounting. The professional accounting program is one of the continuing education programs held by the university and is designated for accounting bachelor graduates who wish to pursue a career as a professional accountant or auditor. Specifically, the curriculum for the professional accounting program has been aligned with the CPA's modules. Hence, students who graduate from this program can waive more than 80% of the CPA's exam modules and find themselves much closer to being CPAs.

Prior studies find that the type and extent of an auditor's university education can affect how he/she perceives his/her role. For instance, Monroe and Woodliff (1993) find that auditing students significantly change their beliefs about auditors' responsibilities during the first term of their studies. However, Gramling et al. (1996) report minor changes in the perceptions of the audit process and of the role and responsibility of an auditor for students that take a university level course in auditing. Ferguson et al. (2000) reveal that co-op (internship) education programs can be an effective alternative means to formal education for educating students about auditing functions.

Additionally, a number of studies have also examined the impact of a university education on auditors' behavior during the audit process. For example, Gul et al. (2013) link education to actual audit outcomes and find that auditors with a master's degree report more aggressively (i.e., they are less likely to issue a modified audit opinion) than other auditors. In a similar vein, Che et al. (2017) find that partners with a master's degree exert more effort than those with a bachelor's degree, and there is a positive relationship between audit effort and the Continuing Professional Education (CPE) program. Additionally, Li et al. (2016) find that auditors holding a master's degree are less likely to perform failed audits. The empirical evidence suggests that a formal education impacts auditors' capacity as well as their judgmental abilities during the audit process.

The prior studies referred to above, however, do not provide evidence as to how a formal education relates to the level of an auditor's professional skepticism. Indeed, Glover and Prawitt (2014) suggest that training and education are among the mitigating as well as the suggested factors that can enhance professional skepticism at the individual level. Importantly, auditors with higher educational degrees and/or more training hours may

have considerably more theoretical knowledge about audit-related topics. The acquired knowledge may also be utilized as a means of improving their professional skepticism so that they can make better judgments. Carpenter et al. (2011) find incremental benefits in providing students with a forensic auditing course compared to those who do not have the same opportunity. In particular, they find students who have taken the course become more skeptical in their assessments of the risk of fraud than those in the control group.

It is therefore argued that formal education, particularly one whose curriculum is aligned with the CPA's modules, is able to improve the knowledge as well as the expertise of auditors when carrying out their duties. Accordingly, we argue that the knowledge gained from the professional accounting program impacts the auditors' knowledge, risk preferences, and values. Thus we expect that students in the professional accounting program are more knowledgeable of events, transactions, and situations that require the attention of auditors than those in the undergraduate program. Along with their increased levels of knowledge and expertise, their professional skepticism is expected to increase as well. Hence, we formulate the first hypothesis as follows:

- H₁ Participants with a higher level of formal education (i.e., students in the professional accounting program) are likely to have higher levels of trait skepticism compared to participants with a lower educational level (i.e., students in undergraduate accounting program)

TRAIT SKEPTICISM AND INITIAL FRAUD/ERROR EXPECTATION

During the process of an audit, auditors need to identify which accounts are high risk and thus may contain material misstatements, either caused by fraud or an unintentional error. When seeking an explanation of those unusual or "suspicious" account balances, auditors can either generate information based on their own knowledge or hypotheses or they can rely on information provided by their client. In most cases, relying on the client's explanation is deemed to be more efficient and effective (Popova 2012).

Nevertheless, an auditor who exhibits professional skepticism and due professional care may decide to generate his/her own initial hypotheses and ignore the explanation given by the client because he/she tends not to trust the client. Indeed, extant literature documents two general perspectives of skepticism: Neutrality and presumptive doubt (Nelson 2009). Neutrality represents the mindset of an auditor who critically evaluates evidence but assumes no bias in the management's assertions. On the other hand, the presumptive doubt mindset assumes some level of dishonesty or bias in the management's assertions unless the evidence indicates otherwise. The neutral perspective appears to be the primary perspective underlying most of the auditing standards, whereas the presumptive doubt perspective appears to be more visible

within auditing standards concerning fraud (e.g., Nelson 2009; Quadackers et al. 2014).

Prior literature also documents that the more skeptical auditors are likely to demonstrate a moderate reaction to ordinary audit circumstances and react more noticeably to skepticism-inducing conditions by generally increasing their actions more than less skeptical auditors will. For instance, Rose (2007) finds that more skeptical auditors have a higher sensitivity to aggressive financial reporting and they tend to conclude that misstatements are due to intentional errors or fraud. Similarly, Popova (2012) also reveals that students, as a proxy of entry-level auditors, who maintain a high level of trait skepticism are more skeptical and thus are more likely to choose fraud as their initial expectation of the cause of misstatements. Additionally, Farag and Elias (2012) show that students scoring highly for trait skepticism have a greater tendency to view earnings management as unethical behavior, which can be considered as a more skeptical judgment. Overall, most of the prior studies conclude that auditors with higher levels of professional skepticism behave systematically differently than less skeptical auditors.

Based on the preceding discussions, we posit that the participants with a higher level of trait skepticism thus exhibit the presumptive doubt perspective and do not directly accept and trust their client's explanation, and are more likely to conclude that any misstatement is caused by fraudulent financial reporting rather than an unintentional error. Hence, the second hypothesis in its alternative form is developed as follows:

- H₂ Participants with higher levels of trait skepticism are likely to choose fraud rather than error as their initial expectation of the cause of misstatements, compared to participants with lower levels of trait skepticism.

SITUATIONAL SKEPTICISM AND INITIAL FRAUD/ERROR EXPECTATION

The auditing standards demand that auditors must maintain an attitude of professional skepticism throughout the audit process and ignore their previous audit experiences with the client. Although auditors are encouraged to use previous audited financial statements and working papers to perform an efficient audit, if the auditors who conduct the current audit are the same as those who performed the previous year's audit, they are advised to ignore their prior experience with their client. It is suggested that they disregard their prior experience with the client to provide a more objective opinion on the current period's audit and reduce the risk of fraud not being detected in the current reporting period of the financial statements.

However, Shaub (1996) asserts that historical experience with clients and the situational factors are more important than any dispositional (trait) factors in determining the extent to which an auditor trusts his/her client, thereby affecting the audit process. These situational factors from the client's characteristics may include assumptions about the management's integrity and

honesty, the client's complexity, the client's preferences, the perceived risk about the client, the client's industry, etc. For instance, when an auditor receives an explanation from the client on a particular matter, the weight he/she puts on the explanation is usually dependent on how trustworthy he or she perceives the client to be. In this regard, when an auditor encounters a negative experience with a client, he/she may cast doubt on the client's honesty, and thus the client's assertions seem less trustworthy to him/her. Therefore, when he/she finds unusual account balances, he/she is more likely to expect that the risk of material misstatement in that account is due to fraudulent financial reporting rather than an unintentional error.

Previous studies have also shown that auditors are less likely to detect the signs of fraud when they have had positive experiences with the client and/or when they believe that the management is honest. Specifically, Kerler and Killough (2009) find that auditors who have previous positive experiences with clients will trust them more, and thus they become less skeptical in their fraud risk assessment compared to those whose previous experience with the client was a negative one. In a similar vein, a study by Popova (2012) shows that previous experience with clients (she refers it to as client-specific experiences) is influential in determining the initial expectations of the risks of a material misstatement. In fact, participants who have a negative experience are less likely to trust the clients' explanation and thus consider fraud as the cause of any material misstatement in the financial statements. Based on the above discussions, the third hypothesis is developed as follows:

- H₃ Participants with a previous negative experience with the client are more likely to choose fraud rather than error as their initial expectations, compared to participants with a positive experience.

COMPARISON BETWEEN THE IMPACT OF TRAIT AND SITUATIONAL SKEPTICISM

As mentioned earlier, Nelson (2009) suggests two perspectives of professional skepticism, i.e., neutrality and presumptive doubt. According to the presumptive doubt perspective, skepticism can also be referred to as the antithesis of trust (Quadackers et al. 2014; Shaub 1996). Specifically, Shaub (1996) points out that when trust decreases, suspicion will increase. As such, auditors who are more skeptical may not easily trust people, and thus prefer to generate their own hypotheses rather than accept the explanation given by their client, even when the client is honest. In such a situation, the auditor tends to focus on his/her own self-generated hypotheses and thus his/her expectations may not differ, regardless of his/her prior experience with the client. Therefore, it is likely that there will be no significant differences in their initial fraud/error expectations for those more skeptical auditors, even when they have different prior experience with their client.

By contrast, auditors with lower trait skepticism (less skeptical) have a tendency to easily trust their clients because they assume that others are generally trustworthy (Popova, 2012). Hence, when they have a positive experience with a client, they are more likely to trust that client and decide that an unintentional error was the cause of any material misstatements in the financial statement. On the other hand, when auditors encounter a negative experience with a client, there will be a gap between the auditors' belief in their client's trustworthiness and their negative experience. Such a breach of trust increases the uncertainty and damages the relationships between the auditor and client, which often lead the auditor to choose fraud as the initial expectation of the cause of the identified material misstatement. Hence, the situational factor in the form of a negative experience with a client is more likely to affect auditors with a lower trait skepticism compared to the auditors with a high level of trait skepticism. These arguments lead to the development of the fourth hypothesis:

- H₄ Participants with lower levels of trait skepticism are likely to exhibit significant differences in their initial fraud/error expectation induced by positive and negative experiences with the client.

RESEARCH METHOD

In the current study, we examine the effects of formal education on the level of trait skepticism and then examine the effects of both trait and situational skepticism on the initial judgment regarding fraud or error as the cause of any material misstatement discovered by the auditor. In particular, we compare the level of trait skepticism among accounting students in an undergraduate and professional program. Additionally, we also examine the effects of trait skepticism (higher vs. lower) and situational skepticism (positive vs. negative vs. neutral) on the initial expectation of the cause of a misstatement, either due to an intentional error (fraud) or an unintentional error. We collected data to test the hypotheses using a case-based questionnaire.

PARTICIPANTS

The participants in this study are final-year accounting students in both the undergraduate and professional programs of a major university in Indonesia. The accounting graduates from both programs are usually targeted by accounting firms, including the Big Four, to be recruited as entry-level auditors. The participants are classified according to their level of formal education to examine the incremental benefits of accounting education (i.e., the professional program) on the students' trait skepticism. The rationale for using both undergraduate and professional program students as participants are: 1) They are candidates to be future auditors who have to understand the basics of accounting for their audit judgments and 2) their level of skepticism has not been influenced by

other factors such as the experience of auditing someone/something or pressure from superiors that may cause bias. The use of final-year accounting students as a proxy for entry-level auditors is also consistent with prior studies such as those by Kwock et al. (2016), Ying and Patel (2016), Farag and Elias (2012), Hughes et al. (2009), Fleming et al. (2010), Chan & Leung (2006) and Geiger and Ogilby (2000).

RESEARCH DESIGN, MEASURES, AND PROCEDURES

To test H_1 , the participants' responses on Hurtt's Professional Skepticism Scale (HPSS) are calculated and then compared between the students in the undergraduate program and those in the professional accounting program. To test $H_2 - H_4$, this study employs an experimental design of 2x3 between-subjects with two independent variables, namely trait skepticism (higher vs. lower trait skepticism) and situational skepticism which is manipulated into positive, negative and neutral/no prior experience with the client. Trait skepticism is measured using the HPSS from Hurtt (2010) which consists of 30 statements. Each statement represents one of the six characteristics of professional skepticism, including the search for knowledge, suspension of judgment, self-determining, interpersonal understanding, self-confidence, and a questioning mind. The instrument uses a six-point Likert scale, where one represents strong disagreement with the statement and six is the opposite. Statement Nos. 1, 10, 11, 16, 17, 19, 25, and 26 are counted inversely. By accumulating the participants' responses to each statement, the participants are assessed with a score ranging from 0 to 180, where a score above the median indicates a higher level of skepticism and a score below the median shows otherwise.

Situational skepticism is measured using a scenario developed by Popova (2012). The scenario includes (1) descriptions of audit experiences in the previous year; (2) a description of audit experience in the current period; and (3) a manipulation check question. The descriptions of the audit experiences in the previous year are manipulated at three levels, i.e., positive, negative and neutral/no experience with the client. A positive experience occurred when the client was willing to cooperate and be honest with the auditors during the audit processes in the previous year. A negative experience happened when the client was less trustworthy and argued with the auditor about issues in the audit. The neutral/no prior experience is when the auditor had no prior experience with the client and thus has no information regarding the client's honesty.

In contrast to the descriptions of the previous audit experience, the description of the audit experience in the current period consists of only one version. A question for the manipulation check follows after the clients' descriptions, to determine whether there has been internalization (appreciation) within the participants, of the information given and the intended situation. For this question, participants are asked to determine whether the client can be trusted or not by using an interval

scale ranging from 1 to 10 where one indicates that the client is very unreliable and ten shows that client is very trustworthy.

The main dependent variable in this study is the participants' judgment about the initial fraud/error expectation regarding the cause of a misstatement. Specifically, the participants are asked to determine whether the initial expectation of a material misstatement is caused by fraud or is just an unintentional error. The answers are measured using a chart scale of 21 intervals from -10 to 10, where -10 indicates fraud and 10 indicates an unintentional error.

To ensure that all the participants receive the same information, all the relevant instructions are provided in the same format. The research instrument comprises of three sections: Demographic information, HPSS statements to measure the trait skepticism, and a case scenario describing client situations in the previous and current year's audits, as well as its related questions. Additionally, as the measures for trait skepticism and situational skepticism (i.e., HPSS statements and case scenario describing client situations, respectively) are originally in English, a double translation procedure is performed to ensure its accuracy. Some information in the case scenario is also amended to reflect the country context where this study is undertaken. Furthermore, to ensure consistency, the researchers personally administered the questionnaires during the last auditing lectures before the final examinations of both programs. Three different versions of the scenario for the previous year's audit experience are distributed randomly to the participants. It took approximately 20 minutes to complete the questionnaire.

RESULTS

DESCRIPTIVE STATISTICS AND MANIPULATION CHECK

Two hundred and forty-four accounting students from the undergraduate and professional programs participated in this study, each of whom filled out a questionnaire. However, 17 questionnaires are not completely filled out and thus were excluded from the final dataset, leaving 227 responses for further analysis. Sixty percent of the participants are from the undergraduate program, while the rest are from the professional accounting program. The demographic characteristics of the participants are presented in Table 1 Panel A. Before testing the hypotheses; the participants' scores for their trait skepticism are calculated. The participants' skepticism scores range from 107 to 170, with the median being 137. The participants with a total score above the median are identified as having a higher level of trait skepticism and those which are below the median have a lower level. On average, the participants have a slightly lower level of trait skepticism (mean = 136.45), and they are more likely to choose fraud as their initial expectation (mean = -0.14) as depicted in Table 1 Panel B.

TABLE 1. Demographic characteristics and descriptive statistics

PANEL A: Participants' profiles					
		Frequency	%		
Education	Undergraduate	138	60.8		
	Professional Program	89	39.2		
Gender	Male	69	30.4		
	Female	158	69.6		
The inclination to be an Auditor	Yes	151	66.5		
	No	76	33.5		
Fraud Auditing Course	Yes	28	12.3		
	No	199	87.7		

PANEL B: Descriptive statistics of variables					
Variable	N	Min.	Max	Mean	SD
Trait Skepticism	227	107	170	136.44	11.15
Initial Fraud/Error Expectation	227	-10	9	-0.14	4.9

Notes: Trait skepticism is measured using Hurtt's skepticism scale which consists of 30 statements and the scores range from 0 to 180. Initial fraud/error expectation is the main dependent variable and is measured using a chart scale of 21 intervals from -10 to 10, where -10 indicates fraud and 10 indicates an unintentional error.

We perform the validity and reliability tests on Hurtt's skepticism scale statements prior to the hypotheses testing. An analysis of correlation (corrected item-total correlation) is used for validity testing. To test the 227 samples and 30 statements, the value of r tables required is 0.138. Our results are above the required value. Hence we conclude that the items in the questions are valid. Furthermore, Cronbach's alpha value for the level of skepticism is 0.831. Hence we conclude that the measurement model is reliable.

A manipulation check is performed to determine whether the independent variables manipulated are well-responded to by the participants. Those who provided scores above or equal to five show that they perceived trustworthiness in the client, while participants with a score below five show that they do not trust the client. Table 2 shows that participants with negative prior experience are more likely not to trust the client (mean = 4.66), while participants who have no experience (mean = 5.29) or a positive experience (mean = 5.67) are more likely to trust the client. The statistical test results in

TABLE 2. One-way ANOVA results for manipulation check

Prior Experience	N	Mean	F-value	Sig.
Negative	74	4.66	7.274	0.001*
Neutral	79	5.29		
Positive	74	5.67		

Note: Participants in the negative experience group received information that client argued with the auditor about audit issues and was less trustworthy in the previous year audit; the positive experience group received information that the client was willing to cooperate and be honest with the auditors during the audit processes in the previous year; the neutral/no prior experience group did not get any information regarding the client's honesty.

Table 2 conclude that prior experience with a client has a significant effect on the perceived trustworthiness of the client ($F = 7.27$; $p < 0.01$). The results indicate that the manipulation condition worked as intended.

HYPOTHESES TESTING

The Impact of Accounting Education on Trait Skepticism (H_1) aims to examine whether higher levels of accounting education would cause higher levels of trait skepticism. Accordingly, H_1 predicts that students in the professional accounting program are likely to score higher for trait skepticism than their counterparts in the undergraduate program. Consistent with our expectations, Table 3 shows that participants from the professional accounting program are likely to have a higher level of trait skepticism (mean = 138.41) compared to participants from the undergraduate program (mean = 135.18). Since the finding is in the predicted direction, a one-tailed independent t-test is carried out to test the significance of this difference. The result indicates a significant difference in the level of trait skepticism between the two participating groups ($p < 0.05$). This result supports H_1 and shows that students in higher educational program score significantly higher on measures of their trait skepticism than their counterparts do in lower educational program. The results suggest that auditors with higher educational levels can improve their levels of trait skepticism. The results also indicate that formal education is able to shape the attitudes and behavior of auditors. Therefore, it is strongly recommended that auditors have higher levels of education, to deepen their knowledge and sharpen their skills in auditing. Overall, our findings support the perspective on how higher level of education positively affect the quality of audit process (Che et al. 2017; Gul et al. 2013; Li et al. 2013).

TABLE 3. T-test results on trait skepticism

Level of Education	N	Mean	Std. Deviation	T	Sig.	Mean difference
Undergraduate	138	135.18	9.37	-2	0.047*	-3.23
Professional Program	89	138.41	13.27			

Note: The dependent measure is total score of participant's responses to 30 statements of HPSS using a six-point Likert scale.

Trait Skepticism and Initial Fraud/Error Expectation The objective of H₂ is to examine whether trait skepticism influences the participants' judgment of their initial expectation on the cause of a material misstatement, whether it is due to fraud or error. H₂ predicts that participants with higher levels of trait skepticism are more skeptical, and thus are more likely to conclude that the misstatements are caused by fraudulent financial reporting rather than unintentional errors. To test H₂, an ANOVA is used. Table 4, Panel A shows that the participants who are more skeptical tend to choose fraud as their initial expectation (mean = -0.70). On the other hand, those participants who are less skeptical are likely to choose unintentional error as their initial expectation (mean = 0.36). Although the direction is consistent with our prediction, the statistical test concludes that the level of trait skepticism does not significantly affect the initial expectations of fraud or errors (F = 2.79; p = 0.09) as indicated in Table 4, Panel B. Based on the above results, it can be concluded that H₂ is not statistically supported.

Situational Skepticism and Initial Fraud/Error Expectation In H₃, we aim to know whether situational skepticism, induced by prior experience with a client, affects the participants' judgment when they provide their initial expectations in the form of fraud or error on the risk of the material misstatements they discover. H₃ predicts that participants with negative prior experience with a client have a propensity to choose fraud as their initial expectation of the cause of the material misstatement. As expected, Table 4, Panel A shows that participants who have negative experiences and no prior experience with a client tend to choose fraud as their initial expectations (mean = -1.21 and -0.12, respectively). The participants who have positive experiences with a client during a previous audit are likely to choose unintentional error as

their initial expectation (mean = 0.83). Since the results are in line with our prediction, statistical tests are carried out to test the significance of these differences. The ANOVA results in Table 4; Panel B indicate that situational skepticism induced by the previous year's audit experience with a client significantly affects the initial expectations of fraud or error (F = 3.24; p = 0.04). Thus, it can be concluded that H₃ is statistically supported.

The results indicate a condition where the participant's tendency to provide their initial expectations in the form of fraud or error is largely based on their experience with the client during the previous year's audit. Those participants with negative experiences tend to be more skeptical and do not trust the client's explanations, so they choose fraud as their initial expectation. In contrast, the participants who encounter positive experiences with their client are more likely to accept the client's explanations, and thus they select error as their initial expectation for the cause of the discovered material misstatement. However, auditing standards have emphasized that it is imperative for auditors to maintain their level of skepticism without being affected by their experiences with clients from the previous year's audit. This is because the risk of fraudulent financial reporting still exists in the client's financial statements for each audit period.

Trait Skepticism in Comparison with Situational Skepticism H₄ aimed to examine whether less skeptical participants demonstrate significant differences in their initial expectation of fraud or error when they have a negative experience compared to those who are less skeptical but have a positive experience with their client. To test the hypothesis, we compare the participants' initial expectations of fraud or error induced by three different conditions of situational skepticism. Table 4, Panel A indicates that participants who have higher levels of

TABLE 4. The impact of trait and situational skepticism on initial fraud/error expectation

PANEL A. Means (SD)						
	Negative Experience	Positive Experience	Neutral/No Experience	Group mean	F	Sig.
Lower trait skepticism	-1.25 (5.20)	1.79 (4.72)	0.56 (4.04)	0.36 (0.46)	3.80	0.02*
Higher trait skepticism	-1.17 (5.41)	-0.14 (4.39)	-0.81 (5.11)	-0.70 (0.45)	0.40	0.66
Group Mean	-1.21 (0.57)	0.83 (0.56)	-0.12 (0.54)			

Note: The dependent measure is based on participants' evaluation for the initial expectation of the cause of misstatement on a scale of -10 to 10, where -10 means fraud and 10 indicates error.

Panel B. ANOVA results					
	Type III SS	DF	Mean Square	F-value	Sig.
Trait skepticism	65.26	1	65.26	2.79	0.09
Situational skepticism	151.65	2	75.82	3.24	0.04*
Trait x Situational	39.88	2	19.94	0.85	0.42

trait skepticism are likely to choose fraud as their initial expectations, regardless of their prior experience with the client; negative experience (mean = -1.16), no experience (mean = -0.81) and positive experience (mean = -0.14). The table also indicates that there is no significant initial expectation difference between the groups of participants who have higher levels of skepticism ($F = 0.40$; $p = 0.66$).

However, participants who have lower degrees of trait skepticism tend to choose their initial fraud/error expectation according to their previous experience with the client. Specifically, participants with a negative experience tend to choose fraud as their initial expectation (mean = -1.25), while those who have neutral and positive experiences are likely to choose error as their initial expectation (mean = 0.56 and 1.79, respectively). The ANOVA test in Table 4, Panel A concludes that less skeptical participants demonstrate significant differences in their initial fraud/error expectation, according to the type of experience they had with the client during the previous audit ($F = 3.80$; $p = 0.025$). Based on the above, it can be concluded that the fourth hypothesis is statistically supported.

Figure 1 shows a comparative result, where participants with higher levels of skepticism tend to retain their attitude of professional skepticism, i.e., they choose fraud as their initial expectation, despite the experience they had with the client. In other words, the situational factor, in the form of experience with the client in previous years, does not affect the participants' judgment in providing their initial expectations in the form of fraud when there is a risk of a material misstatement being identified. By contrast, the participants who are less skeptical are more likely to be influenced by the experience they gained in previous years. This situational factor becomes the basis for the less skeptical participants to choose their initial fraud/error expectations.

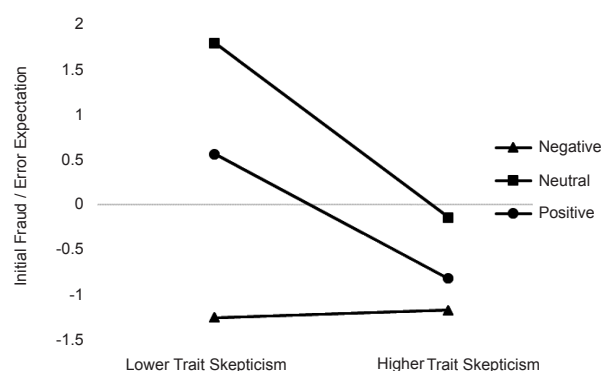


FIGURE 1. Comparative results among groups of participants.

Additional Analyses Additional analyses are performed to examine the influence of demographic characteristics on the participants' levels of trait skepticism and their initial fraud/error expectations. Some of the demographic characteristics being tested include sex, enrolment into a fraud auditing unit and the participants' inclination to become auditors.

As for the trait skepticism measures, Table 5 Panel A shows that male participants (mean = 139.94) tend to have a higher level of trait skepticism compared to the female participants (mean = 134.92). The statistical test concludes that gender significantly influences the participants' levels of trait skepticism ($p = 0.004$). The next test examining the effect of enrolment into a fraud auditing unit on the level of trait skepticism indicates that students who have not taken this fraud auditing course (mean = 136.52) tend to have a higher level of skepticism than those who have taken the course (mean = 135.89). However, the statistical test concludes that the fraud auditing course does not significantly affect their levels of skepticism ($p = 0.77$). The table also shows that participants who wish

TABLE 5. Independent sample t-test on demographic characteristics

PANEL A. Trait skepticism						
Characteristics		Mean	Std. Deviation	T	Sig. (2tailed)	Mean Difference
Gender	Female	134.92	10.14	-2.92	0.00**	-5.01
	Male	139.94	12.55			
Fraud Auditing Course	Yes	135.89	13.19	-0.8	0.77	-0.63
	No	136.52	10.86			
Inclination to be an Auditor	Yes	137.69	11.68	2.39	0.01*	3.72
	No	133.97	9.61			

PANEL B. Initial expectation of fraud/error						
Characteristics		Mean	Std. Deviation	T	Sig. (2tailed)	Mean Difference
Gender	Female	0.04	4.97	0.84	0.39	0.59
	Male	-0.55	4.75			
Fraud Auditing Unit	Yes	-0.36	5.30	-0.23	0.81	-0.24
	No	-0.11	4.85			
Inclination to be an Auditor	Yes	-0.44	4.95	-1.29	0.19	-0.88
	No	0.45	4.78			

to become auditors tend to have a higher level of trait skepticism (mean = 137.69) compared to those who do not want to be an auditor (mean = 133.97). The statistical test concludes that the inclination to be an auditor significantly influences the level of trait skepticism ($p = 0.01$). As for the main dependent variable, i.e., the initial fraud/error expectation, Table 5 Panel B depicts that there is no significant influence from the participants' demographic characteristic on their initial judgment regarding fraud or error.

CONCLUSION

This study investigates professional skepticism by providing empirical evidence to show the effect of education on professional skepticism. We examine whether participants with higher levels of formal education (i.e., a professional accounting program) have higher levels of trait skepticism than participants with a lower level of formal education (i.e., an undergraduate program). Further, this study provides an understanding of the various impacts of professional skepticism on auditors' initial judgments regarding fraud or error. The results of this study show that accounting students in the professional program are likely to exhibit higher levels of trait skepticism compared to their counterparts in the undergraduate program. Our results also indicate that situational skepticism significantly affects the participants' initial audit expectations in the form of fraud or error, rather than trait skepticism. Interestingly, the participants who have higher levels of trait skepticism are likely to choose fraud as their initial expectation, regardless of their prior experiences with the client. In conclusion, the higher that the formal accounting education of a participant is, then the higher is his/her trait skepticism, and thus he/she can retain his/her skeptical judgments despite his/her prior experience with the client.

Our study contributes to the literature on how education could enhance trait skepticism. This study responds to Glover & Prawitt (2014) and Hurtt et al.'s (2013) encouragements for further research in the area of education to enhance professional skepticism. Using the unique accounting education context in the research-setting, our study also suggests to the standard-setters and practitioners the importance of education in improving professional skepticism. The continuous accounting education scheme within this research-context is relevant and might be able to be replicated in similar emerging economies, at least in the ASEAN context.

Readers should interpret the results of this study in light of the following limitation. This study uses accounting students as the participants rather than auditors. Although we have provided strong arguments for the use of final-year accounting students as proxies for entry-level auditors (Chan & Leung 2006; Farag & Elias 2012; Fleming et al. 2010; Geiger & Ogilby 2000; Hughes et al. 2009; Kwock et al. 2016; Ying & Patel 2016), they

have not been exposed to real audit practices. Hence, the participants possibly use their own perceptions to interpret the case given in the experiment.

ENDNOTE

- ¹ Based on World Bank Report on the Current Status of the Accounting and Auditing Profession in ASEAN Countries, Indonesia contributes around 12% of the total professional accountants in the ASEAN region. Meanwhile, its neighboring countries such as Malaysia, the Philippines, Singapore, and Thailand contribute 19%, 13%, 17%, and 33% respectively.

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APPENDIX – A case scenario

Positive experience	Negative experience	Neutral/no experience
<p><i>Your history with this client</i></p> <p>You have been with your client ABC for over five years, and you know most of the management team. Over the years, the management has been very easy to work with and has shown a high level of competence. There have been accounting mistakes in some of the audits, but you never doubted the management's honesty and the mistakes were always resolved in the way you suggested.</p> <p>Over the years you have found that most people in the business community characterize ABC as being very supportive of community values and high ideals.</p>	<p><i>Your history with this client</i></p> <p>You have been with your client ABC for over five years, and you know most of the management team. However, you are aware that most of the accounting team at ABC is very young and you are somewhat unhappy about the high turnover of financial professionals in ABC. In the past you have found mistakes in certain accounts and the management has argued that the mistakes were immaterial and therefore should not be adjusted. You were never quite sure whether these misstatements were the result of honest mistakes or whether management used materiality as an excuse for small adjustments they made. You had disagreements with the management over these transactions in previous years. As a result, you are concerned about the honesty of the management team.</p>	<p>No information included on the history with this client</p>
<p><i>This year audit</i></p> <p>During this year audit (fiscal year ending December 2015) you found a transaction where the client was recognizing revenues from a contract by using straight-line method. The contract is for jet-ski delivery and is with one of the company's biggest distributors. The contract was signed for one year and expires in April of 2016. After you briefly reviewed the contract you found out that there are only a few major deliveries scheduled.</p> <p>Since the products are seasonal approximately half of the boats were to be delivered in early May 2015 and the rest in end of April 2016. By using the straight-line method for revenue recognition, your client recognizes 2/3 of the revenue in the current year. However, when using the method of completion, the client would recognize only approximately 1/2 of the revenue. The difference between the methods in the amount of revenue recognized is about 1.5 percent of the total revenue for this fiscal year 2015. Your materiality threshold is set at 2 percent of total sales. You are concerned with the current method since the correction of the method of revenue recognition will result in a lack of growth in sales for the year. You believe the current method your client is using is not the most appropriate one.</p>	<p><i>This year audit</i></p> <p>During this year audit (fiscal year ending December 2015) you found a transaction where the client was recognizing revenues from a contract by using straight-line method. The contract is for jet-ski delivery and is with one of the company's biggest distributors. The contract was signed for one year and expires in April of 2016. After you briefly reviewed the contract you found out that there are only a few major deliveries scheduled.</p> <p>Since the products are seasonal approximately half of the boats were to be delivered in early May 2015 and the rest in end of April 2016. By using the straight-line method for revenue recognition, your client recognizes 2/3 of the revenue in the current year. However, when using the method of completion, the client would recognize only approximately 1/2 of the revenue. The difference between the methods in the amount of revenue recognized is about 1.5 percent of the total revenue for this fiscal year 2015. Your materiality threshold is set at 2 percent of total sales. You are concerned with the current method since the correction of the method of revenue recognition will result in a lack of growth in sales for the year. You believe the current method your client is using is not the most appropriate one.</p>	<p><i>This year audit</i></p> <p>During this year audit (fiscal year ending December 2015) you found a transaction where the client was recognizing revenues from a contract by using straight-line method. The contract is for jet-ski delivery and is with one of the company's biggest distributors. The contract was signed for one year and expires in April of 2016. After you briefly reviewed the contract you found out that there are only a few major deliveries scheduled.</p> <p>Since the products are seasonal approximately half of the boats were to be delivered in early May 2015 and the rest in end of April 2016. By using the straight-line method for revenue recognition, your client recognizes 2/3 of the revenue in the current year. However, when using the method of completion, the client would recognize only approximately 1/2 of the revenue. The difference between the methods in the amount of revenue recognized is about 1.5 percent of the total revenue for this fiscal year 2015. Your materiality threshold is set at 2 percent of total sales. You are concerned with the current method since the correction of the method of revenue recognition will result in a lack of growth in sales for the year. You believe the current method your client is using is not the most appropriate one.</p>

